



AALBORG UNIVERSITY
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MASTER THESIS

**THE MANY FACES OF USER EXPERIENCE:
DEFINITIONS, COLLABORATION AND
CONFLICT, FROM INDUSTRY TO ACADEMIA**

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Abstract

This thesis investigates the concept of user experience, and how it is being used by researchers and practitioners working with the design or evaluation of interactive digital systems. It has as its aims to investigate the development of the understanding of the term over recent years, to characterize the field from the points of view of researchers and practitioners, and to investigate their level of collaboration and sense of a shared community. The main motivation for this inquiry is the perception that there exists a clear gap between industry and academia. In order to examine this, two studies have been performed. A systematic literature review of the academic literature on user experience from 1998 to 2017 has been conducted; 565 papers were categorized by how they address user experience, and what sources they reference. Trends were identified in both the selected papers and the referenced literature; the ten most cited papers were analyzed in more depth. Additionally, an interview study was conducted, with eight participants working with UX in industry and academia at various Danish companies and universities. Results from the two studies were cross-compared. The findings of the studies generally agree with previous research on the topic. A gap was clearly present among some researchers and practitioners, while others had ties to both industry and academia. In general, the two sides make limited use of each other's knowledge and literature. Education is found to be an important facilitator of collaboration. Regarding the concept of user experience itself, there is little agreement on a definition of the term. Despite many years of extensive research working towards a shared definition, there is still not a common understanding of the term. It is suggested that future work is done towards classifying and mapping the definitions that are in use, in order to explicate the patterns of understanding and take another step towards bridging the gap.

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1 Introduction

The basis for this master thesis takes departure in the studies of information architecture, with foundational aspects within the academic discipline of humanities, and particular focus on working and designing with users in mind. With the user perspective comes the theoretical approach of user experience (UX), and how to design for it. The field of user experience is primarily focused on the task of understanding the users' needs and aims towards building a product that does not only bring to optimal functionality, but provides the users with emotional feelings, such as enjoyment. However, since the popularization of the term user experience by Donald Norman from his 1988 book "The Design of Everyday Things" (Norman, 1988), there has been raised several arguments concerning the scope and definition, due to its vast and subjective nature.

This master thesis aims at investigating how different domains approach the work within the field of user experience, and how the specific definitions of the term user experience fit their line of work. The two primary domains that are focused upon are those of academia and industry. The academia domain is represented within this paper by people working within the universities, whereas the industry is represented by people working with user experience within the private sector. From the perspective of having people represented from both domains that have years of experience within the field of user experience, we aim to uncover possible differences in their approaches and understanding towards a so called gap between the two domains (as shown by eg. Colusso, Bennett, Hsieh, and Munson, 2017). The domains are represented through several people across Denmark, and we hereby aim to analyze how they got involved within the field and what are their common trends in providing customers with a pleasurable user experience.

One of the challenging issues with user experience currently is the various conflicting definitions still being used by academia and industry. With the development of user experience throughout the years different definitions were developed and it has become even harder to find one clearly accepted definition. In this state of the field without a defined theoretical definition the term is used very differently and sometimes even in contradictory ways (Battarbee and Koskinen, 2005).

This thesis will try to establish the development of user experience through the years, along with the components that make up the current term and past terms, from its origin in the fields of human-computer interaction (HCI) and usability, to user experience becoming a standalone term with primary focus on the emotional and aesthetic aspects of user design. A systematic literature review has been developed for the last 20 years of this field, in an attempt to map people's use and understanding of the term. The literature review will function as a foundational approach to our various qualitative methods in order to perform our own research with our academia and industry represented interviewees.

The main goal for this thesis is an attempt to understand the problems of the people practicing user experience, both regarding researcher and practitioner. The thesis tries to understand what differences the educational aspect and university play compared to working with user experience, in the case of designing with users in mind. The research was conducted by interviewing 8 people closely connected to user experience from various fields, half representing academia and half representing the industry within Denmark. All the collected data gave a solid foundation for analyzing the presented perspectives of academics and practitioners.

1.1 Motivation & Limitations

As people with interest in the field of user experience, looking deeper into the literature and definition, it quickly portrays a field starting to become too complex, and with too many different perspectives to reasonably attempt to cover it within a generalizable manner, e.g. with extensive surveys. This sparked an interest in exploring the various positions on the matter in more details, utilizing qualitative interviews. With the first approach to the matter being exploring and examining the user experience definition in literature throughout the last 20 years. This was an attempt to try and understand and comprehend how a field, such as user experience, became so complex. Doing an examination of the literature of the user experience definition throughout the years helped us examine the tendencies of user experience definitions from our interviewees. Making it possible for us to compare their understanding and perception of the field to that of relevant definition related literature, with the example of time of publishing in mind. The aspect of time of publishing helps us understand and map how both academics and practitioners acquire knowledge and understanding regarding their definition on user experience.

The absence of a one true user experience definition presents several drawbacks on even the most basic tasks. From an industry perspective, the absence could result in drawbacks in for example designing software, measuring user's satisfaction, or building an easy to use web page. With examples in academia where drawbacks could result in withholding the development of new knowledge and advancements of the field. This state of the field on user experience presented an opportunity to create a research and evaluate first-hand how our interviewees view this broad topic and how they view each other.

In recent years, a number of researchers have taken a swing at developing a unified definition so user experience can be better understood and approached. Despite that the viewpoints of them all varies and portrays a lack of a collective definition. The field does not have a common agreed-upon definition, not for the lack of trying, but because user experience is correlated with a wide range of unclear and dynamic concepts that spread across aspects such as emotions, aesthetics, hedonism, and so forth. This can be attributed to two main factors, one being the aspects of the users and the other the research performed on the field by researchers within a variety of backgrounds, all accommodating different approaches.

1.2 Problem Statement

From this concept of a possible gap between the academia and industry, and the lack of a unified definition, we developed the following problem statement in an attempt to cover our approach and work for this master thesis:

- How has the understanding of the concept of user experience developed in recent years?
- What characterizes the field of user experience from the points of view of researchers and practitioners, across industry and academia?
- How do similarities and differences in perspective among researchers and practitioners, across industry and academia, affect collaboration and the sense of community within the field of user experience?

The first part of the problem statement is aimed towards investigating the development of the field of user experience and how the definition for user experience has changed over the

years. The systematic literature review dives further into this development and attempts to answer how the concept of user experience has developed in the last 20 years. The second part of the problem statement is aimed towards the attempt of understanding the different perspectives of researchers and practitioners that work within the field of user experience. The last part of the problem statement is focused on the aspect of collaboration and community between the two domains, and the possibility of a gap between them. This part is aimed at learning, not only about the individual perspectives alone, but also to gain knowledge about how academia and industry perceive each other. The last two part of the problem statements are primarily focused upon our interviews with the practitioners and academics. However it is also to be put in relation with how user experience has developed, as a way of comparing the interviewees' answers, with that of the user experience literature and definition development.

1.3 Overview of the Structure of the Thesis

This thesis will attempt to uncover the concept of a possible gap between academia and industry within the field of UX. The incentive to examine the gap came from the idea that we knew that there has previously been discussed and acknowledged that there is a gap within the UX community. However, in our opinion the concept and understanding of a gap had not been examined to such an extent that we when approaching the UX literature could gather the appropriate knowledge and understanding of this concept. Therefore, in order to acquire this knowledge, this thesis was constructed in an attempt to examine the concept of a gap.

In an order to be able to examine the possibility of a gap within the field of UX, a general representation of the current state of UX will be presented. This presentation will firstly account for aspects such as related fields, the rise experience as a concept, definitions related to UX, methods and practices related to UX, the UX community, and different communities of practice. This section will help shape the understanding of the UX field as a whole, and will be used for further references throughout the thesis.

After establishing the current and past state of the UX field, a series of relevant theories will be presented in order to approach the empirical data of this paper analytically. The theories within this thesis are as follows; interpretivism, phenomenology, social constructivism, qualitative and quantitative research, and critical discourse analysis. Each of these theories are a representation of analytical approach that are utilized within the findings section of this paper. With each of the theoretical approaches functioning cohesively to give a comprehensive and elaborative analysis in order to better enlighten the concept of an academia and industry gap within the field of UX.

After presenting the theory of science, the relevant methodology used within the thesis will be presented. Primarily two major methodological approaches were utilized in order to gather the appropriate empirical data to properly examine the concept of a gap. The two methodologies used are literature review and interviews. Both will be examined in greater details in order to provide with the most appropriate empirical data for our analysis of the gap. The reasoning for utilizing literature review and interviews as the methodological approach within this paper is to gather information both from a quantitative perspective, through a systematic literature review of the field of UX. As well as from a qualitative perspective, in order to gain knowledge from participants, to be able to establish understandings of social constructed discourses within the field of UX.

The findings of this thesis will then be presented within the findings section. The findings section will first be presenting the knowledge gained from the literature review. Thereafter will the findings of the interviews be presented. Lastly, a comparative analysis of the findings from the literature review and interviews will be presented in order to gain a broader and more thorough understanding of the empirical data.

After presenting the findings a section dedicated towards discussions concerning this thesis will be presented, which will lead towards an overall conclusion presenting the concluding concepts and ideas presented within the thesis.

2 State of the UX Field

The concern for how human beings experience the interaction with technology has a long and varied history. With the advent of computers and other digital technologies, this became an increasingly urgent field of study. Covering this concern, a loosely woven web of overlapping disciplines, research fields, and areas of inquiry has formed. Ask a representative of any of these strands, and they will of course tell you that theirs is the most essential and meaningful. This matter is only complicated further when there is no definite agreement on what the name of the strand means and what is covered by it – as is the case with ‘user experience’ and its seemingly boundless wealth of conceptions and perspectives.

This section will provide a broad overview of the user experience field, as it is. This notion of ‘user experience’ was not conjured out of thin air, and several movements came before it – eg. usability and interaction design. These all live on, but over the course of the last 20 years user experience has seen a dramatic rise in popularity (as illustrated in figure 2). To properly place user experience in the pantheon of related disciplines and fields, this section will first introduce its brethren and how they relate to it. Following this, the history of user experience will be outlined, and some of the more widely adopted definitions will be presented. A brief section will then portray the matter of how to evaluate a user experience – a concern as important as delimiting the meaning of the term. These methods and techniques might be described as the practical implementation of the theoretical concept. In connection with this, the work approaches of UX practitioners will be discussed. Building on this, the relationship between researchers and practitioners is explored, along with the differences in literature, work practices, and UX conceptions among the two – in other words, the gap between the two becomes apparent. Finally, the concept of communities of practice is introduced and applied to the broad field of UX, to inspect the cohesion of the community.

2.1 Fields Related to User Experience

To gain an understanding of how user experience is related to the overall field of human-computer interaction and some of its subfields, we need to understand some of the key terms that are often used in relation to user experience. While most of these will not be discussed in much detail in this thesis, they are introduced here to draw up the lines of the various surroundings fields, and to place the field user experience in its proper context.

Human-computer interaction (HCI) is generally considered an umbrella term for the various disciplines concerned with designing and evaluating interactive systems (Carroll, 2013). In this sense, HCI may be thought of as a community of communities. The model by Saffer (2009) in figure 1 gives a visual representation of what such a community of communities could look like

and how they each would be interacting with each other (Carroll, 2013). This section focuses primarily on the ones that relate to User Experience.

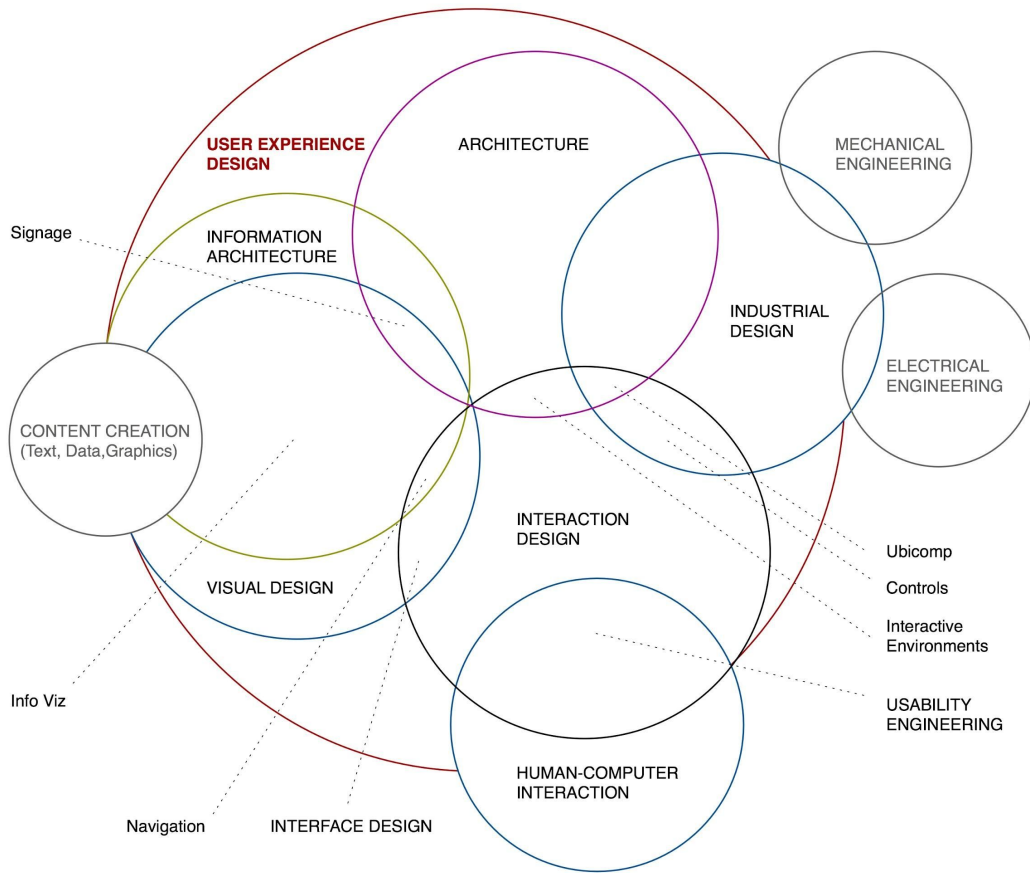


Figure 1: The disciplines of user experience, from Saffer (2009)

In the early 1980s, HCI was an area primarily concerned with aspects of human factors engineering and cognitive science. However, over the course of the last three decades, HCI has developed and attracted the interest of professionals from other fields (Carroll, 2013). Preece, Rogers, and Sharp, 2015 quote an older definition from ACM SIGCHI (2018) that describes it as being “concerned with the design, evaluation, and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them” (p.10). HCI was originally limited in regards to its focus on primarily personal productivity applications, whereas it today has expanded to include areas such as information systems, visualization, system development process, collaborative systems, and several other areas concerning design (Carroll, 2013). In this sense, it also includes the study of user experience.

There are several ways of organizing the various fields and disciplines. As described by Preece et al. (2015), interaction design should be considered the umbrella term. In this respect, it is seen as comprising several different aspects such as software design, product design, web design, experience design and interactive system design. They argue that interaction design is a wider field than the traditional HCI. In the model by Saffer (2009), it is considered an aspect of user experience. As defined by Preece et al. (2015), interaction design is concerned with the ways to design interactive products that help people interact and communicate with each other. The work done through interaction design is today primarily focused on improving and

designing the user experiences, which means that interaction design promotes the use of several different techniques, frameworks and methods. User experience is also seen as a vital part to interaction design, because of its focus on the interactions of the end-users (Preece et al., 2015).

Usability is an overall term that is seen as being closely related to user experience, but might be seen as a term that is easier to define. Kuniavsky (2010, p.14) describes usability as “[t]he practice of making things easy to use”. Consequently, the two fields of usability and user experience are sometimes understood as one concept. On closer inspection, however, they are quite different. Usability is concerned with clearly measurable aspects of the product, such as how easy or time-consuming it is to approach and use, while user experience is concerned eg. the aesthetic appeal (Preece et al., 2015). Products with bad usability are usually considered ‘broken’, and products having good usability is not necessarily sufficient for providing the good experience (Kuniavsky, 2010). This means that the experience itself can be usable but not useful, and thereby neither valuable for people to justify its creation. With the rise of UX, usability has often come to be seen as simply a facet of the user experience (Vermeeren et al., 2010). In this sense, user experience takes the usability of a product into consideration, while at the same time considering aspects such as aesthetics (Bargas-Avila and Hornbæk, 2011).

Usability and the practice of making products more usable is considered part of the field of user-centered design (UCD) (Preece et al., 2015). As an approach, UCD tries to involve users throughout the entire design process. This can be achieved in numerous ways, such as talking to users, observing users, administering questionnaires, etc. The feedback achieved from such methods is then interpreted and used to inform the design activities (Preece et al., 2015). UCD works from the premise of putting the users at the center of the design process. Consequently, it falls to the designers of the product to ensure that the users make use of the product in the correct way and that the product itself requires a minimum effort when learning to use it (Abrams, Maloney-Krichmar, and Preece, 2004). Every experience a user might have during use should be a conscious result from the designer (Garrett, 2010). By utilizing UCD, a designer can secure that components of the users’ experiences can be broken down into smaller elements that can then be looked at from different perspectives.

An example of a field that developed from that of user experience is customer experience (CX). The customer’s experience has long been of concern for businesses. It grew from brand experience, a part of brand management (Mosley, 2007). Today, customer experience has developed rapidly, especially with the addition of online and technical advances. Here the idea behind customer experience has taken departure in some of the aspects of user experience, but grown to also include more aspects of the customer’s journey when interacting with a product. The focus of customer experience is still on the customer’s journey before they perform any form of purchase or transaction. In the context of customer experience, user experience is typically used in reference to user who have not made any purchases, but still have experiences of the website – thus, when having performed a purchase they should be qualified as a customer (Watkinson, 2013). With customer experience design it should be noted that aspects from user experience design such as pleasure is applied to the concept of customer experience design (Bilgihan, Kandampully, & Zhang, 2016).

Another field that is often discussed in connection with user experience is information architecture. It concerns aspects of the design of interactive systems such as organization, labelling, navigation, and search, and is aimed at the users and their task oriented needs, by providing a

logical structure that eases task completion (Morville, Rosenfeld, and Arango, 2015). Furthermore, it can be used to shape information products and increase the experience of users by improving findability and usability. Thus, successful information architecture is based on understanding the users and their need, preferably in their natural environment. User experience and usability are essential parts of achieving this.

2.2 The Rise of Experience

While the term had been used sporadically in the literature earlier, the notion of user experience started to gain real prominence in the late 1990s (Hassenzahl and Tractinsky, 2006). At this time, it was seen as an alternative to the usability paradigm that dominated HCI, with its focus on task completion and behavioral goals. The user experience movement turned the focus towards factors like pleasure and joy, and the aesthetics of the product (Bargas-Avila and Hornbæk, 2011). Where usability had mostly been studied in work situations, informal leisure use came to dominate the study of user experience, often going beyond traditional computer systems into mobile devices, audio/visual products, and art projects. Hassenzahl and Tractinsky (2006) ascribe the rising interest in user experience to the increasing number of interactive products in daily life.

Many of the notions associated with the emerging field of user experience research had already to some degree been part of the study of usability for years, for instance through the concepts of emotional usability and affective computing (Hassenzahl and Tractinsky, 2006). However, the focus was more on preventing and reducing negative emotions in the users, than on inspiring positive ones. The movement towards user experience sought to change that, and in the opinion of Hassenzahl and Tractinsky (2006, p.95) “one of HCI’s main objectives in the future is to contribute to our quality of life by designing for pleasure rather than for absence of pain.” Similar to the emerging field of “positive psychology”, dealing not with human weaknesses but with their strengths, they suggested that user experience should be seen as a sort of “positive HCI”, focusing on creating great experiences rather than just eliminating usability problems.

Along with the change in focus from behavioural goals to the emotional responses of the users came questions about what constitutes an experience and how to address it from a design perspective (Hassenzahl and Tractinsky, 2006). Is it possible to design an experience as such, or is it only possible to design with the intent of a certain experience to be had by the user?

Hassenzahl and Tractinsky (2006, p.94) understand the notion of an experience as “a unique combination of various elements, such as the product and internal states of the user (e.g. mood, expectations, active goals), which extends over time with a definitive beginning and end.” Hassenzahl (2010) expands on the situated and temporal nature of an experience, describing it as period of time associated with feelings, sensory perceptions, actions, etc. that is remembered and communicated to others, similar to a story.

In discussing the role that technology can play in shaping an experience, Wright and McCarthy (2004) present a framework, consisting of four intertwined threads that aim to cover experience in a holistic way, rather than as a set of fragmented aspects. In their view, a holistic experience is sensual (sensory engagement with the technology), emotional (feelings arising from the interaction), compositional (sense of narrative in the experience), and spatio-temporal (the space and time that it takes place in). These aspects of experience should be taken into consideration when designing technology. Wright and McCarthy (2004) argue that an important part

of using technology is relating it to expectations and making sense of the experiences, building on the writings of John Dewey on Pragmatism and the role of emotion in human experience.

While Wright and McCarthy (2004) describe experience as irreducible, with no one thread being made dominant, Hassenzahl (2010) argue for the particular importance of emotion, placing it at the center of experience. He observes that emotion, cognition, motivation, and action are complexly intertwined. With emotion being most closely linked to action and motivation, it is central and could even be said to be “the very language of experience.” (Hassenzahl, 2010, p.4) In his view, user experience specifically is not that different from the broader concept of experience, being a discipline focused on the creation of experiences through interactive products.

At the time of writing, Hassenzahl and Tractinsky (2006) saw a lack of empirical research on user experience, and argued that addressing this would help in reaching a common understanding. Bargas-Avila and Hornbæk (2011) conducted a review of the empirical research that had been published, noting that while user experience was often studied and discussed in the literature, the findings were rarely collated. Consequently, papers often claimed to break new methodological ground, while citing few of the previous or similar studies.

In their systematic literature review, Bargas-Avila and Hornbæk (2011) dealt with user experience as an emerging research movement, rather than the practice of designing user interfaces. The review included 66 studies across 51 publications, narrowed down from an initial sample of 1254 publications through several phases of exclusion. The focus of the review was on the methods and views in UX research, not on how practitioners and designers work, and papers not containing empirical data were excluded. Other reasons for exclusion were duplication, not being original full papers, not being in English, and not citing what Bargas-Avila and Hornbæk (2011) deemed key authors in the field.

They found that with the move from usability towards user experience, a change in methodology had followed, expanding from predominantly quantitative methods to including a large degree of qualitative methods. The most commonly used methods were questionnaires, interviews, and observation. However, Bargas-Avila and Hornbæk (2011) found that many papers neglected to detail the questionnaires and interview guides used in their studies, making the quality of the findings difficult to evaluate.

Dimensions of user experience commonly studied included affect/emotion, enjoyment/fun, aesthetics/appeal, although the largest grouping did not specify any dimensions. Often, studies proposed new dimensions, for instance ‘enchantment’. The vast majority of studies looked at one or two dimensions. While studies often made a clear differentiation between user experience, as non-instrumental and non-task-oriented, and usability, as instrumental and task-oriented, this was found to be challenging to follow in practice, as the goals are often interwoven. In general, Bargas-Avila and Hornbæk (2011) found that user experience, while being thought of as multifaceted in nature, was often studied in restricted and limited ways.

In the years since Hassenzahl and Tractinsky (2006) called for more research to be conducted on user experience, the popularity of the term has risen dramatically. Figure 2 shows the number of academic publications containing the phrase ‘*user experience*’ in their abstract from 1997-2017, retrieved from the ACM Digital Library. This chart is presented merely for illustrative purposes, it should be noted. The specifics of the term’s development in popularity will be discussed further in section 5.1.1.

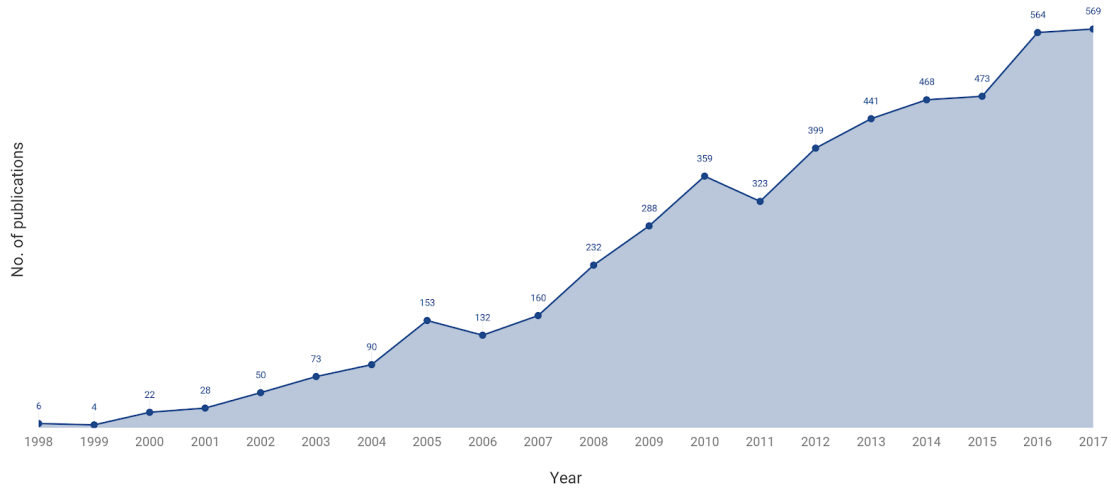


Figure 2: Publications in the ACM Digital Library (ACM, 2018) containing the phrase "User experience" by year

2.3 An Abundance of Definitions

Despite quickly being widely accepted by the HCI community, arriving at a clear definition of the concept has proven difficult (Hassenzahl and Tractinsky, 2006). Law, Roto, Hassenzahl, Vermeeren, and Kort (2009) found the user experience field to be characterized by a multitude of definitions and theoretical models with different foci, with little consistent agreement. They argued that developing a common user experience definition is an important next step that would serve to stimulate the scientific discourse, assist in practical application design, and provide better education on the concept.

In extension to a project to index the various methods used for evaluating user experience (Roto, Obrist, & Väänänen-Vainio-Mattila, 2009; Vermeeren et al., 2010), Vermeeren et al. (2010) have published a list on the project's website of 27 definitions, collected from various sources, both academic and non-academic in origin. While the usefulness and continued relevance of these may vary, the sheer number serves to illustrate the fragmentation of the user experience field.

In 2008, the International Standards Organization introduced their definition of user experience as part of the standard ISO 9241-210, titled "Ergonomics of human-system interaction" (International Organization for Standardization, 2010). This was an update to the earlier standard from 1999, ISO 13407, which defined human-centred design processes for interactive systems. It defines user experience as a "person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service" (International Organization for Standardization, 2010), which includes "all the users' emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and accomplishments that occur before, during and after use." Several factors may result in a user experience, including functionality, brand image, use context, and the user's internal and physical state. The standard further specifies that usability may be seen to include perceptual and emotional elements, similar to user experience, and they may be assessed using usability criteria. This definition is very broad and all-encompassing, covering as many facets of the concept as possible. While this makes it applicable to most use cases, and rarely in direct disagreement with alternative definitions, its

general nature also makes it vague and difficult to apply in a practical context. It may be considered the most ‘official’ definition, and it is often cited by research papers (eg. Vermeeren et al., 2010). However, it has not been adopted as field-wide consensus.

Kuniavsky (2010) offers a more practical, while still quite broad perspective, defining user experience as:

the totality of end users’ perceptions as they interact with a product or service. These perceptions include effectiveness (how good is the result?), efficiency (how fast or cheap is it?), emotional satisfaction (how good does it feel?), and the quality of the relationship with the entity that created the product or service (what expectations does it create for subsequent interactions?). (p.14)

With this definition, Kuniavsky attempts to go above ergonomic, attitudinal, and visual metrics to include every aspect that is relevant for the experience of the users. The hard goal of the developers is to understand the product’s impact on a person’s life and how the design of that product is perceived. Typically, using devices is not the most important activity, but they form larger flows of needs, desires, and activities. Experience without them could be impossible, but devices do not form the whole experience.

A perspective that is less tied to the specific characteristics of the interaction with a product, and more concerned with the nature of the resulting experience, is provided by Marc Hassenzahl (2005, 2008, 2010, 2006), one of the most prominent researchers on the subject. In Hassenzahl and Tractinsky (2006), user experience is defined as:

a consequence of a user’s internal state (predispositions, expectations, needs, motivation, mood, etc.), the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.). (p95)

So where the Kuniavsky (2010) and International Organization for Standardization (2010) definitions see the user experience as a direct product of a certain interaction, shaped by the characteristics of the product and resulting in various kinds of response, Hassenzahl sees it as a complex and always changing summation of psychological states, product characteristics, and the situation and circumstances of use. Hassenzahl (2008) further defines user experience as occurring during the interaction with a system or product, and as a positive or negative feeling of a momentary and evaluative nature. The good user experience results from needs being fulfilled through the interaction; these needs might be for autonomy, popularity (towards others), stimulation (towards self) or competency.

Hassenzahl (2010) argues that technology is not the important factor, but rather the feelings and emotions it can convey that allows it to mediate and shape the experience of the user. The technology itself is only interesting because it can provide such meaningful experiences. He continues by describing his conception of user experience in particular to be quite similar to experience in general. *Experience* becomes *user experience* by going through a specific mediator such as interactive products.

Initially considered a development of usability, Hassenzahl (2001) introduced a differentiation between the hedonic quality and the ergonomic quality of a product. In later work, as the two concepts formed the backbone of his conception of user experience, the latter was renamed

the ‘pragmatic’ quality (Hassenzahl, 2005). This quality defines the usability of the product, and enables the user to reach task oriented goals efficiently and effectively (Hassenzahl, 2001, 2005). Product attributes associated with pragmatic quality provide relevant functionality (utility), as well as access to it (usability). By contrast, hedonic quality concerns dimensions of the interaction that are not task oriented, such as originality, innovativeness, etc. As indicated by the name, this quality relates to feelings of pleasure (by way of hedonism). Rather than address behavioral goals, hedonic product attributes concern psychological well-being. Hassenzahl (2010, p.57) argues for the importance of hedonic quality, noting that “functionality and usability are necessary preconditions for need fulfillment (i.e., pleasure), but functionality and usability without needs are meaningless.”

Inspired by Self-Regulation Theory and Activity Theory, Hassenzahl (2008, 2010) adopts the terms be-goals, do-goals, and motor-goals (see figure 3). The pragmatic do-goals concern the nature of what the user seeks to accomplish with the system, and focus on the product and its utility and usability – for instance, making a telephone call, or setting up a web page. In extension of this, the motor-goals describe how the user will use the system to reach them. Beyond those, the hedonic be-goals concern why the user interacts with the system, and focus on the human needs and experience-based motivations behind the use – for instance, the feeling of being competent, or being special. According to Hassenzahl (2008, p.12), these are most important in a product: “I argue that the fulfilment of be-goals (i.e., basic human needs) is the driver of experience. Lack of usability might impose a barrier to the fulfilment of active be-goals, but it is in itself not desired.” Be-goals are what imbues a product with meaning and motivates action (Hassenzahl, 2010). The major contribution of the user experience movement was to bring these into focus, as little attention had been paid to be-goals within HCI previously.

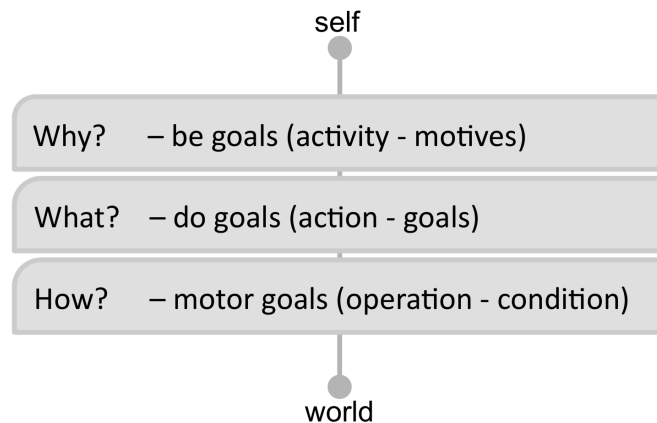
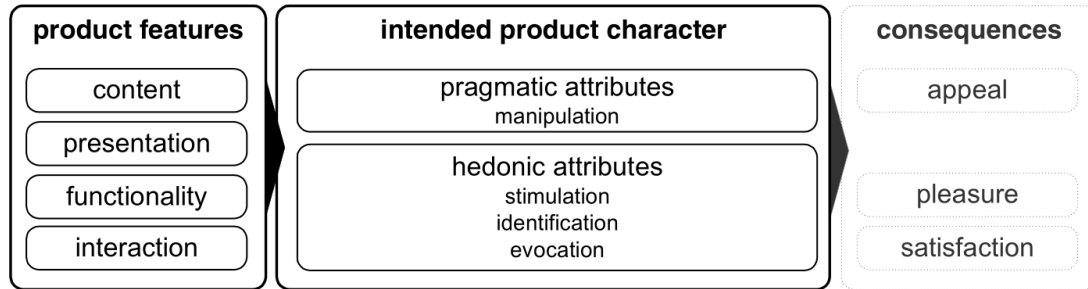


Figure 3: Three levels of user goals, with Activity Theory terms in parentheses. From Hassenzahl, 2010, p. 44

Since user experience is subjective, the intentions of the designer may deviate drastically from the actual experiences of the users that are affected by emotional states, time, situational contexts, etc. (Hassenzahl, 2005). To describe how a user experiences interacting with a product, compared to how the designer approaches experience, Hassenzahl (2005) presents a model illustrating both perspectives (see figure 4). While the final experience of use is subjective, the designer conceives of an intended user experience, and selects and combines the product’s features to achieve the intended product character and pragmatic and hedonic attributes. As the users comes into contact with the product, they construct their own idea of what the product’s character and attributes are, based on their perception of its features and what inferences they

can make from it. The consequences of this are judgments, and emotional and behavioral responses that depend on the particular use context. While there is no way to predict exactly what the user experience of the product will be during a given interaction, the designer can use the notions of be-goals and do-goals to steer the product towards the intended realm of experiences.

a) designer perspective



b) user perspective

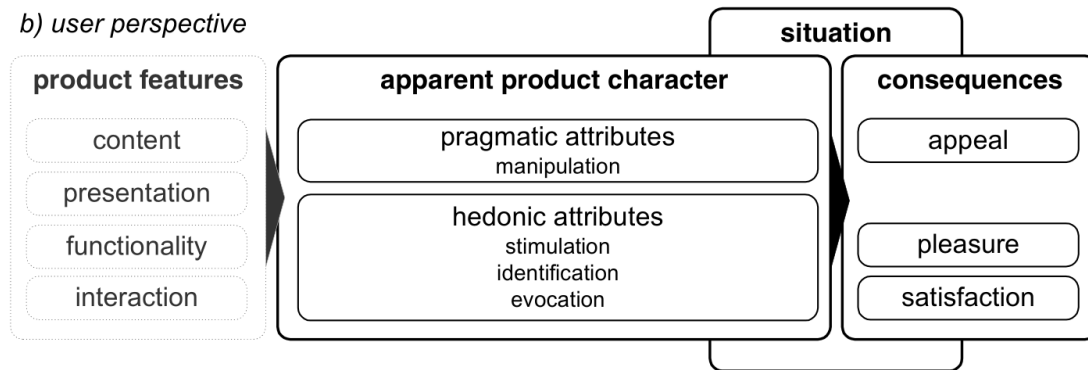


Figure 4: Model of the user experience from the perspective of the designer and the user. From Hassenzahl, 2005, p. 32

While countless definitions of user experience have been developed, according to Hassenzahl (2008, p.14), “[a] closer look reveals striking similarities among the models and less conflict about core attributes of UX than one would expect.” He argues that across all discussions of user experience, the focus is on the well-being of the user, and not the performance of the product. Despite this conciliatory sentiment, a consensus on what exactly user experience means has proved elusive. In an attempt to determine why that is, Law et al. (2009) conducted a study, seeking to spark a discussion within the heterogeneous UX field that would result in a common definition. While that definition has not yet materialized, their findings do provide valuable insight into the ways that the concept is being understood and utilized.

Law et al. (2009) conducted an online survey, administered both by direct invite at a conference, and openly in relevant internet fora. Through a combination of open and Likert-scale questions, data was collected on the participants’ opinions and preferences regarding 23 statements and five definitions of user experience, along with demographic questions. 275 participants responded fully or partially, the majority of which were male, with a median age of 36.5, and many countries represented – of which particularly Finland, USA, UK, and the Netherlands were represented. Most were from industry, with equal split between academia and both or between the two. A majority were researchers, and most reported their main interest to be designing better products, with UX reported as very central to their work.

Findings regarding the 23 statements on user experience showed that the respondents un-

derstood it as “dynamic, context-dependent, and subjective”, although not “as something overly subjectivistic, where prediction of and design for experience would become futile.” (Law et al., 2009, p.722) While demographic variables did not influence attitudes strongly, there was a tendency among those with more experience to view user experience as less subjective – perhaps as a result of having working on so many projects, and noted the similarities, Law et al. (2009) speculate. Those with higher expertise also expressed less need for a common definition; “An explicit definition may be viewed as a communication tool for non-experts rather than central to experts.” (Law et al., 2009, p.723) Participants from European countries tended to favour subjective and qualitative approaches to a higher degree than those from the US.

The five definitions of user experience were selected from a larger group identified through searches in the ACM Digital Library and Google. They were chosen to be representative across the spectrum uses and perspectives, using the following categories (quoted from Law et al., 2009, p.723):

- *Focus*: The main concern to be addressed
- *Who*: The experiencing agent/subject of interest
- *What*: What is the something/object that is experienced
- *How*: How is the experience brought about
- *When*: Three possible states: before, during and after interacting with the object being experienced

The definitions that were selected are presented in table 2.3. Beyond D2, which is from Hassenzahl and Tractinsky (2006), D3 and D4 are also from academic publications. D3, by Desmet and Hekkert (2007), is focused on the product and the experience that it elicits; it is somewhat similar to the definition by Kuniavsky (2010), presented above. Meanwhile, D4, from Sward (2006), takes a business oriented perspective and focuses on the value generated by through the interaction. D1 and D5, on the other hand, come from online sources. D1, from Norman and Nielsen (n.d.), takes a broad perspective, comparable to the notion of customer experience (see section 2.1), where the experience is shaped by the totality of interaction with the company providing it. Finally, D5, from the now-disbanded UX group User Experience Network (n.d.), emphasizes the specific design of whatever the artefact in questions, and the quality of experience derived from interacting with it. While not all of these are necessarily the most influential or current definitions, they do take on the character of a sort of typology of definitions, and it is used as such in a limited capacity for analytical purposes in section.

In the study, it was found that participants from industry and academia tended to prefer definitions from their own domain. The same was the case in terms of type of work, with researchers preferring academic definitions, and managers and consultants preferring more business oriented ones. Overall, D2 from Hassenzahl and Tractinsky (2006) was the most widely preferred, and D4 from Sward (2006) the least. Preference was largely independent of the demographic factors in this case.

Rather than seeking to crown any of the five definitions the ‘best’ or most applicable, Law et al. (2009) aimed to discover the positive and negative aspects of each of them, and what the participants thought was most important in a UX definition. According to their findings, it should be comprehensive, easy to understand and simple – in other words, it should cover all the important factors, and enable the general public to understand the concept of user experience. The aspects of user experience must be clearly defined and quantifiable measures

Name	Source	Definition	Perspective	Focus	Who	What	How	When
D1	Norman and Nielsen, n.d.	All aspects of the end-user's interaction with the company. Its services and its products. The first requirement for an exemplary user experience is to meet the exact needs of the customer without fuss or bother. Next comes simplicity and elegance that produce products that are a joy to own, a joy to use. True user experience goes far beyond giving customers what they say they want, or providing checklist features.	Company	How to design for good UX	Customer	Company. Its services and products	Level1. Meet exact needs; Level2. Joy to use & own; Level3. Beyond checklists	During interaction
D2	Hassenzahl and Tractinsky, 2006	A consequence of a user's internal state (predispositions, expectations, needs, motivation, mood, etc.) the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.)	Evaluation	What shapes user experience	User	Psychological state. The system	Characteristics of the system and context	After interaction
D3	Desmet and Hekkert, 2007	The entire set of affects that is elicited by the interaction between a user and a product including the degree to which all our senses are gratified (aesthetic experience) the meanings we attach to the product (experience of meaning) and the feelings and emotions that are elicited (emotional experience).	User Types of product experience	User	Product	Gratified senses. Attached meaning. Emotion.	During/After interaction	
D4	Sward, 2006	The value derived from interaction(s) [or anticipated interaction(s)] with a product or service and the supporting cast in the context of use (e.g. time, location, and user disposition).	Value-based	Value as interaction outcomes	Not well defined	Product or service and its supporting cast	Value derived from interactions	Before/ During interaction
D5	User Experience Network, n.d.	The quality of experience a person has when interacting with a specific design. This can range from a specific artefact such as a cup toy or website up to larger integrated experiences such as a museum or an airport.	Design-based	Types of artefacts	Person	Artefacts of various types	Quality of experience derived from interactions	During interaction

Table 1: Perspectives and basic elements of five definitions of user experience. Adapted from Law, Roto, Hassenzahl, Vermeeren, and Kort (2009).

such as physiological responses and user task performances should be considered, along with subjective, psychological constructs.

Whether user experience should be seen as occurring before, during or after the interaction proved controversial, with arguments for some or all of the temporal dimensions. How broad the scope of the term should be understood was also contested. Additionally, some argued that a definition of user experience should be about what it is, not what causes it. There was much discussion of whether user experience could or should be seen as social or individual. While others can influence an experience, Law et al. (2009) argue that only an individual can have feelings and experiences. In this respect, the community forms a social context that can affect the experience of the individual, rather than the experience itself being communal.

Several frameworks and disciplines were suggested for use in work with user experience, including interaction design, value-based design, and the hedonic/pragmatic model. Additionally, it was suggested that UX should be considered in the conceptual terms of a community of practice; this notion will be discussed further below, in section 2.6, as well as in section 4.2.3 regarding this project's methodology.

Some researchers argued strongly that UX extends much further than just the interaction with the product. Related terms include the broader *brand experience* and the narrower *product experience*. In Law et al. (2009, p.727)'s opinion, user experience should "be scoped to products, systems, services, and objects that a person interacts with through a user interface". Other cases, such as art, face-to-face interaction, brands, etc. would be termed simply *experience*.

At the time of the study, the definition from International Organization for Standardization (2010) was in the draft stage. Law et al. (2009) find it to be promising, and mostly in line with their findings on the matter, although they note that parts of it may be too broad or vaguely defined. The draft version is largely similar to the final version, presented above.

2.4 Methods and Practice: Putting User Experience to Work

As the difficulty of arriving at a common definition of UX shows, it is a notion that is subjective and multifaceted. This also makes it challenging to evaluate the quality and efficacy of a particular UX. For this purpose, a wealth of methods has been introduced, approaching the problem from various angles.

In 2010, Vermeeren et al. (2010) presented a collection of 96 UX evaluation methods from industry and academia. The result of a multi-year project (see also Roto et al., 2009; for the full set of methods, see Roto, Lee, et al., n.d.), it was collected from various sources, including conference workshops and surveys, and sought to address the lack of an overview of the current state of UX evaluation. Despite half the method contributors being from industry, 70% of the collected methods originated in academia. Vermeeren et al. (2010) attribute this disparity to methods from industry generally not being shared or published. Consequently, there may be many methods not reported publicly. Where methods developed in academia tend to be focused on scientific rigor and validity, industry tends to focus on them being easy, fast, and cheap to use (Roto et al., 2009). Not concerned with the meticulous development of theory, industry instead demands data that is instantly clear and usable (Law, van Schaik, and Roto, 2014).

According to Vermeeren et al. (2010), evaluation methods that do not follow predefined UX measurements require more expertise to analyze, making them more expensive for companies to use. Consequently, they argue, the availability of methods with validated, measurable UX constructs would increase adoption of UX evaluation.

Law, van Schaik, and Roto (2014) describe a wide disparity of attitudes towards UX measurement. In particular, they highlight a strong disagreement about whether UX should be studied in a quantitative manner, with emphasis on objective measures, or in a qualitative manner, focused on subjective experiential qualities. At heart, the conflict concerns whether UX should be broken down into measurable components, or must be seen as a whole (reductionism versus holism). However, the authors speculate that the problem stems from predictive measures being constructed prematurely, without sufficient theory to back them up: “The major weakness of UX is the lack of theory.” (Law, van Schaik, and Roto, 2014, p.534) In order to begin to address this need, they conducted an extensive survey on attitudes towards measures of UX, with the intent of it developing into a validated tool for UX assessment.

Another tool for measuring UX is presented by Lachner, Naegelein, Kowalski, Spann, and Butz (2016). Named Quantified UX, it seeks to “help organizations to measure, visualize, and communicate a product’s UX within interdisciplinary teams” (Lachner et al., 2016, p.2). The authors echo the concern of Vermeeren et al. (2010) that the use of qualitative methods is too resource-intensive for wide implementation in industry. Based on an inspection of the collection of evaluation methods described above (Roto, Lee, et al., n.d.), Lachner et al. (2016) determined the need for a broad, metric-based UX evaluation tool. Using a systematic literature review and interviews with researchers and practitioners, they collected 285 UX characteristics, which through rounds of analysis were collated into nine, within three overall areas. Using the interviews, these were further connected to various disciplines, handled by various departments in an organization, and a questionnaire was developed. The resulting tool was tested with a series of partner companies, from whom the authors report positive response. Its intended use is to identify a product’s UX problem areas, and determine who in the organization should handle them. Figure 5 shows the tool visualized as a radar diagram with results for a particular product evaluation. Within the three categories Look, Feel, and Usability, it is divided into nine UX dimensions, each of which is connected to a discipline or department.

The UX categories and dimensions of the Quantified UX model are used as structuring device for the questions of the interview study in this thesis (further detailed in section 4.2.3).

Rose and Tenenberg (2016) found that the UX practitioner literature tends to make normative statements regarding how and when specific methods should be used, and often presenting them in vastly simplified versions. This was not reflected in the actual use, where practitioners freely selected and adapted methods based on the context of the organization, their collaborators, and the project. The same is found by Gray (2016), who reports that practitioners tend to ignore the ways that methods are intended to be used, reducing their complexity to a ‘core’ – retaining little sense of the method’s original source and context, and instead considering them just “common sense”. From his interview study of methods use “in the wild”, Gray (2016) also found that UX designers are often placed in vaguely defined leadership roles, and that teams within the same organization may use very different design processes (eg. waterfall and agile). Sometimes, user research is done through a very limited range of methods, and in some cases fully handled by other departments, with the data simply being passed along to the UX practitioners. Practitioners face challenges that go beyond designing and optimizing user experiences (Rose and Tenenberg, 2016). There are countless organizational pressures that affect the process, and which require careful communication and diplomacy. One practitioner interviewed by Rose and Tenenberg (2016) estimated that 50% of her efforts were spent getting UX buy-in. Often, organizational challenges are exacerbated by UX design work being taken for granted,

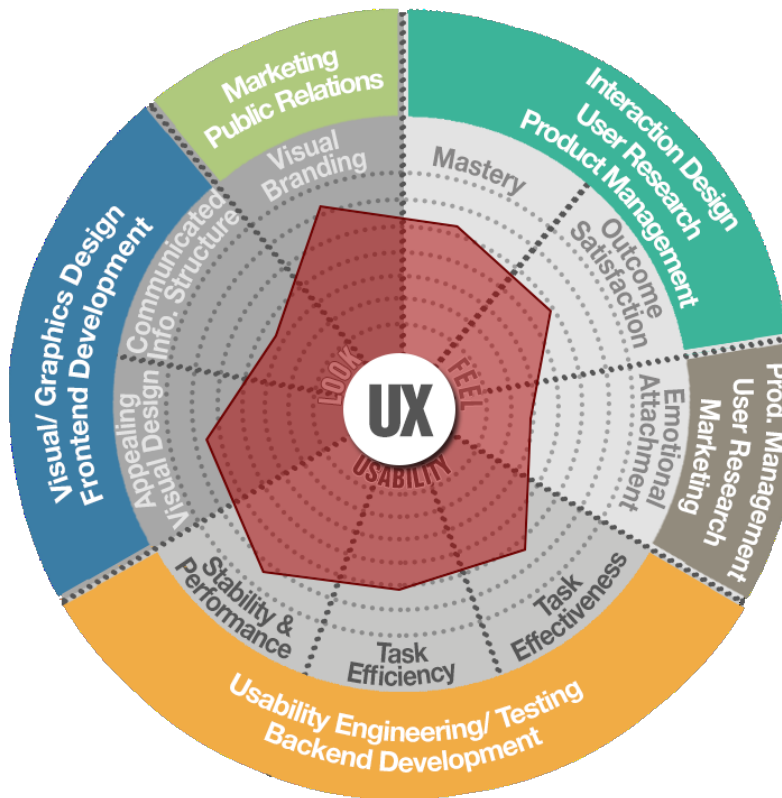


Figure 5: The Quantified UX model, with nine UX dimensions across three areas, with related disciplines. From Lachner, Naegelein, Kowalski, Spann, and Butz (2016)

owing to it being mostly invisible when done right.

As UX designers often come from a diverse set of backgrounds, including psychology, software development, and design, in addition to HCI, a diverse range of approaches and techniques may coexist within the same UX team (Lallemand, Bongard-Blanchy, and Ocnareescu, 2014). According to Lallemand et al. (2014, p.43), “practitioners are developing and using many design methods that have never been rigorously tested”; they argue that this indicates a need for a closer integration between practitioners and the researchers, who could help ensuring that the methods work as intended.

While the academia puts considerable effort into developing and testing methods, they are however largely ignoring their implementation into actual practice, according to Gray (2016). He highlights a study showing that the majority of design methods proposed at HCI conferences are never put into practice, and argues that researchers tend to operate from how they think practitioners work, which often does not reflect the reality. There is “a characteristically unidirectional relationship between the research and practice communities”, Gray (2016, p.4044) concludes. As the next section show, he is not alone in this observation.

2.5 The UX Community and the Industry-Academia Gap

The world of UX looks very different from the points of view of industry and academia, and knowledge and experience often is not exchanged between researchers and practitioners. According to Colusso et al. (2017), the gap between the two affects both domains negatively. Sci-

entific research is not being used, resulting in less optimal designs, and the practical work not being studied holds back scientific advancement. From the perspective of researchers, their insights are being ignored or misunderstood; from the perspective of practitioners, the academic literature is either not relevant or not ready to be used in practice. Hassenzahl (2008, p.11) notes that there is “a wide gap between practitioners and academics in their understanding of what UX actually is.”

Several other papers argue for the existence of a gap, including Dalsgaard and Dindler (2014), Gray, Stolterman, and Siegel (2014), Lachner et al. (2016), Lallemand et al. (2014), Väänänen-Vainio-Mattila, Roto, and Hassenzahl (2008), and Rose and Tenenberg (2016). According to Ardito et al. (2014, p.86): “The literature is full of articles arguing that this situation must change and suggesting new methodologies and techniques to optimize the impact of usability and UX on software products, but this isn’t enough.”

In an essay on the relationship between researchers and practitioners, Dray (2009) notes that this is not a new phenomenon: “In our own field of usability and UCD, the tension or gap between academia and practice has a long history.” (p.2) She argues that at the time when usability dominated, it was accompanied by a clear methodology and professional identity. The move towards UX, with its focus on emotion and personal values, has increased the overlap with other disciplines and the terminology has become more vague. As a consequence, marketing professionals compete directly in this area, offering recommendations that are often more fad-based, easily saleable and superficial.

Øvad and Larsen (2015) remark that the gap has been discussed in the literature since at least 2003 and still seems to exist. In 2005, Cooke and Mings (2005) conducted an interview study with the intention of helping to bridge the gap. However, Øvad and Larsen (2015) find that it appears to be shrinking. The authors interviewed UX practitioners at Danish companies in 2013 and again in 2015. In comparing the results, they found that the awareness and understanding of UX had risen markedly, and that the companies had an increased focus on UX as a competitive advantage. Formal processes and strategies had been put in place, and use of theory and UX testing had increased where the designers’ experience had previously been relied on. While there was still a disparity with researchers in terms of methods, Øvad and Larsen (2015) saw a growth in collaboration with academia. These findings corresponded to similar studies they describe.

The academic HCI community has long made attempts at fostering a closer connection with the practitioners. One of the main societies for HCI professionals is the Special Interest Group on Computer–Human Interaction (SIGCHI), operated by the Association for Computing Machinery (ACM), which represents “professionals, academics and students” (ACM SIGCHI, 2018). It arranges yearly CHI conferences, offering workshops, technical presentations, tutorials, etc., with the intention of bringing together people of all HCI backgrounds. Some studies indicate that it has succeeded in doing so. A survey by Naumann, Wechsung, and Schleicher (2009) did not show a notable gap between researchers and practitioners. Buie, Hooper, and Housian (2013) argue that the gap in HCI is smaller than in other fields, and note the efforts of the SIGCHI Research-Practice Interaction Community in furthering a common understanding.

However, while there may be areas where the gap is more or less fully bridged, in others it is still open wide. Norman (2010) addresses this directly, stating that:

There is an immense gap between research and practice. (...) The gap between these two communities is real and frustrating. Sometimes the gap is deliberate.

Some researchers proudly state they are unconcerned with the dirty, messy, unsavory details of commercialization while also complaining that practitioners ignore them. And some practitioners deride research results as coming from a pristine ivory tower—interesting perhaps, but irrelevant for anything practical. Sometimes the gap is accidental, caused by a misunderstanding on both sides of the requirements and goals of the other. (p.9)

According to Norman (2010), this extends to the SIGCHI. Although they claim to represent all of HCI, he argues, developers and practitioners are rarely represented at CHI conferences. Instead, industry tends to only be represented by industrial researchers, who are already more attuned to the academic perspective. That SIGCHI has struggled with bridging the gap is echoed by Dray (2009), who describes the Usability Professionals' Association (UPA; now the User Experience Professionals Association; UXPA, n.d.) emerging in part from a desire from practitioners to gather separately from CHI. Dray (2009) quotes a blog post that laments that the CHI reviewers “simply do not value the difficulty of building real systems and how hard controlled studies are to run on real systems for real tasks.” (Landay, 2009). Gray et al. (2014) note the lack of a cohesive community of professional practice, which they note is considerably more splintered than those of other fields (eg. architecture). From interviews with practitioners, they found that most knew about the CHI conferences, but did not participate in them. Alternative, practitioner-oriented conferences were seen as more valuable to them. The same was found by Colusso et al. (2017).

Often, academics have little direct interaction with industry, and consequently, their perceptions of how practitioners actually work are not grounded in the reality (Gray et al., 2014). Norman (2010) expresses disbelief in how removed researchers tend to be from practice, and describes how studies tend to use students and tightly controlled circumstances with the expectation that it translates to the complicated problems and constraints of designing in a large company. This observation was corroborated by the findings of a literature review by Bargas-Avila and Hornbæk (2011). According to Colusso et al. (2017), there is still much confusion in academia as to how to communicate design recommendations in a way that practitioners will read and make use of.

This reflects the views of practitioners, whom Gray et al. (2014) find expect researchers to not understand design practice, resulting in a lack of interest in new knowledge from academia. However, Colusso et al. (2017) note that they may still access the scientific theory, only through other, indirect channels. Based on interviews with design practitioners, they report these to include design examples and reusable design patterns from online libraries (eg. Google's Material Design guidelines), and experiences and reports from sources they trust (eg. Nielsen Norman Group or Apple). In addition, they conduct their own user research and analyze the data. Practitioners tend to learn new design methods from sources such as coworkers, professional groups, blogs, or Twitter (Gray et al., 2014). This is not found to be because methods coming from academia are necessarily too theoretical, but because they are not in line with the realities of design practice. Colusso et al. (2017) report a desire from practitioners for simple and clear research-based recommendations from academia, to help choosing between alternatives (eg. women's color preferences).

There are several barriers that keep practitioners from absorbing the insights and knowledge developed in academia. Similarly to those reported by Buie et al. (2013), Colusso et al. (2017) find these to be in particular:

- The academic style of writing, which is perceived as difficult to read, too detail-oriented, and not actionable and directly usable. In addition, it often uses terms that designers want to avoid (eg. ‘behavior change’) due to negative connotations.
- That the goals of researchers are perceived to be different, and more concerned with funding and reputation in the academic world than developing useful designs.
- A lack of access to the literature – either because it is behind a paywall, and too expensive or not provided by the company, or because the practitioners are not trained in locating it.

To many practitioners, academic research may simply not be seen as useful enough to be a priority (Parush, 2006). Melinda Knight of Microsoft emphasizes that in the industry, research is a means and not an end in itself (Nah et al., 2015). First and foremost, research must lead to actual use – “a tangible, positive outcome for a customer” (p.731). Budgets for research in the industry are often scarce (Gray et al., 2014), and resources allocated for UX during hectic development processes are directed towards improving the product (Väänänen-Vainio-Mattila et al., 2008).

As a result, practitioners also tend not to contribute to the academic literature, causing insights that could be valuable to researcher to not be made available (Buie et al., 2013). The high demands for thorough empirical testing by the academic HCI community makes it difficult for designers to get published in scientific publications, as they often do not have the resources to conduct extensive testing, or the training to develop a sound methodology (Hassenzahl, Heidecker, Eckoldt, Diefenbach, and Hillmann, 2012). This serves to further widen the distance. Upon reviewing 92 HCI and interaction design publications, Hassenzahl et al. (2012) found that less than half referenced existing empirical knowledge and theory. Despite the availability of extensive and thoroughly evaluated theories and models, a very limited selection tends to be used. First-hand experience and self-developed theory dominates, rather than being supplemented by the established theory. Indeed, “even researchers working in a highly interdisciplinary field such as HCI tend to not make appropriate use of knowledge acquired by researchers from other disciplines.” (Hassenzahl et al., 2012, p.13) Similarly, Bargas-Avila and Hornbæk (2011) find that papers containing basic research on UX often do not reference each other.

Dray (2009)’s essay addresses the various incentives and pressures that affect practitioners and researchers, and influences their behavior and perspectives. Academia operates under the mantra of ‘publish or perish’ – meaning that researchers must continually produce and publish findings, as their position and funding depends on it. This affects the type of research being conducted: “The quickest and easiest types of papers to write tend also to be the most narrow” (Dray, 2009, p.2). It also encourages experimentation under controlled or simulated circumstances, and the testing of novel interaction designs that are easy to measure, but hard to put into use. Researchers will tend to dedicate their careers to a narrow field of expertise. However, academic research tends to be rigorous, methodologically sound, and meticulously executed.

In industry, the mantra is closer to ‘produce or perish’ (Dray, 2009). The work is driven by business goals, and everything is in service of getting the product or service to market. Intellectual interest is not an important motivator, and may even make one “seem too ‘academic,’ which is an epithet in many corporate settings.” (Dray, 2009, p.4) The dynamism of industry also has some adverse effects. Research is often rushed and limited in resources, teams may have to negotiate many diverse approaches, and critical thinking may falter. In addition, practitioners tend to change jobs often, resulting in them holding positions that they have little formal train-

ing or experience in. However, there are many varied and challenging problems in industry, with real-life implications, that are ready to be tackled by researchers.

The differences in perspective also affect the attitude towards information (Cooke and Mings, 2005). Where academia is built around the sharing of information (by teaching or publishing), industry has an interest in protecting information that is deemed proprietary and may provide a competitive advantage.

This gap between industry and academia is a common phenomenon, stretching beyond HCI and related fields (Muller, 2005). Regarding the literature of the two domains, Muller (2005) notes some clear differences. To those in industry, articles should be operationalizable – provide solutions and be immediately usable. There should be little ‘noise’, they should be interesting to read, and references should point towards other useful information. To those in academia, meanwhile, articles should have scientific value – provide original claims that are well-positioned in the scientific literature. References are provided as documentation for claims, and authorship is a very sensitive matter (as it determines future funding).

In general, Norman (2010) concludes that the knowledge and skills required for research and for product design and development are vastly different. He argues that design, as it is being practiced, is more art than science, and that it is less based on established knowledge, and more on handed down tradition.

Gray et al. (2014) explored the bidirectional flow of knowledge between the two. When it works, the practical experiences and refinements of methods by practitioners will ‘bubble up’ to reach the research community. Conversely, new findings ‘trickle down’ from the academic community through the traditional paths of methods and theory being put into practice. While this works to some extent, it is hindered by researchers’ lack of understanding of industrial work practices (Gray et al., 2014).

To address this, Gray (2016) suggests that academia focuses more on practice-led research, and in particular, that HCI education makes sure to prepare students for the realities of the industry. This sentiment is echoed by Cooke and Mings (2005) and Dray (2009), who argues that that practitioners need more critical thinking, and academics need to focus more on things that matter in practice. Buie et al. (2013) highlights outreach events, internships, and the efforts of the SIGCHI in tightening the bond.

John Pruitt of Dell (Nah et al., 2015) recalls positive experiences with academic partnerships, noting that the relations tend to be more friendly and informal than when consulting agencies are hired. However, the process is also slower and less adaptive to changing requirements, and he finds that academics tend to be “satisfied with simply knowing the previously unknown and creating a call for further research. The research (and gained understanding) is the end, not necessarily a means to an end.” (Nah et al., 2015, p.735).

Based on interviews with practitioners, Colusso et al. (2017) present some recommendations for making academic findings more accessible.

- Activity-specific examples, driven by theory – eg. behavior models, interactive examples, and analyses of user data.
- Actionable recommendations – eg. clearly phrased design guidelines, organized by the problems that designers face in their work.
- Easier access to resources – eg. gallery-based search tools
- Closer integration with tools and workflows – eg. developing libraries of reusable snippets, and establishing more direct lines of communication

Melinda Knight of Microsoft (Nah et al., 2015) expresses similar thoughts, adding that academics should consider practical adoption and implementation of their research “the ultimate citation”. “Across industry and academia, insight is our common currency,” she concludes (Nah et al., 2015, p.732).

In order to address the disconnect between the shapes that insight takes on each side of the gap, work has been done to define and encourage the development of ‘intermediate-level knowledge’ – eg. guidelines or heuristics (Law, Hassenzahl, Karapanos, Obrist, and Roto, 2014). One such attempt is ‘bridging concepts’, introduced by Dalsgaard and Dindler (2014), which are intended to facilitate the back-and-forth exchange between abstract theory and design practice. These concepts may be operationalized from theory (top-down) or abstracted from practice (bottom-up). This should serve to keep the movements of knowledge described by Gray et al. (2014) as the ‘bubble-up’ and ‘trickle-down’ effects going.

Another project, by Lallemand et al. (2014), concerns the development of ‘Experience Triggers’. These are experiential objects or situations that are intended as a way to immerse designers in theory that they would otherwise likely not be exposed to. This should allow for new theory to inform UX development, without requiring designers to read the formal literature.

Norman (2010) goes further, and suggests the creation of a third discipline in between research and practice – the translational developer – to mediate the abstract and the concrete. The insights of researchers must be mined and made applicable in practice, and the problems and needs of practitioners must be made accessible for research endeavors. While this is a difficult task, Norman (2010) is optimistic: “The gap is real, but it can be bridged.” (p12)

2.6 Communities of Practice

The field of HCI and UX design, from industry to academia, and from practice to research, might be viewed through the lens of a *community of practice* (CoP). While this term in its usual conception is generally used more narrowly, it is arguably applicable here.

Communities of practice, as defined by Wenger, McDermott, and Snyder (2002, p.4), “are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.” They are everywhere, and people belong to and interact with several every day. They may be more or less visible and clearly defined, and we may have varying levels of connecting to them.

Typically, communities of practice are discussed on a more concentrated scale than is the case with the HCI field as a whole. They may take the shape of employees at a company exchanging knowledge and experiences, or a group of professionals regularly meeting (or communicating online) to help advance each other’s skills and feel connected to their field of work. Wenger et al. (2002) explains that communities of practice take many forms – this includes factors such as number of members, lifetime of the community, whether all members are located in the same area or spread out, whether it has been intentionally created or formed naturally, and whether it is being recognized and encouraged by the organization it is attached to.

There are three main elements that make up a community of practice, and which together form its unique identity (Wenger et al., 2002). In basic terms:

- The **domain** is ‘*the thing that the members care about*’. It creates a shared sense of identity and purpose, and gives the community a direction beyond simple socializing.

- The **practice** is ‘*what the members do with the thing, and how*’. It consists of the specific knowledge of the community, as well as the shared ideas, tools, and documents.
- The **community** is ‘*who the members engaging with the thing are*’. It provides a social fabric that allows for learning, mutual trust, and the willingness to ask and share.

Wenger et al. (2002) also discuss distributed communities of practice that cross the boundaries usually containing a community. These include matters of distance, community size, organizational affiliations, and cultural values. Large communities spread across the world, and belonging to different organizations face issues such as conflicting agendas and building trust and craft intimacy.

The SIGCHI, organizer of the CHI conferences, is one of the main organizing associations of the HCI field, and likely the closest thing to a clearly defined large-scale community of practice. However, as shown above, it has received criticism for not being able to attract and include practitioners. Instead, these tend to attend their own conferences. Several studies (eg. Gray et al., 2014) found online media such as Twitter and blogs to be widely used by practitioners. It could be argued that the exchanges taking place there takes on the nature of loose, distributed communities of practice. However, there is no defined structure or shared identity.

In a strict sense, the HCI field would not be termed a community of practice – even a distributed one. There is no clear delineation or overview of membership, there is no practice shared by all members, and most importantly, as detailed above, there is not a shared sense of community across the field. However, the model of the community of practice may be adopted as a lens to view the field through, and may help to provide an understanding of why it has failed to coalesce into one shared identity. As it exists today, it may best be described as a meta-community, comprising numerous distributed and independent sub-communities. There is no formal governing structure or leadership, and no universally agreed-upon body of knowledge or lines of communication.

If we do consider the mass of UX and HCI professionals across industry and academia one community of practice, we might try to use the three elements to diagnose why it is not thriving (as the extensive literature on its internal divide, outlined above, indicates):

- The domain is largely shared – the effort to make the interaction with digital systems as seamless and pleasurable as possible (in a rough definition). Knight argues that “[a]cross industry and academia, insight is our common currency.” (Nah et al., 2015, p.732)
- The *practice*, however, differs greatly. As shown above, practitioners and academic researchers work towards different goals, and have different criteria of success. While they may all work within the same domain, the differences in practice splits it into diverging concerns, eg. what constitutes an experience, and what button size will make the customer click ‘buy’?
- The *community*, in turn, is splintered. If the work practices of industry and academia are perceived as incommensurable, attempts to come together as one community will be considered doomed in advance. Practitioners will avoid academic literature and conferences, and academic researchers will wonder why the industry is not making use of newly developed theory and methods.

The result is a large group of people, ostensibly working towards the same goal, but finding themselves unable to collaborate, or even agree what the goal entails.

Approaching the HCI field as a community of practice is not an entirely original notion. In the survey conducted by Law et al. (2009), some participants insisted that “UX should be understood through the conceptual lens of a community of practice, which iteratively defines constructs germane to UX via its activities such as designing and critiquing objects of interest.” (p.725). Gray et al. (2014) describe the two sides of the gap as two distinct, competing communities of practice. However, these articles do not go into further detail with the matter, and it does not seem to have been discussed at length in the literature.

The community of practice model is used as a theoretical tool and framing device for the interview study and the subsequent analysis. Along with the Quantified UX model by Lachner et al. (2016), it is used to inform the development of questions; it also provides the structure of the interview.

3 Theory of Science

This section outlines the theoretical foundations for this thesis’ methodology. Following an introduction to the scientific theory, covering phenomenology and social constructivism, the qualitative and quantitative approaches to conducting scientific research are presented. Building on this, measures of reliability and validity of findings are discussed. After an introduction to critical discourse analysis, which will be used to analyze the interviews, some theoretical models that were used to guide the interview and analysis process are outlined.

3.1 Interpretivism

Interpretivism is an epistemological position, in which a social scientist tries to interpret the subjective meaning of social actions (Bryman, 2016). It stands in contrast to the positivism of natural science in regards to the provable nature of reality. In interpretivism, it is believed that to achieve a better understanding of the subject matter of social science, it is necessary with an approach that allows the social scientist to fully understand the subjective meaning of social actions. The biggest difference between positivism and interpretivism lies in that positivism tries to find an explanation to human behavior, whereas interpretivism tries to find an *understanding* of human behavior (Bryman, 2016).

This thesis makes use of two primarily interpretivist approaches – that of phenomenology and that of social constructivism. Social constructivism provides the foundation for our analytical theory of critical discourse analysis, as well as its view of how human knowledge is constructed and understood (see section 3.3 for social constructivism and section 3.5 for critical discourse analysis). Phenomenology is utilized within this thesis because of its endeavor to understand how individuals understand the world around them. This is of significance because of our goal to understand the gap in user experience utilization between academia and industry. It is important to understand how the interviewees understand the world of user experience and their perception of the field of user experience, both in relation to academia and the industry. Alternatively, hermeneutics could have been utilized within this thesis. However, because of the theoretical and methodological approach of hermeneutics that seeks to interpret human *actions*, this was not chosen. As this thesis focuses more on the interpretation of human *experiences* and how humans perceive the world, the phenomenological was deemed more appropriate (Bryman, 2016).

3.2 Phenomenology

Psychology as a science has been criticized and approached differently by various psychologists and researchers over the years (Lavery, 2003). In the opinion of German philosopher Edmund Husserl (1859–1938), psychology has been developing in the wrong direction by attempting to apply the methods of natural science to issues experienced by people (Husserl, 1999). His indictment of psychology is concerned with it ignoring the living subjects, as they are not programmed to automatically react similarly to external stimuli, but rather follow their own perceptions as to what the particular stimuli mean to them. In Husserl's understanding, the researchers who employed only external stimuli in their aim to isolate and associate with other isolated responses, strayed away from important variables, but also neglected the context and thus produced an artificial situation.

Phenomenology can be viewed as a philosophical and sociological study of the perception of the real world and the very structure of experience (Edgar and Sedgwick, 2007). Edmund Husserl developed the study throughout his career, and accordingly, describing it with a single complete definition is not a possible undertaking. Phenomenology comes from the Greek word for appearance – ‘phenomena’ – and it is concerned with describing the basic human experience. Within Husserl's studies, phenomenology is defined as the “attempts to describe how the world must appear to the naïve observer, stripped of all presuppositions and culturally imposed expectations.” (Edgar and Sedgwick, 2007, p.182).

According to Husserl (1999), the lifeworld is the place of actual experience, and the world we find ourselves in. He distinguishes between the theoretical attitude to life and the natural pretheoretical one which all science and theorizing is derived from. The term *natural* is used to mean a state prior to critical or theoretical reflection, as something original.

The lifeworld can be explored by phenomenology as it presents different structures or styles (Given, 2008). By examining the individual lifeworld, it appears to have separate experiential qualities from person to person. Everyone can be observed to experience different lifeworlds at different points of the day, resulting in lived worlds of eg. work and home. Additionally, they can converge as the lifeworlds are combined in each other.

Although Husserl's views on phenomenology were as the study of essence, his analysis on the lifeworld were more philosophical (Varela, Thompson, and Rosch, 2017). As this was mostly based on a very high form of theory, this meant that phenomenology is also presupposing the lifeworlds while trying to find meaning in them. To give a better understanding, Husserl presented the lifeworld as a set of assumptions that would provide a phenomenologist with an explicit set of belief systems.

The idea of lifeworlds is shared among philosophers, although sometimes understood in different ways (Given, 2008). For example, Heidegger explores it as more worldly – as phenomenology is the study of being in the world – where Wittgenstein describes it more linguistically with the notion of “language games” and “form of life” as an approach to the idea of lifeworlds.

Another theory, that Husserl called “natural attitude”, is oriented towards the everyday experiences that we take for granted without focusing on the real object that is being experienced. He elaborates further as the object we perceive that stands before us is a matter of course. Husserl, 1999 states:

That is, it stands before us in the midst of a world, part of which is perceived as particular things are perceived, part of which is given in connection with memory –

from whence it spreads out into the indeterminate of the unknown. (p.15)

To continue, first we must discuss the method of “bracketing” as a means to take away or set aside ideas in phenomenological enquiry and focus towards the important items (Edgar and Sedgwick, 2007). Husserl does not contradict the existence of the real world, but rather uses bracketing to direct our attention towards the expectation we create to be able to experience the real world in its entirety. “There stands the thing before my perceiving eyes. I see it; grasp it: But the perception is nothing more than an experience that belongs to me, the perceiving subject.” (Husserl, 1999)

Husserl uses the phenomenological principle “zu den Sachen selbst”, expressing meanings to the things themselves (Schuback, 2006). A more precise explanation can be: “to things in their way of given themselves to a consciousness” (Schuback, 2006, p. 135). As this presents, things are not what exists but rather what *appears*. To elaborate further, consciousness does not appear as a thing, but rather as a way to turn to things in response and openness to the emerging of things. The theory presented is where phenomenology is used as a method of describing and showing how things are perceived and not only defining what they are.

3.3 Social Constructivism

The following section introduces the topic of social constructivism. This provides the foundation for critical discourse analysis, which will be used for analyzing the interviews, and is presented in section 3.5.

Social constructivism works from the premise that a given phenomenon does not function independently, but that it is constructed (Collin, 2013). Hereby meaning that such a phenomenon is maintained and generated through a collective human action – usually as seen through social practices, such as discourse (Collin, 2013). What this means is that in the broad sense social constructivism can be produced through social actions. These actions happen when individuals interact with each other. Such interaction can happen in several different ways and on different levels. The aspect that is important to note about the approach of social constructivism is its approach to the laws of nature. Some things that are done or perceived by people might be perceived as being a part of nature, a part that normally cannot be changed by people and is a part that lies within people by default. However, social constructivism argues that some of these aspects can be socially constructed without people realizing it (Detel, 2015).

In this thesis, the social constructivism approach that is used is that of epistemic constructivism (Collin, 2013). This approach is of the understanding that it is the individual’s knowledge of the world that constitutes the real world, and thereby constitutes the individual’s scientific knowledge shaped by social constructivism. This approach is different from the ontological constructivism approach, which has the distinction that the world itself is the object of construction (Collin, 2013). It is also related to whether the perception is of the material or physical world, or that of the social and human-perceived world. For the epistemology approach, the material or physical world is perceived as being constructed by our collective practices and thoughts as humans, which includes the scientific knowledge an individual might have. The perceptions of each individual are what collectively create the perception of the physical world that we exist within. In regards to the social world in which we exist, the epistemology approach acknowledges that all social interactions are constructed by our knowledge about how social interactions function and that we are then collectively shaped by the societal forces (Collin,

2013). In regards to the approach of scientific knowledge being created socially, one of the essential claims by social constructivism is that some aspects of natural science and mathematics are to be seen as being socially constructed. This meaning that these fields are not solely based on scientific beliefs being completely true or false, but that scientists have a series of social arrangements that they agree on in regards to certain scientific practices (Detel, 2015).

For a research method to be perceived as being of social constructivist in nature, the approach cannot dive into the local meaning of a practice or the more universal meaning. Furthermore, the approach should be focused on the provisional meanings that might have been constructed. It has to work from the social perspective – meaning that knowledge is to be seen as a social construct and thereby a form of product of the personal and social processes. Lastly, the research method of social constructivism should take a prismatic approach, meaning that the approach should be focused on its application and utility (Neimeyer and Torres, 2015).

Critical discourse analysis is considered within the spectrum of social constructivism, and our analytical approach through critical discourse analysis is shaped by our understanding and approach to social constructivism.

3.4 Qualitative and Quantitative Research

Among scientific methods and approaches, there is a general divide between the qualitative and the quantitative (Bryman, 2016). Traditionally, science has been concerned with quantitative measures in the positivist tradition. However, as interpretivist approaches have gained prominence, qualitative research has become more accepted. A major difference between the two is that where quantitative research seeks to uncover findings that are generalizable and broadly valid, qualitative research is more concerned with the unique characteristics of the individual case or studied phenomenon. For that reason, qualitative research is generally not considered generalizable.

This thesis mostly uses the qualitative approach, through interviews and critical discourse analysis (both of which are detailed in the following sections). However, it also to some extent uses quantitative techniques during the systematic literature review.

The goal of qualitative research is to understand phenomena by using a naturalistic approach (Golafshani, 2003). This approach is based on specific context and used in the “real world” where the phenomenon is investigated as it is, without being altered or manipulated. A broad definition of the research describes it as an inquiry that generates its data not by statistical procedures or other quantification, but rather the research findings are produced in a real world setting where the phenomenon unravels naturally. The findings seek to uncover understanding, insight, and to extrapolate similar aspects.

The results of a qualitative analysis generally presents different types of knowledge compared to other research methods (Golafshani, 2003). The predominant methods for achieving those results are interviews and observations, as they are in the naturalistic paradigm. Qualitative methods are widely used in research on education, information studies and various other disciplines related to the humanities and social science.

In the field of quantitative research, the methods employed by researchers are mostly experimental with a focus on measuring hypothetical generalizations as they emphasize the measurements and analysis of the relationships between variables (Golafshani, 2003). The quantitative data uncovered is generally numerical and in a form of statistics, best presented as illustrations in a form of a graph or a chart. An objective of the quantitative research is to familiarize the

researcher with the topic or problems explored and generate hypotheses so they can be tested. These phenomena relate to (Golafshani, 2003):

- The priority of facts and causes of behavior.
- Quantifiable and summarizable information, generally in the form of numbers.
- Mathematically analyzing the numerical data.
- Presenting the final result in statistical terms.

The quantitative approach allows a researcher to fragment and separate phenomena by measurable or understandable categories that are focused on all the subjects and common situations (Golafshani, 2003). As it attempts to involve standardization of measures oriented towards different perspectives and experiences, people can be accounted for in a narrow number of preselected responses with numbers assigned to them. To put it simply, the researcher can prepare a list of behaviors to be selected or graded by the participants using preselected means (such as numbers on a scale). This research involves the development of a standardized procedure, to ensure that the method is measuring the things it is supposed to, as well as to inspect the validity, replicability and repeatability of the result.

As a field of study, qualitative research is oriented towards exploring topics in regards to their human elements (Given, 2008). In those regards, handpicked methods are used to examine individuals' experience of the world. While the qualitative and quantitative approaches have traditionally been seen as opposites, increasingly researchers are combining the two. More and more cases from academia and industry have started to utilize the mixed method approach to research and using both methods in their projects. Such projects require appropriate development of research design based on an understanding of goals, intentions and implications of the research paradigms. The qualitative nature of the methods is suited precisely towards addressing the *why* and *how* questions dealing with human experience. By contrast, quantitative approaches fit into the needs of examining "*who* engaged in a behaviour" or "*what* has happened", although those techniques are not oriented towards explaining why behaviours occur. Moreover, the qualitative approaches are mostly employed to uncover new phenomena and gather the emotions, feelings, thoughts, and interpretations of the subjects involved.

With the combination of a mostly quantitative literature review and a qualitative interview study, the methodology used in this thesis could be considered a mixed method approach.

Despite their differences, both qualitative and quantitative researchers must first and foremost test and present their studies as valid and credible (Golafshani, 2003). The two research approaches depend on different measures for their credibility. Where the qualitative is based on the ability and effort of the researcher, the quantitative addresses the credibility by referring to credible research and the use of consistent statistical measures. Thus, the two approaches have different views on the terms reliability and validity.

3.4.1 Reliability and Validity

As the term *reliability* is often used in all sorts of different research, it is most appropriate for testing and assessing quantitative research (Golafshani, 2003). Since the purpose of the quantitative study is proving or testing a hypothesis and retrieving new information, it is important for it to be of a good quality. Likewise, a good qualitative study serves to make otherwise ambiguous or confusing situations more understandable. Here, the *reliability* acts as a measure for

quality with the idea of explaining, where the *quality* concept serves a purpose for generating understanding in the qualitative study.

Furthermore, Golafshani (2003) states that reliability, along with validity (detailed further in the next section), should be main concerns to any qualitative research while designing a study, analyzing it and measuring its quality. This is directly in correlation with how the researcher ensures the readers that the research has any merit worth paying attention to. Elaborating further on this, some researchers strongly believe that the quality of a study in a paradigm is determined by the paradigm's own terms.

To illustrate, the terms reliability and validity pertain to the quality of the quantitative paradigm, where in qualitative paradigms other terms, such as credible, neutral or confirmable, consistent or dependable and applicable or transferable are essential for judging quality (Golafshani, 2003). To be clear and more specific with terms such as reliability in qualitative research, Golafshani (2003) references Lincoln and Guba (1985)'s use of dependability as being closely related to the idea of reliability in this paradigm. As in the same manner other researchers prefer the concept of dependability in qualitative research with other concepts such as consistency or reliability. Here, the data consistency is to be achieved by verifying the steps of the research, through the examination of raw data, data reduction, and process notes.

Another factor researchers describe is trustworthiness, which for research publications is of very high importance, and is typically expressed as validity and reliability (Golafshani, 2003). To increase the scope and approach of reliability and reveal the compatibility of reliability and validity in qualitative research, Golafshani (2003, p.601) quotes Lincoln and Guba (1985): "Since there can be no validity without reliability, a demonstration of the former [validity] is sufficient to establish the latter [reliability]". Golafshani (2003) note that in a study, the reliability is a consequence of the validity in regards to the researchers' ability and experience in the qualitative research.

In the exploratory field of qualitative research, concepts such as validity and reliability are described by a wide range of terms (Golafshani, 2003). Even though some researchers have arguments depicting validity as a concept that is not relevant to qualitative research, they simultaneously have experienced the need to check and determine the quality of their research. For such contradictions, some researchers suggest that the researcher's own perceptions and choice of paradigm expectations affect the validity of the study. This led to the development of different concepts of validity from different researchers, who also accepted, as they consider it, more appropriate terms, like quality, accuracy, and trustworthiness (Golafshani, 2003).

Additionally, the concerns about validity and reliability initiated the discourse of quality in the research paradigm. Such concerns were regarded as responsible to replace new terms for the words *validity* and *reliability* to better correspond to interpretivist conceptions (Golafshani, 2003).

Golafshani (2003) notes that validity and reliability issues have not been disregarded by researchers such as Stenbacka when it comes to qualitative research, and argues for redefining the concept of validity for this type of research, and describing reliability as a quality criterion that needs to be solved in order for a study to be considered a proper research.

Terms such as validity, reliability, trustworthiness, quality and accuracy are used to separate the good research from the bad, so applying them to any research paradigm will prove to be beneficial (Golafshani, 2003).

3.5 Critical Discourse Analysis

The following section elaborates on the theoretical background of critical discourse analysis. The section introduces the concept of discourses, the social practice, and the three-stage model by Fairclough (1995). Each part of this section will describe which exact approaches have been utilized within this thesis. Critical discourse analysis and especially discourse analysis in general, have several different interpretations, and therefore this section will focus on understanding our departure and focus when working with critical discourse analysis.

3.5.1 Discourse

Typically, when working from the perspective of the critical discourse analysis (CDA), an analysis would normally contain the elements of description, interpretation and explanation (Cruickshank, 2012). Furthermore it is possible for a critical discourse analysis to contain a critique of the discourses found in the analysis. This would account for the discourses' development and their possible consequences.

Before getting into more details with critical discourse analysis, we need to look into what exactly a discourse is. If we take departure in the work of Michel Foucault, we have a definition that says that discourses are (Weedon, 1987):

ways of constituting knowledge, together with the social practices, forms of subjectivity and power relations which inhere in such knowledges and relations between them. Discourses are more than ways of thinking and producing meaning. They constitute the 'nature' of the body, unconscious and conscious mind and emotional life of the subjects they seek to govern. (p.108)

The concept of discourses and how they are created is represented by the idea that all texts are to some extent representations of the world and what is happening within this world (Van Leeuwen, 2008). No matter how abstract this might be, it should be interpreted as a representation of social practices. The approach will thereby be influenced by the concept that all texts should be analyzed towards the idea that they transform and draw on social practices.

Critical discourse analysis draws on elements from the works of Foucault, and therefore his definition of a discourse is used as the main understanding of what a discourse is within this thesis (Bryman, 2016). From this definition, it is important to note that discourse from this perspective affects the relationship between them. Thereby meaning that it is important to remember that a discourse can be seen as being both influenced by and drawing from other discourses. It should also be understood that a discourse is not only a tool to provide some sort of account of how society is, but it is also able to dig into why a certain meaning is created.

3.5.2 The Social Practice

The concept of social practice revolves around socially regulating possible ways of doing things (Van Leeuwen, 2008). Social practices are regulated in different ways and to different degrees. A possible way the social practice could be regulated could for example be through influence by an expert or possible role model – hence the utilization of this focus within our interview (see section ??). Social practice can be seen as an interconnected network including topics such as economic, political, and cultural factors (Wodak and Meyer, 2002). The social practice itself will

allow us to combine certain aspects of actions and structure, whereas a practice will always be concerned with production – thereby meaning that they are areas where social life is produced.

The interesting part of looking at the social practices of people is to try to understand the ways that their social practice might be regulated and too which degree this regulation affects the answers and understandings of people (Fairclough, 2003). Furthermore, the social practice should also be seen as different types of social events. These social events are shaped by a series of networks of social practices, meaning that social practices help define certain ways of acting.

One way that people can act and interact is through writing or speaking. These discourses should then be seen as first created through actions (Fairclough, 2003). Interviews, on the other hand, are a genre for generating this type of action. The interview is a way of acting for the participants, where the discourses found within the action are ways of representing the material world, of the social practices.

3.5.3 The Critical Discourse Analysis

Critical discourse analysis is a dialectical method focused on the tie between the elements of social practice and the semiosis, which is the process of significance in language or literature (Fairclough, 2003). It also has a particular focus on the notion of changes happening within social life, and how the semiosis is influenced by these changes, as well as the social elements seen within the network of potential practices. The concept of semiosis within the critical discourse analysis has to be established through an actual analysis.

The notion of “critical” within critical discourse analysis refers to the idea that we, as the researchers, have to have a distance towards our empirical data (Wodak and Meyer, 2002). Furthermore it is also important, in order for us to maintain the state of being critical, to embed our empirical data within the social aspect, to have our primary focus upon self-reflection, and to take an explicit stance politically. Each of these aspects of the critical part of the critical discourse analysis are important in order for us to maintain our neutrality and not have our understanding and interpretations influenced by outside factors.

In discourse analysis, the notion of a “text” is not to be understood as simply a text in an everyday sense of the word (eg. an article), but a reference to language in general (Fairclough, 1995). Eg. spoken language can be turned into written text.

The critical discourse analysis also builds upon the notion of intertextuality (Bryman, 2016). With this notion comes the concept of drawing attention to possible connections between texts – thereby meaning that a text being analyzed should be subjected to other related texts. This notion accounts for our approach of performing a series of interviews with researchers and practitioners to thereby create an empirical data foundation for us to be able to analyze connections between the interviews. To achieve intertextuality, it is important for us to look at our data from a broader spectrum and compare each discourse across the various perspectives of our participants.

3.5.4 The Three-Stage Model

As a part of the analytical approach, the three-stage model by Fairclough has been used as both an illustrative example and a model built upon some of the theoretical positions by Fairclough (1995). The reason for utilizing the three-stage model is its ability to examine the links between language and social practice, which is of particular use for this thesis. The model itself facilitates different levels of analysis on both a micro and macro level. Furthermore, the critical

part of critical discourse analysis is covered by the approach to connections between the texts, relations and social processes.

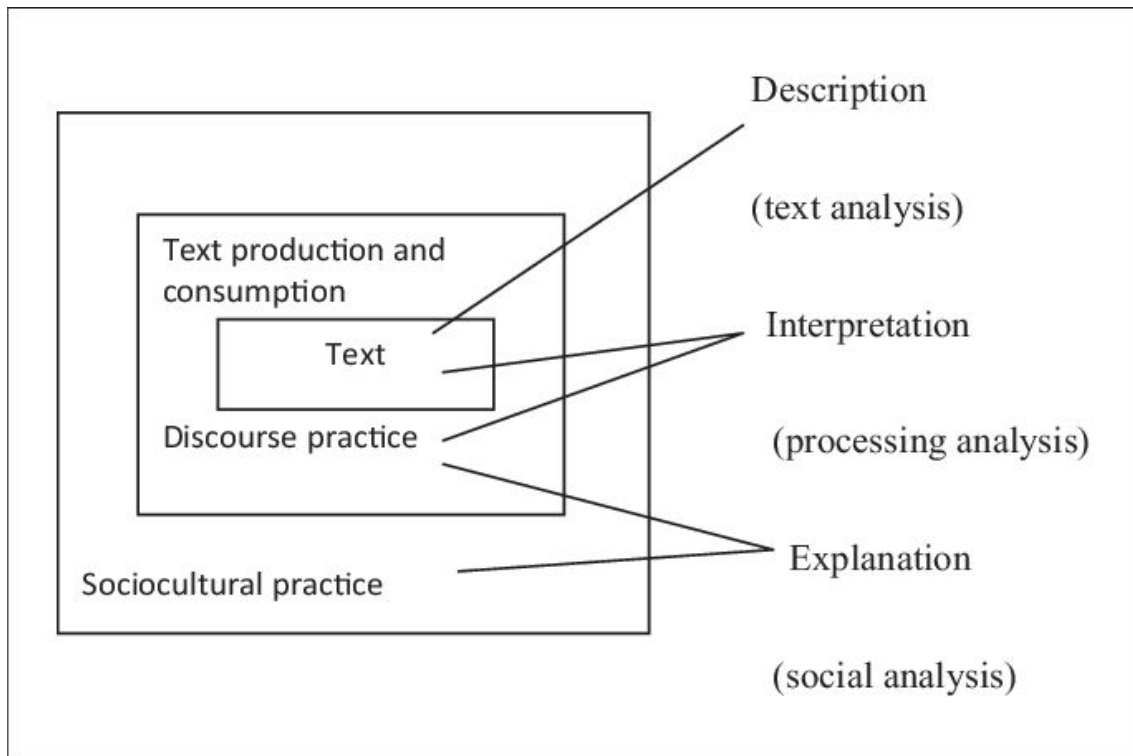


Figure 6: Three-dimensional model of critical discourse analysis by Fairclough, 1995

The model itself, illustrated in figure 6, is divided into three dimensions aimed towards a three-dimensional method of discourse analysis (Fairclough, 1995). The first dimension of the model is aimed towards the aspect of language as a text, which as stated above includes both written and spoken language. The second dimension within the model is that of discourse practice. It is within this stage that the text interpretation and text production is performed. The third dimension of the model is that of the sociocultural practice. Regarding the concept of a discourse, it should be noted that a discourse within this model can exist on several levels, such as in the discourse practice and sociocultural practice. The dimension of text includes a linguistic description, which in turn includes an interpretation of the possible relationships between the discursive processes. Furthermore, this method could potentially provide an explanation of the relationship between the social processes and the discursive processes (Fairclough, 1995).

An advantage of utilizing this model is its ability to provide a link from the textual dimension all the way to the sociocultural practice, and that this link is mediated by the discursive practice (Fairclough, 1995). This means that the text and the nature of the text helps shape what in the end becomes the sociocultural practices. This is done through the interpretation taking place between the text dimension and the discourse practice dimension, which then later on is explained between the discourse practice dimension and the sociocultural practice dimension. Combined, this leaves us with a method accounting for textual analysis, processing analysis and social analysis.

3.5.5 Habermasian Approach to Critical Discourse Analysis and Landmark Papers

As part of the analysis of the results of the systematic review, a selection of papers deemed as having a particular influence on the UX research field are subjected to a deeper analysis (see section 5.1). Considered landmark papers of the literature, these papers are looked at through the lens of CDA to identify what discourses within the UX research they represent.

CDA should be viewed as usable on academic papers when considering them communicative processes, and that their publication can be construed as happening in a social setting (the UX research community). Accordingly, aspects such as norms, processes and social structures apply (Wall, Stahl, and Salam, 2015). The perspective of CDA will be applied to our landmark papers utilizing the Habermasian approach to CDA. The Habermasian approach concerns the idea that the discourse is viewed in a more strict manner in relation to the utterances between the actors. Furthermore, the Habermasian approach is focused on the ideal speech being a reference to discourses utilizing the counterfactual presupposition of an ideal speech situation. The Habermasian approach is chosen over others approaches, such as the Foucauldian, because of its applicability and resemblance to a publication-centered review.

Ideal speech is also able to be set in relation to the concept of scientific literature, because of the close resemblance between scientific literature and the attempt to design a publication that is an example of the ideal speech situation (Wall et al., 2015). The Habermasian approach also has an interesting approach to the concept of unconscious hegemonic (or, dominant) participation, which in the case of scientific publications involves not only looking at the publications' unconscious hegemonic participation, but also at that of the community surrounding the field. For this analysis, this means that the papers will be examined in regards to their discourse in general, their attempt at sharing knowledge between actors, and their effect on the community and what they could be socially constructing (Wall et al., 2015).

It should however be noted that both the Foucauldian and Habermasian approaches would be applicable to a critical discourse analysis of scientific papers, as they both operate from the critical and interpretive research paradigm. However, because of the Foucauldian CDA's focus on historical roots, processes, power, and structure, the Habermasian approach was thought to be best suited this part of the analysis (Wall et al., 2015).

4 Methodology

The methodology section presents and discusses the various methods, approaches, and data collection techniques that have been made use of for the empirical study in this thesis. Along with this, reflections on the methods and their executions are presented.

Firstly, the process of conducting a systematic review of the scientific literature on UX is described. Following this, the planning and execution of the interview study is presented. Building on descriptions of the analysis procedure from each of these sections, a final section will outline how a comparative analysis of the results of the two empirical studies has been approached.

4.1 Literature Review

As shown in section 2, there is little clarity and shared direction within the field of UX research. The field is still young and under continuous development, and countless frameworks and models have been introduced – some without ever being put into actual use. As described, the

term itself still lacks a common, universally applicable and agreed-upon definition. Instead, a multitude of definitions, conceptualizations and frameworks proliferate within the scientific literature. When one looks beyond the comparatively ordered and clear-cut scope of the peer-reviewed publications, the discussions on the topic are even more messy, vague and subjective.

Arriving at a comprehensive, explicit and consistent understanding of the notion of user experience must be within the purview of the HCI research community. Some attempts have been made to chart the field and to provide overviews of the notable writings (eg. Law et al. (2009),argas-Avila and Hornbæk (2011), Vermeeren et al. (2010)). However, it has not been possible to locate an in-depth review of the definitions of the term introduced, applied and discussed in the literature. Roto and colleagues have – building on their work collecting methods of UX evaluation – collected a list of 27 UX definitions, originating from both academia and the industry (Roto, Lee, et al., n.d.). This list is however not exhaustive and the methodology is not described; additionally, no attempts are made to analyze, compare or classify these definitions. In their paper seeking to understand, scope and define user experience (to paraphrase the title), Law et al. (2009) conducted a survey of 275 UX professionals (see section 2.3 for an elaboration on this study). As part of the survey, they presented a set of five different UX definitions, which they had characterized across five dimensions (see figure 2.3). The definitions were located by searching the academic literature and internet, and selected to broadly represent the spectrum of perspectives on the matter. This sample gives a sense of the diversity of definitions available; however, a more comprehensive categorization of this sort appears to be missing.

In order to address this gap in the literature, we have conducted a review of the available peer-reviewed publications on user experience. We have collected the definitions that are presented, as well as the ways that articles introduce and define the term, and what sources they reference. From this, we analyze the tendencies in UX research over time, and collect some of the dominating discourses that are present in the literature. In analyzing the interviews in section 5.2, we draw connections between the responses of the interviewed UX professionals and the characteristics of the published research to see how a sample of the current thinking across the field matches the picture portrayed in the literature, and to learn the degree to which the knowledge developed there is distributed and absorbed.

In terms of this project’s problem statement, this section seeks to answer question one (*“How has the understanding of the concept of user experience developed in recent years?”*), as well as beginning to answer question two (*“What characterizes the field of user experience from the points of view of researchers and practitioners, across industry and academia?”*) by investigating the perspectives presented and referenced by researchers.

Firstly, this section will introduce the characteristics of the systematic literature review, and how it will be employed here. Afterwards, the protocol and execution of the review will be recounted, following the six rounds the review was conducted over. Finally, some reflections on the process and the validity of the data will be presented.

4.1.1 The Systematic Review Method

A literature review is a condensed overview of a specific research field or topic, made by going through the published literature and analyzing it. It is a form of secondary research, as it collects and synthesizes the findings of primary research through various means and techniques (Torgerson, 2003).

There are many types of review, including critical review, integrative review, and meta-analysis (Booth, Sutton, and Papaioannou, 2016). These can be seen as continuum ranging from the narrative approaches to the systematic (Jesson, Matheson, and Lacey, 2011). On one end there are no defined methods, while on the other the methodology is rigorous and explicit. The narrative, or traditional, review allows for flexibility and the exploration of ideas and issues. However, as it is by its nature subjective, it has been criticized for being biased and ‘non-scientific’ (Jesson et al., 2011). Its lack of clear methodology and transparent criteria for what literature is included makes it impossible for others to accurately replicate the study, and the literature sample used may be small, skewed or deliberately leaving out conflicting views.

At the other end of the spectrum, the systematic review strives for objectivity, transparency and a standardized methodology. As defined by Jesson et al. (2011, p.12) it is “a review with a clear stated purpose, a question, a defined search approach, stating inclusion and exclusion criteria, producing a qualitative appraisal of articles.” For a review to be systematic, it should be comprehensive and cover all published articles relevant to the research question (Jesson et al., 2011). This makes a systematic review a much larger undertaking than a traditional one, and they tend to be time-consuming and often expensive. To handle the extensive work load, and to minimize personal biases, they are often performed by teams of people. They are typically restricted to peer-reviewed academic publications. As it depends on the researchers’ access to the literature, the availability of extensive and effective electronic databases may affect the quality of the review.

By being exhaustive and including all the available findings, the systematic review allows for more representative conclusions (Torgerson, 2003). It follows the scientific paradigm that findings should be reliable, credible, and possible to replicate. It is traditionally associated with meta-analyses of quantitative studies, and is particularly widespread in medical research. The systematic review has been criticized for being too ‘mechanical’, “without sufficient regard to the quality and interpretation of the data.” (Torgerson, 2003, p.11) However, while the systematic review aims for objectivity, Torgerson (2003) argues that it is not ‘value free’ – indeed, the values of the reviewer affect every stage of the process. Making the procedure and selection criteria transparent and explicit allow for critiques, comments and replication of the review.

The review conducted for this project follows the methodology of the systematic review, and has as its goal to present a comprehensive and nuanced picture of the research literature on user experience, with focus on the use and proliferation of definitions of the term. For an example of the narrative review in use, section 2 follows this tradition.

In contrast to the typical systematic review, the focus of this one is not on the findings and experimental methodologies of the selected papers. Consequently, both the procedure and type of conclusions drawn will also differ somewhat from those described in the method literature used.

The systematic review has been conducted in the following six steps:

- Round One: Preparing
- Round Two: Searching
- Round Three: Evaluating
- Round Four: Verifying
- Round Five: Analyzing
- Round Six: Presenting

This is adapted from the review process recommendations of Booth et al. (2016), Jesson et al. (2011) and Torgerson (2003). Eg. the six stages that Jesson et al. (2011) consider necessary to call a review systematic (quoting p.12):

1. Define the research question.
2. Design the plan.
3. Search for literature.
4. Apply exclusion and inclusion criteria.
5. Apply quality assessment.
6. Synthesis.

The following section will describe the procedure and execution of the literature review through the six rounds. Analysis – round five – will be further detailed in section 4.3. The final round – *presenting* – is primarily represented by the description findings in section 5.

Figure 7 shows an overview of the literature review process, along with the numbers of papers included and excluded over the rounds of review.

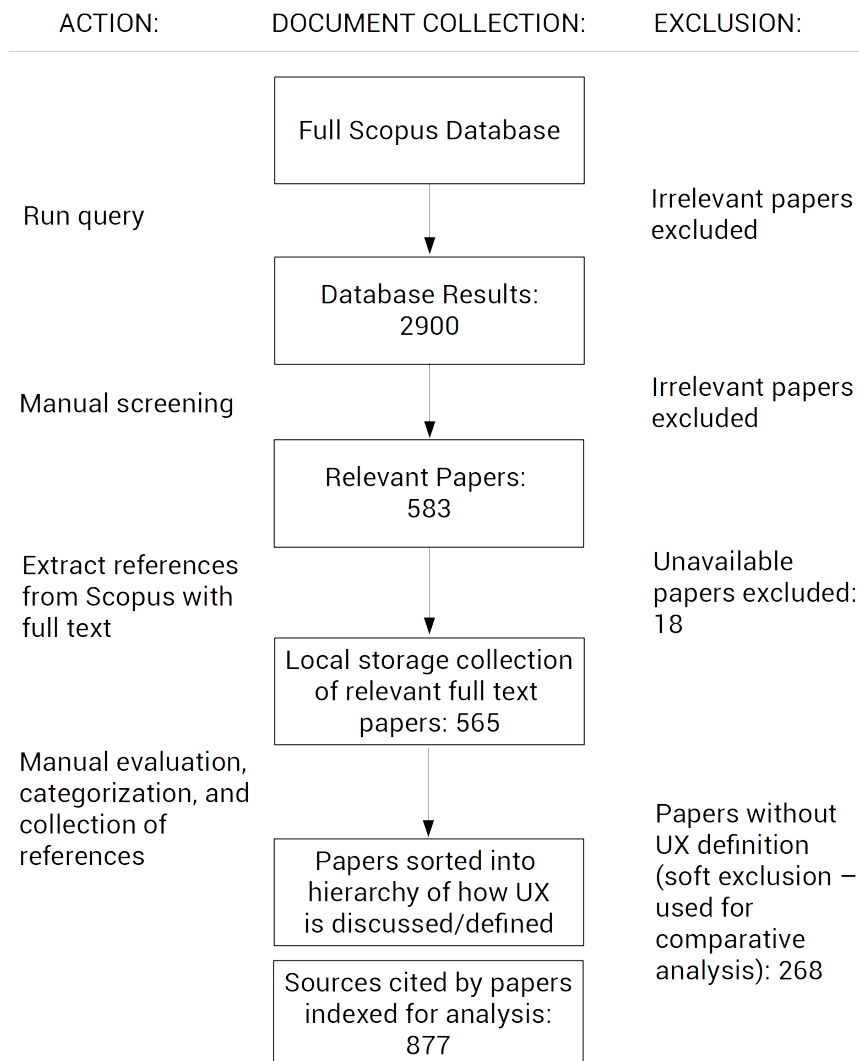


Figure 7: Rounds of the systematic literature review

4.1.2 Round One: Preparing

Before the actual literature search and selection, choices must be made regarding how and where to conduct the search, and what criteria should enable inclusion into the initial set of papers (Torgerson, 2003). This involves developing a protocol and plan for the entire review process. Considering the research questions and approach beforehand helps to conduct the review with minimal bias, and greater efficiency.

This involves defining the scope of the review (Booth et al., 2016). Setting it too narrow will hurt the comprehensiveness of the review, while setting it too broad will make the amount of material unmanageable which will often hurt the quality of the assessments. It must be weighed against the time and resources available. A carefully planned protocol will help preventing *scope creep* – the scope widening continuously as more interesting and potentially relevant materials are discovered.

Time has been an important factor in defining the scope for this review. Typically, the time frames for systematic reviews are quite long. According to Booth et al. (2016), 9-12 months is a common length. Jesson et al. (2011) note that a ‘rapid appraisal’ may be completed in as little as 8-12 weeks. For this review, the available time has been around 8-10 weeks. Consequently, a full, exhaustive deep dive into the complete literature on UX has not been possible.

For this reason, the depth to which each included paper has been investigated and assessed is limited. Only a limited set have been read in full. For most, only a few characteristics of how they define and discuss UX have been noted.

Another limitation is the impossibility of double screening. As Torgerson (2003) recommends, multiple (at least two) reviewers should assess the same documents to ensure that they have been correctly evaluated. To alleviate this short-coming, each round was pilot tested both in collaboration and individually, with subsequent group evaluations of results and procedure.

4.1.2.1 Database selection

There are several databases of academic publications available. To avoid duplicated results and to reduce the workload, we decided to use only one database. This database would then necessarily have to be quite comprehensive and exhaustive. Additional requirements were the ability to limit to peer-reviewed results, advanced query-building tools, and full access to the database and full text of results (either by open access or university log-in).

We chose to use Scopus; other databases considered were ACM Digital Library, Web of Science, and Google Scholar. Scopus is a database of citations and abstracts for peer-reviewed publications – by its own account the largest (Elsevier, 2018). It provides an extensive querying interface; however, searching in the full text of documents is not possible.

ACM Digital Library (ACM, 2018) contains most HCI-related peer-reviewed literature, both through direct publication by ACM (Association for Computing Machinery) or through curated inclusion into the database. However, the collection is smaller, the searching interface cumbersome to navigate, and the querying tools limited. Unlike the larger databases, it does provide direct search in the full text of the search results.

Web of Science (Clarivate, 2018) is generally comparable to Scopus. It is considered the oldest citation database and essentially held a monopoly until the advent of Scopus and Google Scholar (Adriaanse and Rensleigh, 2013). We chose not to use it, as it did not seem to provide searching in the abstracts of papers.

Unlike the other databases, Google Scholar is freely available to search in (Google, 2018). It follows the patterns of the Google web search in being automatically indexed and not very strict in its search queries. While this is useful for more open-ended searches, it is less appropriate when trying to retrieve a complete and consistent set of results. Although not used for the systematic search, it was widely used in the extraction and verification of papers throughout the process.

While direct access and searching in full text would have been useful in narrowing down the selection, Scopus was still deemed the most extensive and precise database for this use case.

4.1.2.2 Initial Selection Criteria

The following criteria were defined to discard irrelevant papers, mostly automatically at the database querying level.

Paper is a peer-reviewed publication.

The selection is not narrowed down to only research papers (experimental studies, reviews, etc.), as is the case for some literature reviews (eg. Bargas-Avila and Hornbæk, 2011). Instead, all the results returned by searching in a peer-reviewed database are considered (including workshop abstracts, short papers, etc.). This is because the review is oriented towards charting the way the concept of UX has been used, defined, approached, and studied – not collecting the findings of studies, as is typically the case for systematic reviews. Any type of research-based writing may provide useful insight into how the concept is discussed. In addition, much of the research into UX is done in conjunction with conferences (eg. CHI (ACM SIGCHI, 2018)). The various notes and workshop descriptions originating from these are in fact often cited by the actual papers on the topic, and are in some cases the main source for some notions within the literature.

Paper is in English

We must be able to understand the papers to evaluate them. Additionally, this operates from the assumption that the literature that is significant for the field as a whole is available ‘lingua franca’ of the scientific community.

Paper is published between 1998-2017 (both years included)

The current year (2018) was not included in the review. The reason for this was the year being on-going, and that the number of published articles would be growing steadily during the review process. The size of the data set would thus be changing through the selection process, and always outdated anyway. Including a partial year would also ‘corrupt’ attempts at portraying the development of the research field over time through statistical means.

Initially, it was considered limiting the time frame to ten years (2008-2017), to make the scope of the review more manageable. However, an exploratory search of the available literature revealed that including the ten years prior (1998-2007) would have no significant effect on the work load, since so little relevant literature was published in that period, while at the same time making the review more comprehensive.

Paper discusses the concept of “user experience” (alternatively termed “UX”) in the context of interactive digital systems. That includes web sites, software applications, and various interaction design patterns.

“UX” is considered an acceptable synonym for “user experience” within the paper itself; however, the full and exact term must occur in the abstract at least once. It was considered requiring the term to appear in the paper’s title as well. This was dropped after an inspection of various known papers of relevance from within the time frame that did not use the term in the title.

Since user experience is discussed in many contexts, and carries different meanings when used for different purposes, certain keywords were excluded to research areas deemed irrelevant. This included low-level technological concerns (eg. regarding internet infrastructure), virtual reality, and more (see the query in appendix A for a complete list of omitted keywords).

Some papers discuss user experience as an aspect of usability or other fields, or use it as an informal phrase. While these papers are not directly about UX as such, they were included in the initial selection of papers.

4.1.2.3 Search query

These selection criteria were then expressed as a database query for Scopus. The rather long search string used can be seen in appendix A. It was constructed through several iterations of testing and refining, and attempts to exclude as much irrelevant material as possible up front. The goal was to increase the precision and lower the recall from the database, to make sifting through the result list a realistic task within the available time. It should be noted that any catch-all exclusion, eg. by keyword, carries the risk of omitting relevant materials that are either misclassified or tangentially related to the undesired topic. In this case, this was deemed an acceptable risk, as a phrase like ‘user experience’ is used in so many ways not relevant to the research question at hand. Subject areas and keywords were selected for exclusion using the list provided by the interface’s search filters. Additional keywords were added manually based on inspection of the categorizations of various irrelevant results.

The elements of the query are as follows:

- The absolutely explicit phrase *user experience* must be in the abstract.
- Title, abstract or keywords should additionally have the fuzzy phrase *user experience* or *UX*.
- Publication years are limited to 1998-2017.
- To increase precision, a wide array of subject areas and keywords are excluded. Some examples of these include:
 - “Quality Of Service”, “Cellular Network”, and “Mobile Telecommunication Systems”. The term ‘user experience’ is often used in research of cell phone technology and telephone signals. Experience in the context of call quality was considered irrelevant to the study at hand.
 - The same was the case for other network infrastructure research, eg. “Network protocols” or “Bit-rate allocation”.
 - “Algorithm”, “Stochastic systems”, and “Natural Language Processing Systems”. Literature on artificial intelligence, mathematics, recommendation algorithms, etc., some-

times uses the term ‘user experience’. However, these technical terms were beyond the scope of this project.

- For the same reason, keywords regarding cars, robots, programming languages, and power grids were excluded.
- Papers were also excluded by Scopus’ subject area classifications. Excluded subject areas include medicine, mathematics, chemistry, and nursing.
- No journals have been fully excluded. Upon inspection of various seemingly irrelevant journals with high numbers of returned results, several potentially relevant documents were present in the list.
- No document types have been excluded, as none of them seemed to contain only irrelevant results.

The full query can be seen in appendix [A](#).

4.1.2.4 Pilot Test

During the pilot test some technical issues were encountered in Scopus. Sometimes the site showed mismatched abstracts for search results, and the functionality for downloading reference lists and full text documents did not reliably deliver the expected results. Consequently, we knew going into the full searching process that certain aspects of the site were prone to errors and that the data had to be checked continuously.

Additionally, we concluded that some papers were hard to gauge the relevance of based on the abstract and title alone. Since accessing the keywords for a paper took mostly the same time as retrieving the full text, we decided to inspect the full text for some results before deciding whether to include it. This would help to reduce the number of irrelevant material included during initial selection.

4.1.3 Round Two: Searching

Searching in Scopus with the developed query returned 2900 results. At this stage, the papers were evaluated on their title, abstract and keywords (and in some cases the full text as well). The results were processed one year at a time, by further refining the results view. The years were divided up equally among the three authors, based on the number of results for each year.

As the extraction of full text documents was rather complicated, with only some being enabled for automated mass download, and some having to be located manually, the initial selection work only extracted the references. The reference lists for each year were then imported into the bibliography management application Zotero. In some cases, Scopus returned an error when exporting reference lists, presumably because the ongoing session had been lost, leading to selections having to be re-performed.

To enable full text extraction from Scopus for the selected set of papers, custom scripts were written in the programming language Python. Eventually all available papers were downloaded and indexed with bibliographic information in Zotero. 18 papers were deemed unavailable and excluded.

From the initial 2900 documents returned by the query, 565 were selected for inclusion.

4.1.4 Round Three: Evaluating

The next step in the review concerns investigating the included papers, assessing their relevance and characteristics, and documenting them for further processing. This is a point of divergence with the prescribed methodology, where the focus here generally is on assessing the validity and quality of the papers' findings (Booth et al., 2016).

The goal of this round was to collect information on how each paper discussed UX, and what sources they referenced. Papers were divided out by year, as with round two, seeking to share the work equally while as far as possible avoiding giving any author the same years as in the previous round.

As recommended by Torgerson (2003), a standardized data extraction form was developed and pilot tested. This consisted of a spreadsheet with consistent columns to be filled in for each paper.

During this process, each paper were put into one of the following set of predefined categories:

- ABS - Paper mentions UX in the abstract only
- MEN - Paper mentions UX, but not in a relevant way
- DIS - Paper discusses concepts related to UX (usability, design work, the field, etc.)
- CIT - Paper cites one or more definitions of UX
- PRE - Paper expresses preference for a particular UX definition, without explicitly declaring it
- DEC - Paper declares its use of a specific definition of UX
- QUO - Paper includes quotation of its adopted UX definition(s)
- ORG - Paper introduces an original definition of UX

These are considered a sort of 'stepladder' of levels of involvement with the concept of user experience, and by extension, usefulness in the subsequent analysis. Papers marked ABS, MEN or DIS were generally of little interest, barely scratching the surface of UX. The broadest category was CIT, which captured all papers that cited sources defining UX without themselves adhering to any particular one. From PRE over DEC to QUO, papers displayed an increasingly clear and involved discussion of what UX is, taking a firm stand on the matter. Finally, papers marked ORG went further and presented an original definition – sometimes as a synthesis of existing definitions. While clearly expressing one's position when writing a paper in general is commendable, the progression of categories did not necessarily correspond to rising levels of quality. Indeed, several widely read and cited papers themselves were relegated to the CIT category, while countless papers blindly quoting the ISO definition were marked QUO.

A spreadsheet with columns for classifying and describing the paper was generated for each year. Columns containing the names of the paper's authors and its title were automatically filled out and used to identify each paper. Each paper was given a category marker and it was noted whether it should be read in full. Across three columns, noteworthy citations that the paper made were written – one for UX sources that were quoted directly, one for UX sources that were simply cited, and one for various other citations of note that did not directly pertain to UX (eg. regarding usability). A final column provided a space for notes on the paper – impressions of its quality, how it made use of the sources, etc.

The procedure for each paper involved inspecting the full text for relevant discussions of user experience. Beyond skim-reading, key terms were searched for, and the reference lists were

looked through for recognized important sources. Based on this, the paper was categorized in the spreadsheet, and notes and important citations were recorded.

During this process, an additional three papers were found to not be available (having been overlooked by the extraction process), and excluded.

In order to make this data better searchable and structured, it was collected in a relational database (Microsoft Access). The purpose of this work was to enable querying the data and generating various subsets and views for analysis. In particular, it was necessary to ‘turn the data around’, organizing it not only by papers (with lists of citations), but also by cited sources (with lists of papers that cite them). This required some automated processing, setting up many-to-many relationships between the two lists of papers. To handle this, additional Python scripts were written.

4.1.5 Round Four: Verifying

Collecting the cited sources into a list disclosed some inconsistencies in the way they had been inputted, leading to many duplicate or poorly formatted entries in the automatically generated list. This necessitated an extensive correction and verification phase.

A spreadsheet of all the cited sources was exported from the database (using a Python script). This was then collaboratively gone through, matching duplicate versions of each source, correcting mistakes, and adding complete bibliographical information to make them properly identifiable.

During this process, several technical issues were encountered. It was discovered that the initial importing of the assessments of the papers into the database had truncated some of the text fields, resulting in lost citations. This led to a complicated merging operation of the incomplete data set that had mostly been verified, with the newly imported complete data set.

The verification was undertaken using Google’s online spreadsheet editor, to allow simultaneous editing. However, it was discovered that some of the corrections had not been saved, and had to be recreated.

4.1.6 Round Five: Analyzing

Finally, a complete database was generated. Various Python scripts were written to export subsets of the data, representing trends and patterns, for analysis purposes.

This step involves synthesizing the data, and generating summaries of textual, graphical, statistical or tabular nature (Booth et al., 2016). Relationships between variables and cases are investigated, and patterns are identified.

We look at the data on two levels. One is the collection of included papers *themselves*, and the tendencies that can be identified from them. The other takes a step beyond that and looks at the set of *sources* that are referenced by the papers. This then acts as a second sample of sorts, portraying the patterns of discussion and focus of the selected papers sample.

From the set of sources, we can identify trends regarding which definitions and conceptions of UX have been dominant in the literature at various points in time, and how this has changed.

In identifying trends in the data, we have used the database setup and various scripts to generate ‘views’ of the data to present different perspectives. This includes approaches like:

- Filtering citations by type (quoted, cited, relevant but not directly about UX).

- Filtering citations by the category of the papers citing them. For instance, taking papers marked as ABS and MEN out of the list, or getting only papers quoting definitions.
- Certain time-based operations, such as what year a citation was published, and what years it's been cited in.

During the analysis process, the focus of our investigation of the data changed. Initially, the process was very much directed towards extracting and categorizing definitions of UX. However, as the analysis of the interview study progressed, the focus of the literature review was realigned to fit better with this. Accordingly, we chose to consider the data through the lens of CDA instead, in order to identify the socially constructed discourses that shape and guide the field of UX research. Various definitions of UX, and approaches to studying it, are portrayed in the literature – often one, or a small group of, researchers lead a certain movement within the field. In considering these movements' discourses, we can track the exchange and development of ideas within the literature.

To get a sense of what discourses are the most important, we used the collection of references to identify the most cited papers. As these papers have been widely cited in the years since they were published, the discourses that they represent must be assumed to be among the most influential.

The theoretical background for this approach is discussed in section 3.5.5. Further details on the specific analysis process is presented along with the results in section 5.1.3.

4.1.7 Round Six: Presenting

In order to present findings from the literature review, we make extensive use of charts and figures. As the data is quite quantitative in nature – being long lists of papers sorted under various categories – there is little point in trying to describe all of them. Visualizations provide a means of getting easily digestible overviews of the characteristics of the material.

In addition, a smaller selection of the ten most cited papers have been selected for a deeper analysis of a more qualitative nature, as described in the previous section.

4.1.8 Reflections on the Process and the Data

Overall, the literature review process was marred by challenges, both technical and methodological. There is a certain exploratory aspect to research, in that you cannot know what kind of data you will get until you collect it, making it difficult to accurately determine what data to collect. Even though we had conducted some scoping searches of the literature, it was still difficult to determine what measures to evaluate the papers by, and what information to collect about them.

The technical aspects slowed down the work process, with several systems producing errors and being cumbersome to use, combined with the extensive amount scripting needed to properly retrieve and process the data. This was exacerbated by inconsistencies in the format of the retrieved documents (with some PDFs not being searchable) and their reference lists, with some being littered with mistakes and poorly written citations.

Since much of the analysis of the data collected from the review was based on the patterns of citations, an alternative approach that could have been taken would be a more bibliometric focus. Here, we would have retrieved the full reference lists of the papers and performed statistical analyses to uncover the patterns of citations. This was not chosen because our interest was

in the context that the sources were being referenced in, which would not be exposed by statistics and purely quantitative analysis. This would also not recognize ill-formed and ambiguous citations (eg. the same paper being referenced for several different years, as was the case with Hassenzahl, 2005).

Instead, the evaluation of the papers and their relevant citations was done manually. This allowed us to consider the context and meaning of the citations, and to classify them by relevance. However, this qualitative evaluation also introduces a subjectivity which may have affected the quality and validity of the results. For some papers, a cited source may have been deemed irrelevant, while for others, it is included in the data set – depending on the nature of the paper, and the context of the reference. This may also have been affected by which of the three authors conducted the evaluation. This, along with the possible corruptions stemming from the automated processing of the citations, leaves a margin of uncertainty in the resulting data set.

4.2 Interviews

In this section, the interview method will be introduced. Building on this, the design and procedure of the interview study conducted for this thesis will be presented, using the seven stage structure recommended by Kvale and Brinkmann (2015).

In general, interviews are sort of conversations aimed at obtaining systematic knowledge (Kvale & Brinkmann, 2015). They have been employed throughout history to get information about historical events (such as wars) or develop philosophical knowledge, among other things. The term *interview* itself originated in the 17th century as a method of exchanging views between people that share a common interest. In today's world, qualitative interviews are increasingly utilized as a social science research method, with a vastly expanding methodological literature on how to perform such research. Interviews have become a key method of social research, with other qualitative approaches ranging from participant observation to discourse analysis.

The interview itself is a conversation with a structure and a purpose predefined by the interviewer (Kvale & Brinkmann, 2015). Typically, it is a more professional approach that sets itself apart from regular exchanges of opinions by using precise questioning and listening approaches aimed at obtaining participants tested knowledge.

The qualitative interview has a few different forms (Kvale & Brinkmann, 2015):

- *Structured interview.* This type of interview is most commonly used for survey research. This interview type aims at standardizing the repotes for the interviewer so the differences would be minimized between the interviews of the research projects. Structured interviews are mostly quantitative in nature, as they are easy for standardization of the questions and the answers.
- *Unstructured interview.* These interviews are quite different since they are very conversational in style and the interviewer cannot prepare for them beyond a specific topic or issue to discuss. They follow no planned structure, and have no constraints, no time schedule, and minimal preparation. This makes them suited for uncovering unknown problems that the interviewer is not aware of or for finding out more about a very specific scenario. The interview style is informal and questions most certainly will vary between interviews, making them almost impossible to standardize.

- *Semi-structured interview.* Unstructured and structured should generally be seen as two extremes of a spectrum, and in practice most interviews fall somewhere within the semi-structured category. Here, a list of preplanned questions is used as a guide, but the interviewer is typically allowed to deviate to ask follow-up questions. This type of interview is aimed at understanding the life-world from the interviewees own perspective. It resembles an everyday conversation oriented towards a descriptive interpretation of the subject's perceptions on the discussed phenomena. It is well suited for conducting series of interviews that follow the same structure, while also allowing each to delve deeper in questions as the interviewer deems necessary.

For the interview of this thesis, a semi-structured approach has been used.

We have discussed phenomenology in section 3.2 as a way of understanding consciousness and experience, with extension to include the life world (Kvale & Brinkmann, 2015). But stepping aside from the philosophical considerations, phenomenology is a widely used approach in qualitative research. Its interest falls on understanding social phenomena from the perspective of the actors and the subjects' experience of the world, with the assumption that the importance of the reality is based on the people's perception of it.

If the interview is focused on the subjects' experienced meaning of the life world, the mode of understanding in qualitative research interviews can be made clear by using phenomenology. As for the semi-structured life world interview, the approach tends to uncover themes of the subjects' own perspectives to the lived world. The focus of this interview study is to gather descriptions of this lived world with reference to the described phenomena and then interpret the meaning.

4.2.1 Seven stages of Interview inquiry

The reason for the popularity of the interview within qualitative research is its open and flexible nature (Kvale and Brinkmann, 2015). There is no strictly dictated form or rules for conducting an interview-based study. There are only different options of methods available at different stages of the research process, making the interview highly adaptable to various situations and needs. Kvale and Brinkmann (2015) present a seven stage method aimed at assisting the interviewer in shaping and executing the process, based on the knowledge of the topic, the methods available, ethical consideration, and anticipated results.

These seven stages of interview inquiry are as follows (Kvale and Brinkmann, 2015):

- *Thematizing:* Defining the purpose of the investigation and shaping the theme before beginning the interview. Questions such as *why* and *what* should be clarified before ones such as *how* are asked, and the methods surrounding it are decided on.
- *Designing:* Building the plan of the study by considering all stages of the research ahead of conducting the interviews. Designing the study is done to obtain the needed knowledge and consider any ethical obstacles.
- *Interviewing:* Taking into consideration an interview guide when conducting the interviews. Keeping a reflective approach to the desired knowledge and the interpersonal connection of the interview situation.
- *Transcribing:* Arrange the results of the interview for analysis, typically including the transcription of recorded data (oral speech) to written text.

- *Analyzing*: Choosing the modes of analysis appropriate for the interview based on the purpose and topic of the research.
- *Verifying*: Ensure the the interview findings are valid, reliable and generalizable. Reliable – how consistent are the results. Valid – the interview researched what it was intended to investigate (see section 3.4.1 for further discussion of these concepts).
- *Reporting*: Describe the data found in the study and communicate the methods used to retrieve it based on proper scientific criteria. Take into consideration the ethical aspects and present the result in a reader-friendly fashion.

In the following sections the procedure and how it was used throughout the whole interview process will be presented, following the seven steps.

4.2.2 Step one: Thematizing

An interview begins by familiarizing yourself with the research goal at hand. The first step presented by Kvale and Brinkmann (2015) helps to establish this theoretical clarification for the theme or topic that is being investigated. By identifying a clear goal or purpose for the investigation, the interviewer can make reflected decisions for methods to use in the different stages towards the goal.

From extensive research on the field of user experience, we have encountered both unity and divide between academics and practitioners in their understanding and approach to the field. To find out how this discrepancy has developed in recent years and how can we understand it better, we decided the best approach was to conduct an interview study that would provide more concrete answers. The goal was to establish how researchers and practitioners were introduced to the field and what their level of knowledge is, in order to determine how they understand and work with user experience. The goals include learning what role it plays in their work and how they apply it, and how they interact with other UX professionals, both in terms of work collaborations and for knowledge sharing purposes.

As this vast field provides many opportunities for research design and development, with numerous tools and methods to choose from, it would require good understanding and experience to utilize them properly. Uncovering how people use them can show what their understanding is and explain how people approach a task. This research is oriented towards describing the differences in their practices and figuring out reasons for said differences to appear in the first place.

4.2.3 Step two: Designing

Beginning the process of preparing questions for our participants is described as the second step in the process of interviewing. As Kvale and Brinkmann (2015) describe it, this is the designing part of the interview process. This part may very well be the most important one of them all. It requires taking into account the interdependence of the stages in the seven stage process. This entails keeping the end result in mind even from the beginning, by reflecting on the informed decisions made in the process so far and making sure the project is on track towards the goal.

In the first step of this process, we take a look at the problem we want to investigate and the general themes. We base the interview on those uncovered themes, where we define the purpose and describe the overall problem of the investigation. The themes in question were first

encountered in various research papers as a result of a study on the topic of user experience. The papers generally described the theme with few details, indicating that this was a less investigated phenomenon. This increased our interest in finding out more about it and led us to conducting a literature review. That uncovered a handful of articles trying to define the problem and proposing different methods for it. In some cases the authors used semi-structured interviews in a way similar to the one we were proposing and had designed questions for the task. We extracted the relevant questions from some of the papers and used them as the base for our own questions, due to the fact that we were investigating similar problems. This way it was certain that the questions were already tested and had uncovered the desired information for their respective authors. This increased their validity and reliability (discussed further in the sixth step, concerned with verifying) and provided more certainty that those questions would be a solid base to build upon for our research.

We made use of the following observations from literature discussing the industry-academia gap (using various methodologies):

- Naumann et al. (2009)
 - Definition of UX and Usability
 - Primary reason for the interest in Usability and UX
 - “A necessary criterion for defining the concept Usability/UX is ...”
 - Evaluation methods preferred for research/familiar methods
- Muller (2005)
 - Viewpoints on industry or academia
 - What is the aim of the work you perform (make/sell products or gain new knowledge/advance the research)
 - Why is it relevant (useful or valuable)
 - What is it oriented towards (solutions or knowledge)
- Øvad and Larsen (2015)
 - How is UX work initiated
 - How is UX work maturing in your field
 - How are decisions made within the UX field
 - Definition of UX. Organization’s UX vision
 - Personal UX responsibilities
 - UX processes, tools and user involvement (methods)
 - Dissemination of UX findings
- Colusso et al. (2017)
 - Do designers use resources generated by academic researchers? If so, how? If not, why?
 - What resources other than academic research do designers use? Why and how do they use them?
 - How can HCI researchers design translational resources better to support the use of theories in industry?
 - Not fun - “The whole idea [using academic research] just seems like a waste of time when I can google something, and then get tons of well written articles that are visual, fun to read and actionable.” (quote from Colusso et al., 2017)

- General notes from the literature
 - Hard to find - Poor search queries (inability to find the needed materials)
 - Lack of access
 - Opinion towards academic research papers

We began designing the interview around the themes uncovered from the first step and the questions gathered from the literature. We selected the semi-structured interview method for our data collection, as it is more open and provide possibility for greater topic exploration. Additionally, when designing the interview questions, we elected to use the elements of the community of practice (CoP) concept (as discussed by Wenger et al., 2002; see section 2.6 for more details) as a structuring tool. This was done with the intention of giving our participants a better understanding at what the questions are oriented towards, and to ease the analysis process.

We divided the questions in three different groups, reflecting the elements of a community of practice – domain, practice, and community. The interview focused on people from various places in the field of UX, asking them to describe what they take the term UX to mean (that is, how they perceive the domain). The questions explore what tools, methods, and theory they use and align themselves with (that is, their alignment within practice). We asked how much participants interact across the field of UX, how much of a community they perceive it to be, and how well they perceive their fellow UX workers to understand the concept (that is, how much of a community exists within the field).

It should be noted that we do not assume that all UX professionals belong to a CoP in the classical sense (see section 2.5). A CoP is characterized by regular interaction and sharing of knowledge and experiences by all its members, be that through regular face-to-face meetings or through the internet (eg. through a distributed CoP) (Wenger et al., 2002). Here, the concept is used in a more abstract sense, as a way to characterize the dimensions of operating professionally within a narrow, but vaguely defined and unclearly delineated field, such as UX. No presumption is being made that all participants belong to the same actual CoP, or belong to any for that matter. Instead, the dimensions are adopted as a frame to guide the interviewing process, and to ensure that the questions cover all relevant aspects of the participants' work.

For the process of analyzing the data, employing this model as a structural framework for sorting various bits of responses, will help to evaluate how their current behaviors and sentiments compare to those associated with a community of practice.

We approached the study with the assumption that the field does not make up a cohesive CoP, but that there are subgroups that act more as communities, while fully or partly ignoring other parts of the field. This would be both in terms of using the same approaches and literature (practice), having a working relationship and feeling a sense of camaraderie (community), and indeed having the same understanding of the term 'user experience' (domain).

To be able to "measure" the participants' definitions and understandings of what UX means, we chose to use the Quantified UX model by Lachner et al. (2016) as a framework (introduced in section 2.4). Constructed on the basis of extensive literature review and expert interviews, this model covers the dimensions of UX, what affects them, and what disciplines each concern will typically relate to. During the development of the questions, this was mainly used for inspiration. The model was employed more extensively during the analysis later in the process.

We elected not to use scale questions or ask for agreement with lists of statements, which could have helped us accurately align the participants to various UX definitions. This was on

the basis of the qualitative nature of the interviews, and done for two reasons. A) We were interested in their own way of defining and thinking about UX, which we could then critically analyze and compare to models, and B) the more quantitative, scale-based questions were assumed to be impractical and unnatural to administer during an oral interview, and to answer accurately, especially for interviews not conducted face-to-face. We considered supplementing the interviews with a brief online questionnaire; however, as we were primarily interested in the participants' definition in their own words, we chose not to pursue this.

With these considerations in mind, we developed the following research questions:

Domain: Understanding and defining UX

- Could you briefly describe your educational background and work history?
 - *This gauges the interviewees' level of experience in academic and industrial environments*
- How did you end up working with User Experience?
- Could you [briefly] try to describe what the term User Experience means to you – just off the top of your head?
 - *Their definition – how they understand the concept. Their response also tells us if they have consciously thought of this before.*
- Now I would like to ask a few questions about what factors you think are most important for a [product/website] to provide a good User Experience.
 - What factors would you say have the biggest influence on whether it *feels* good to use?
 - What would you say are the most important factors for enhancing the *appeal* of a [product/website]?
 - And what would you say is most important in making the [product/website] [*usable/easy to use*]?
 - Are there any other factors, you prioritize when evaluating a User Experience?
 - *These questions let us get a picture of how they think of each part of the UX, based on the model by Lachner et al. (2016), which can be used to analyze whether they have a limited understanding of the concept. UX model keywords are highlighted.*

Practice: Ways of working with and learning about UX

- How much of your work is related to User Experience?
 - And how do you usually *work* with User Experience? Are there any particular techniques, methods or approaches you prefer to use?
 - Are you happy with the methods that you are currently using, or are you looking for new and better methods?
- How closely do you follow new developments and trends in the field of User Experience Design?
 - What are your influences in the User Experience field? Are there any experts that you give particular attention to, and follow what they write?
 - *This gauges whether they are 'cutting-edge' or lean on traditional, tried-and-true approaches. It is expected that researchers will be up to date on research developments.*

- When designing or evaluating a user experience, do you consult literature on the subject?
- Could you broadly describe the User Experience literature that you mainly use in your work?
 - *Use to assess barriers between the sides: Do researchers discard non-academic literature? Do practitioners lack access to academic research, or do they find it impossible to use in practice?*

Community: Interaction and sense of togetherness across the UX field

- How much do you collaborate with UX professionals from the [private sector/university]?
 - In your experience, how much do you think that UX professionals in the private sector and at the universities in general collaborate and interact with each other?
 - *This lets us dig into their impressions of whether there is a gap between the two.*
- As a UX professional, do you feel any sense of community with other UX professionals [in Denmark]?
 - Do you attend conferences? Do you attend other gatherings of UX professionals?
 - Are you in regular contact with UX professionals working in [the private sector/the university]?
 - Do you regularly exchange knowledge and experiences regarding UX with others in the field? How/when do you do it?
- From working with User Experience, what are your impressions of the general level of skills and knowledge? Do you think your fellow UX professionals have a clear understanding of what User Experience means?
 - *This gives us a sense of how they view other people working in the field; how much of an 'honor' they put in their own work and competences; as well as anecdotal impressions of the wider field, beyond our subjects themselves.*

Closing question

- Before finishing our interview, is there anything related to the topics we have discussed today that you would like to elaborate on further?

For some of the questions, follow-up questions intended for either practitioners or researchers were included in the interview guide. The full interview guide, including the additional, optional follow-up questions, as well as directions for asking the questions, is included in appendix C.

To thoroughly prepare for the interviews we conducted a pilot test, in order to weed out any mistakes in the interview protocol, and to practice performing the interviews. The selected interviewee for the pilot test was a teacher at the university, but not associated with the thesis, and provided a good base for testing the equipment (audio recording device and software) and our questions. Based on this pilot test, several smaller changes to the structure on the interview were made.

4.2.4 Step three: Interviewing

4.2.4.1 Participants

As with most qualitative studies, the participants had to be selected in regards to the goals we proposed for this research. This way, we were certain that our research questions would be answered upon analysis. As we could not simply select participants at random, we turned our attention to a more well established approach - purposive sampling (Bryman, 2016). This approach has a simple goal of sampling by following a strategic process, so the resulted sample will ensure relevance to the proposed research questions. Furthermore, purposive sampling also helps to achieve variety in the research sample. Since the sampled participants would have different key characteristics relevant for the study at hand, this will give it a broader overview of the possible responses. As a result of it being an approach that provides a non-probability (or random) sample, the researcher cannot use it to generalize to a population. Even though the purposive sampling is not a non-probability approach, it is also not a convenience sample, which as the name suggests is only the sample that is available to the researcher by mere chance. In contrast, the purposive sample is selected by the researcher in correlation with the goals in mind. The sample of participants (in our case, UX practitioners and academics) is chosen based on their connection to our research questions. In this case the researcher must have a clear criterion on which it will base the relevant inclusion or exclusion of people in the sample.

There are numerous purposive sampling techniques (Bryman, 2016). Some examples include extreme case sampling, typical case sampling, snowball sampling, and opportunistic sampling. We primarily used stratified purposive sampling, which Bryman (2016, p.419) defines as “Sampling of usually typical cases or individuals within subgroups of interest.”

Eight interviewees were recruited from various universities and companies across Denmark. The participants were first researched in order to understand their connection to the field of UX and estimate if they would make a relevant contribution towards our finding. The eight participants selected were chosen based on their work in the field of UX and/or their relation to the research conducted in universities. Following the purposive sampling approach, we set a goal to recruit at least one half practitioners and the other half researchers, thus getting a good variety of participants. We also sought out participants with connection to both, with the expectation that they would have an understanding of the processes in both industry and academia, and thus provide some good remarks for our findings. Two of the recruited participants had backgrounds as both practitioners and researchers.

The participants were recruited through various means. One practitioner worked at the company where one of the authors was an intern during the 9th semester. Several practitioners were found by searching the web, through means such as Google and LinkedIn, and then contacted through email. Some researchers were found through the website of Aalborg University, and one was contacted due to his prominence in the field. In addition, one subject with connections to both industry and academia was recruited through a post in the Facebook group “UX Danmark”. Several potential subjects did not respond to the emails; one responded to decline, and one showed some interest, but was busy at the time.

All contact was done in Danish. The standardized recruitment mail can be seen in appendix B. This was adjusted and adapted depending on the recipient, their location, and when the mail or social media post was sent. During the follow-up correspondence, interview time and means of communication (face-to-face, Skype, telephone, etc.) was agreed on. In addition, a consent

form was sent out over email, with the consent given in a responding email. The consent form (in Danish) can also be seen in appendix [B](#).

4.2.4.2 Conducting the Interviews

The interviews took place from the 8th to the 15th of May. All interviews were recorded as audio. In one case, conducted via Skype, the interview was conducted as video chat; the video was recorded, but not used. The recorded audio was of varying quality, due to a number of factors, including the means of communication (telephone has a low sound quality), and the room and placement of the microphone. In one interview, there was a technical issue with the microphone, leading to a distorted audio file; however, the it was still possible to transcribe the recorded material.

Before beginning with the interview process, Kvale and Brinkmann (2015) encourage the researcher to describe the process and points of view to the interviewee. By providing this information, the interviewee will have a better grasp of the goal and us as interviewers, thus allowing them to engage in more open discussion.

A set of ground rules was established to help us and the interviewees during the process. Firstly, we agreed to have a maximum of two people present on an interview, with one taking the role of an interviewer and the other making sure the interview proceeds on track. Thus we spread out the workload and at the same time we did not intimidate the single interviewee. And secondly, we would all interview, beyond the language factor (some interviews being conducted in Danish, per the interviewee's preference).

The next step was introducing the interview and procedure by defining the situation and the purpose of the interview. We provided the interviewees with an estimate of how long the interview will last, as the total time was expected to be between 30 to 45 minutes. The questions were designed to aim for 30 minutes, thereby allowing for some extra time to dig into any topics of particular interest in the individual interview. Additionally, all the participants were informed of how their data would be stored, treated, and disposed of, and who would have access to it. Also, during the introduction we reiterate our offer to send the participants a copy of the finished thesis, as presented in the initial contact via email. Afterwards, proceeding to the final step of the introduction, which included making sure all of our participants agree with their audio being recorded. The use of camera equipment was not utilized for video recording for face-to-face interviews, because this increases the complexity and further distracts the subjects.

Out of eight interviews, two were conducted in Danish, and the rest of them in English. All interviewees were native Danish-speakers. They were given a free choice of language, without pressure to choose English. One participant specifically stated that he preferred English in order to avoid meaning being lost in translation. The interviews conducted in Danish were translated for the analysis.

The duration of the interviews ranged from 26 to 42 minutes. This corresponded well to the projected 30 to 45 minutes. Face-to-face interviews were conducted at the participant's place of work, in offices or meeting rooms. Interviews conducted over telephone or Skype were conducted at the homes of the authors, to minimize disruptions.

The interviews were originally scheduled to be split as evenly as possible between the authors. However, due to illness, one author conducted only one interview, and was present at two. The other two authors handled the remaining interviews.

4.2.5 Step four: Transcribing

Transcription was handled by all three authors. In most cases, the person conducting a particular interview also handled the transcription, with the assumption that it would be easier for him to recognize what was said. Along the way, the authors checked and improved each other's work. As speech is less structured and clearly demarcated than the written word, some subjective judgements had to be made during transcription – including how to punctuate, how much stuttering and false starts to include, etc. Generally, “um”s and false starts to sentences were included in the initial transcriptions. In some cases, the quotes presented in the text have been cleaned up to make the point more understandable.

All transcription will involve some manner of interpretation – especially when people are mumbling or talking over each other, or strange phrasings are used. This is exacerbated by the translation, as there are many colloquialisms that do not have a direct parallel in the other language. During translation, the priority lay on matching the meaning and sentiment of the participants' statements in a manner harmonious and natural to the target language, rather than very direct one-to-one matches. For instance, the word *altså* might be translated in a multitude of ways – this might *well, I mean, you know, accordingly, definitely*, etc.

Unfortunately some of the recordings suffered problems that lowered the audio quality, due to bad microphone setup, bad phone reception, background noises, and communication feed dropouts. Even though they were generally short, parts of the recording were still deemed unintelligible. Fortunately enough, however, they did not cause us to lose any information. All those sections are noted and can be seen in the transcripts (see appendix D).

For some of the transcripts, automated tools were employed to assist the process. The interviews that were most clear, as well as in English, were passed through machine learning based speech-to-text system (provided by Google) that produced a basic transcript. While they were littered with errors and misinterpretations, and lacked all punctuation, they served as a useful starting point, and helped cut down transcription time. In all cases, they were carefully corrected and formatted manually.

During the transcription, each participant was anonymized, and instead designated a number P1 through P8, determined by the order in which they were interviewed. Identifying details in the transcripts were obscured – eg. by replacing the name of the company they work at with [Company A].

Full transcripts, in both the original Danish and English translation where applicable, are attached as appendix D.

4.2.6 Step five: Analyzing

4.2.6.1 Categorizing

Within this step a series of themes and categories were developed to account for the possible topics we would encounter throughout our interview data. These themes and categories were also developed in correlation to the work we had performed prior to our interviews, and intended to provide an initial framework from which to perform a critical discourse analysis (as introduced in section 3.5). From the departure that our interviews were semi-structured we were able to account for some of the possible aspects we might encounter throughout our interview process.

Upon completely transcribing and translating all the interviews, we identified the themes and topics that we determined to be relevant for answering our research questions, and being noteworthy features of the data. A list of categories was created with the goal of being provisional, and meant to be shaped and amended as the coding progressed. During the coding process, several border cases were encountered, and some new subcategories were added. We decided on six overall categories, each addressing different questions:

- **Profiles.** The category of Profiles would function as our introduction to each participant. It would allow us to dig into the individual participant's position on the researcher-practitioner spectrum, and to better understand whether a participant saw themselves as a researcher within the field of user experience or if they saw themselves as a practitioner. This is key in understanding the gap within the field, if it is found to be present. This category would also cover their background, with focus on their relevant education and work within the field. Lastly, this category would try to dig into their current work and how much of it might be relevant to user experience.
- **Definitions.** The category of definitions revolves around our participants' understanding of the concept of user experience. More concretely, how each of our participants would define user experience, and how their definition fits within the pantheon of user experience definitions that have been presented so far. This category would also dig into the many dimensions and facets of user experience, and whether our participants would actually consider any of these relevant. The idea behind the category of definitions is to gain an understanding of the participants' definitions comparatively, and to see what, if any, tendencies are overlooked.
- **References.** This category concerns the literature used by the participants and whatever else they may be influenced by. This is done by looking into what kind of literature and sources of information that each participant discusses, to see whether they tend to use literature from their own domain. This category will also help in understanding how knowledge disseminates throughout the field of user experience.
- **Gaps.** The category of gaps concerns the cohesion, or the potential lack it, within the user experience community. Based on the participants' position on the research-practice spectrum, we examine how they view each other. Do the participants make an active effort towards working with people outside of their respective fields, and do they possess an open mind towards new perspectives and ways of working? Furthermore, this category looks into whether the participants feel a sense of community or if they feel no connection at all towards other user experience professionals. Lastly, this category looks into how participants see the competences of other people working with UX.
- **Inconsistencies.** The second to last category is that of Inconsistencies, which is mostly concerning what the participants say they do – but may not actually be doing. It also includes various incongruent statements and hints at thoughts kept unspoken. With this category there is focus on the participants' responses and if they imply something that contradicts what they say. With this we also dive into whether the participants might have a poor understanding of user experience, or if they seem confused at times. Do they seem unwilling to learn and engage with user experience, and do they possibly say they want to collaborate, but secretly reveal unwillingness?
- **Other.** Additionally, a sixth category called "Other" was added, for notable statements not fitting any of the five themes. This includes remarks about the interview questions

themselves.

The categories were ordered progressively, each building on top of the previous ones, and gradually moving from descriptive to interpretative. They are the analytical tools for our first stage of CDA – the textual analysis – as they represent the potential focus points for analysing our participant’s responses towards the gap between practitioners and researchers. Within this textual analysis part of our analysis, we use this set of categories to try to understand the empirical data provided to us through the interviews.

We then expanded the categories into a more detailed list of themes, divided into subcategories, that we could use to identify and collect the discourses present in the interviews. These are as follows:

- Profiles: Introductions of each participant
 - Education
 - Work history
 - Current work/work flow (methods in particular, specific to own work)
 - Other
- Definitions: Understanding of UX
 - UX definition (containing narrow statements)
 - Elements of UX (broader statements, including factors and dimensions)
 - Related fields (usability, HCI, psychology, etc.)
 - Methods in general and theories
 - Other
- References: Literature and influences on UX
 - Literature (uses and attitudes – academic and otherwise, including blogs)
 - Online social networks (including attitudes – communicative writing on UX, groups, etc.)
 - Other
- Gaps: The cohesion, or lack of it, in the UX community
 - Collaboration (past and current experiences, attitudes)
 - Knowledge exchange (meetups, conferences, training, and attitudes)
 - Sense of community
 - Other
- Inconsistencies: What they say, and may not do
- Other:
 - Comments and questions about our study (attitudes, whether a question makes sense, etc.)
 - Work with UX in general (at other companies, attitudes about work in field, not specific to own work)
 - UX field in general (incl. new trends, not specific to literature or knowledge exchange)

The subcategories were developed in regards to their main theme, as they are accounting for each facet of their corresponding categories. Their aim is to give a better overview of the themes and ultimately help with the upcoming stages of the CDA.

With the exemplification of each of the aspects and themes, we now have a foundation for our approach to the textual analysis of the data provided through our interviews. This section accounts for approach towards the textual analysis stage, as seen in the three-stage model by Fairclough (1995) (see figure 6). This framework functions as a descriptive setup of the data that we acquired, and is used in our further analysis and interpretation of the discourse practice.

4.2.6.2 Coding

With a list of categories in place, coding of the interviews was commenced. During this step, the texts were carefully gone over, and statements relating to each subcategory were noted. Often, more than one theme was relevant to statements. This step forms the basis for our structural approach to the data, helping us set up a series of guidelines to steer the analysis process.

We divided the eight interviews among us; as two of the interviews were markedly longer, one of the authors handled those, with the others handling three each. For each transcript, one person did the basic coding, and then the other authors went through it and added or adjusted the codes, to get as accurate and comprehensive a coding as possible.

This task was done using shared online versions of the documents, opened in the online word processor Google Docs, where sections of text were highlighted and given a comment with the relevant codes in them. When the other authors went through the transcript, additions or adjustments to the coding were made as sub-comments. Finally, once the coding of all the transcripts had been checked by all three authors, one of the authors manually transferred the coding to copies of the documents downloaded into NVivo. Here, the full and finalized coding of the interviews was done in the project file, making it possible to browse the data by theme, run advanced queries, establish relationships, etc. The project file containing the final coding was then shared between the authors, to work with during the analysis phase itself.

With the final file containing each of the aspects and themes from the participant's responses, divided into each category to fit the dedicated theme, it provided the overview of the data used for our textual analysis towards the understanding of our texts. This would also function as the starting point for the interpretation of our empirical data (corresponding to the first dimension in the three-stage model by Fairclough; see section 3.5).

4.2.6.3 Analysis

During the analysis phase, the themes were examined in order, beginning with the mostly descriptive "Profiles" theme. Here, the background and working area of each participant is portrayed, to determine exactly how much of a researcher or practitioner each participant is, and how relevant their work is to our specific topic of inquiry.

Then each participant's understanding of the concept of user experience of was analyzed. To place them all within a comparable theoretical frame, we used the elements of the Quantified UX model by Lachner et al. (2016) (see figure 5). In addition to this, we used the five UX definitions collected and characterized by Law et al. (2009) (see table 2.3) to evaluate their alignment with each of them. This allowed us to compare the participants' understandings of what UX means to each other's in a consistent manner. While the five definitions of Law et al. (2009) is not representative of *all* the existing UX definitions (nor is it intended to), they do provide a wide spectrum, making them useful as a rough benchmarking tool. We also included any methodological and theoretical convictions, they expressed during the interviews.

Following that, the responses of each participant on who their influences are, and what literature they use, if any, were analyzed. This included attitudes towards various kinds of literature and sources of knowledge.

Building on that, we began investigating the cohesion of the UX field – the general sense of community, and the nature and level of collaboration and knowledge sharing across the field. We determined the various discourses at play, from the perspectives of researchers and practitioners, to see how far apart they were, what they thought about each other, how willing they were to engage and interact, etc.

Rounding off the analysis, we examined the final theme, name “Inconsistencies”. Here, we interpreted the subtext and sentiments of the participants, to get a deeper understanding of the discourses.

Within the CDA model, this comprises the processing analysis. This continues our interpretation of the data, and to some extent, the explanation part of our analysis. From our coding, themes, and aspects we now start to generate an overview of the discourse practices expressed in the interviews. Each of these discourses are examined and cross-referenced between our participants to look for patterns in their statements. This allows us to try to uncover the gap that might exist between the practitioners and the researchers.

Along the way, we have made use of statements outside the clear subcategories as needed; other statements were used during the discussion.

4.2.7 Step six: Verifying

The sixth step is oriented to be a more specific discussion in relation to generalizability, reliability and validity (Kvale and Brinkmann, 2015).

As we were interested in a series of particular perspectives, rather than a full scale model of all the possible perspectives, generalizability was not a major concern within our interview study. This is typical of qualitative research, which is less concerned with discovering universal truths than the interesting particularities of the individual case (see section 3.4 for further details).

In regards to the validity and reliability of the interview study, no major issues were found during the process. The discussion presents some reflections on the methodology, including remarks made by the participants regarding the clarity and quality of the questions (see section 6).

4.2.8 Step seven: Reporting

The last step in our analytical approach involves presenting the data, as described by Kvale and Brinkmann (2015). In the context of the CDA model by Fairclough (1995), illustrated in figure 6, the reporting step functions as our explanation stage, with focus on social analysis and the sociocultural practice. Within this step we make use of our interpretation of what our data means, and what it says about the discourses. The social aspects comes into focus, where the individual statements by our participants are analyzed and used in the broader context, to try to understand the participants’ unique perspectives.

4.3 Comparative Analysis Procedure

From the literature review, it makes use an analysis of prominent discourses present in the ten papers that have been most widely cited in this set of data – what we have termed the *landmark* papers. This is compared and contrasted with the discourses identified in the interviews conducted with practitioners and researchers. As the literature sample used is based in the academic literature, the approach will center around examining which discourses expressed by the researcher participants are also present in the literature sample, and how the characterizations that the practitioner participants make regarding academic literature matches the nature of the analyzed papers.

Rather than seeking to exhaustively present all possible relations between the two sets of discourses, the section highlights a number of points that have been particularly noteworthy.

5 Findings

This section presents the findings from the systematic literature review and the interview study, along with some notes on the analysis process. Afterwards, the results from the two studies will be analyzed comparatively, through the identification of common discourses and tendencies.

5.1 Literature Review Findings

This section presents the findings from the systematic review. First, the set of papers selected for inclusion will be characterized broadly, in order to provide an overview of the published academic literature with a focus on the nature of user experiences. Following this, results of an analysis of what literature the selected papers reference in regards to UX will be presented, along with observations regarding citation and publication trends over the studied period of time.

One result of this process is the identification of which papers have been cited most extensively within the selected papers. As these have been cited, quoted, and used to a particularly high degree, we consider these papers to be of particular importance to the way that UX is discussed, studied, and conceptualized. Using elements of critical discourse analysis (as introduced in section 3.5), we analyze what we deem to be the landmark papers of UX research to identify the main discourses of the field. This will in turn be used in a comparative analysis with the results from the interview study.

5.1.1 Overview of Selected Papers

During the literature evaluation and extraction process, 565 papers were included in the review out of an initial 2900 results from the database; see section 4.1 for further details on this process.

Of the papers deemed relevant, most were published after 2008, where a sharp rise occurs (see figure 8). This fits with the tendencies observed in the literature in general, where the popularity and discussion of user experience started to rise as the concept became more widely known. For comparison, see figure 9, which shows the trend in a broader perspective. The number of papers simply mentioning user experience in the abstract has increased yearly, with the number for 2016 being more than ten times the number from 2005. The same trend can be seen, albeit with much lower numbers, in the papers included by the search query used (see section 4.1.2.3). For the papers actually selected for inclusion, the numbers go more up and

down, but still follow the same general growth tendency. This is a clear indication of the rise in popularity of the term ‘user experience’ over the last ten years.

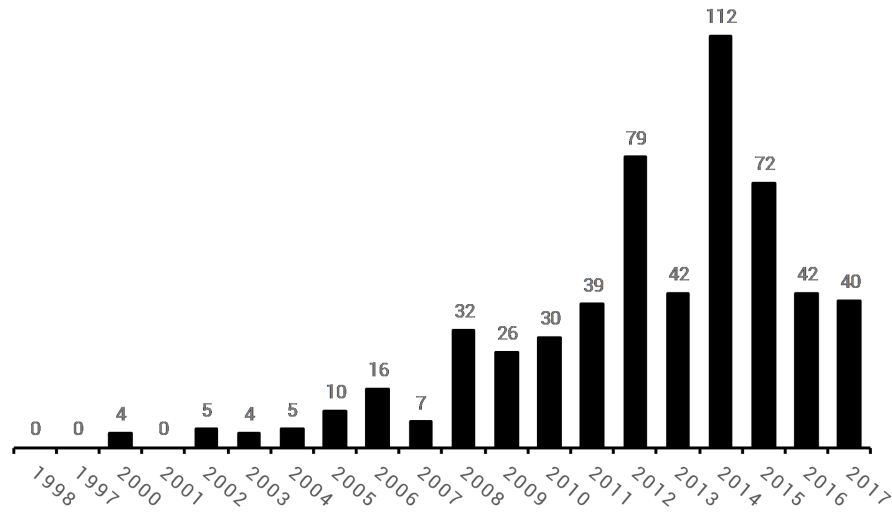


Figure 8: Number of papers selected for inclusion by year within the studied timeframe

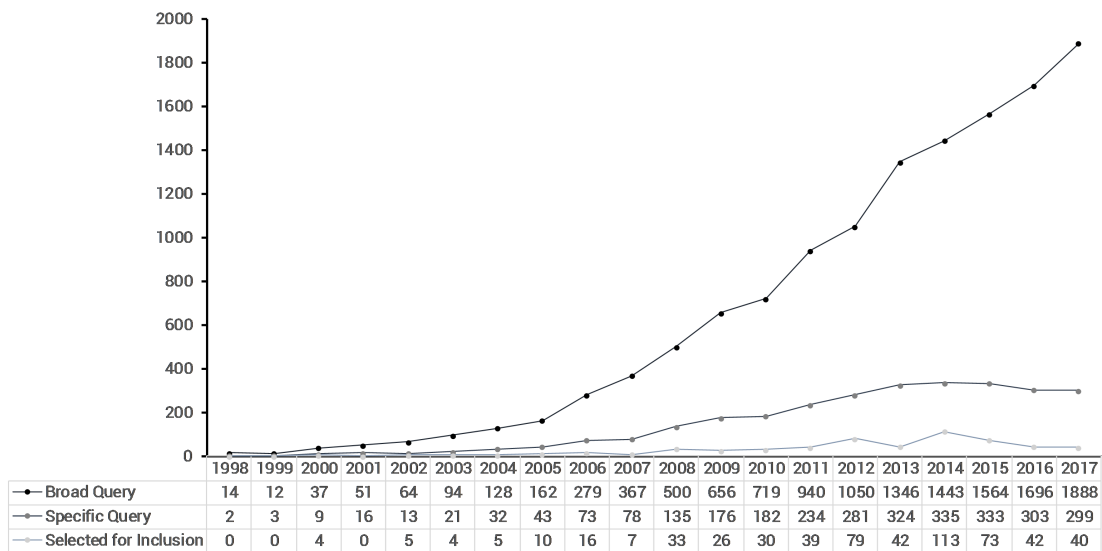


Figure 9: Number of UX papers per year within the studied timeframe, from three sources.
 First, using a broad search query in Scopus: *(ABS (user experience) AND TITLE-ABS-KEY ("user experience" OR "UX")) AND PUBYEAR > 1997 AND PUBYEAR < 2018 AND (LIMIT-TO (LANGUAGE, "English"))*
 Second, using the search query of the review process – see appendix A
 Third, number of papers selected for inclusion in the review

However, the curves for number of papers in the specific search query and the selected papers show a dip over the last few years. This may be an indication that the growth in UX research has peaked and is slowing down. As discussed in section 2, other terms – eg. usability – have spread in popularity, only for focus to shift to a new concept (UX, in this case). It is however too early to tell whether it represents a decline, or simply a dip in the curve.

During the evaluation of the included papers, each was assigned to a category, depending on how it discussed UX. Figure 10 shows the distribution of the 565 papers into categories; the

categories are described in more detail in section 4.1.

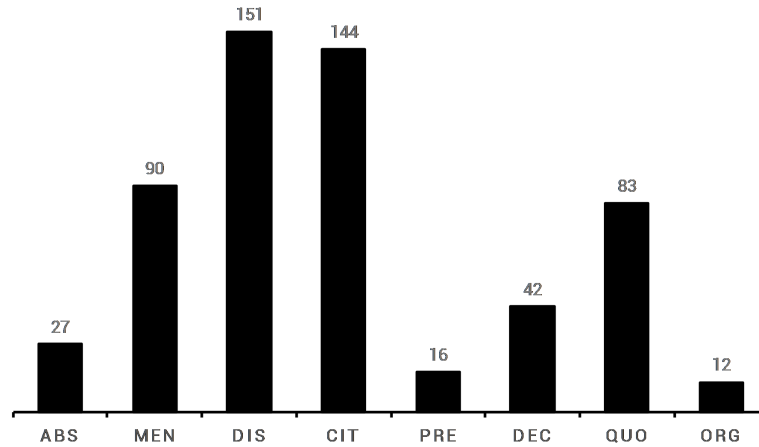


Figure 10: Number of papers sorted under each of the eight categories defined beforehand. See section 4.1 for further description. ABS: Paper mentions UX in the abstract only – MEN: Paper mentions UX, but not in a relevant way – DIS: Paper discusses concepts related to UX – CIT: Paper cites one or more definitions of UX – PRE: Paper expresses preference for a particular UX definition – DEC: Paper declares its use of a specific definition of UX – QUO: Paper includes quotation of its adopted UX definition(s) – ORG: Paper introduces an original definition of UX

Common for the first three categories (ABS, MEN, and DIS) is that the papers do not address the concept of user experience itself, instead only mentioning the term – or in the case of DIS, the largest single category, discuss related topics. The literature in these three categories (268 papers in total, comprising almost half of the full set) is of little interest in regards to UX as such. Many of these were simply not ‘caught’ by the exclusions made by the search query.

The remaining 297 papers cover five categories, the majority of which are in the CIT category (papers citing relevant UX sources, without defining the term). 12 papers present an original definition. The remaining 141 align themselves closely with an established understanding of the concept, either through quotation, or more or less explicitly stating it. Thus, by our evaluation, almost half of the papers published on the subject of UX do not define the term or take a clear stance on its meaning.

This reflects the lack of a universal definition of UX. Since the field does not have a clear consensus to align oneself with, many papers simply cite a list of relevant sources and move on without engaging with the concept or taking a stance. In some cases, these are very short papers (with a length of around 4 pages) or extended abstracts from workshops at CHI conferences; in these cases, there is an argument to be made for the omission. However, as these papers often present ideas not discussed elsewhere in the literature, they sometimes end up being cited quite frequently themselves.

5.1.2 Overview of Cited Sources

In order to learn more about the literature on UX, we investigated what sources our set of papers referenced. During the inspection of the papers, we noted the sources that we deemed important to the individual paper in regards to its way of defining and contextualizing UX, and whether they cited or quoted any established definitions of UX. We also made note of various other sources that the papers cited, which were not directly about UX but still seen as having relevance. The referenced sources were then structured into a searchable database. This sec-

tion presents a few tendencies in the literature that our selection of papers from the review references.

As these are the sources referenced by the peer-reviewed collection of papers, much of this is itself academic, peer-reviewed literature. Various other types of material also appear, including books, standards, as well as some web resources. As the originating papers are academic in nature, the references naturally lean heavily towards the academic literature as well. Accordingly, the citation numbers and trends are not to be seen as representative of all writings on UX (that is, including blog posts and practitioner-oriented books and magazines).

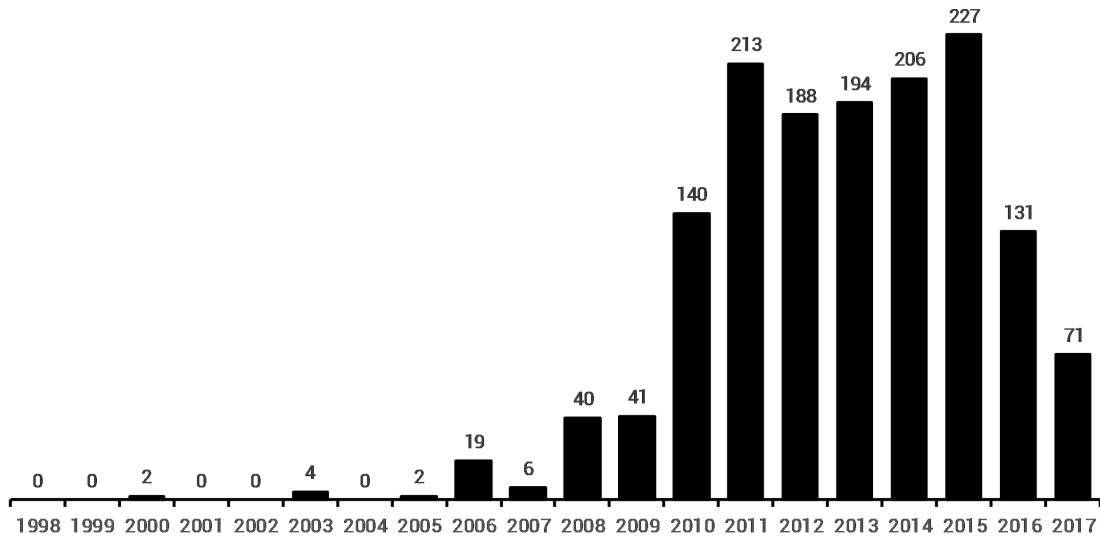


Figure 11: Number of sources cited by selected papers, per year

From figure 11, we can see the development of the UX term appearing more predominantly between the years 2006 and 2009. We see a significant increase in the citation numbers after year 2009, which indicates that the field has made significant changes or breakthroughs in the preceding years. Even when looking at the table of the 40 most cited sources (see table 5.1.2), 10 of them are from the years ranging between 2004 and 2009. Thus we can conclude that the most prominent research was done in those years and has been used ever since. This can also mean that the literature being cited is outdated and it would be more appropriate to look at papers with newer or revised versions of the findings and definitions.

5.1.3 Leading Discourses in the UX Literature

In this section, the papers deemed most important to the research literature on UX – what we have termed the *landmark* papers – will be introduced, and the discourses that they represent in the UX community will be identified through CDA. The landmark papers are selected on the basis of being the most cited sources within our data that are papers – that is, articles published in academic journals. For that reason, high frequency citations such as the ISO definition (International Organization for Standardization, 2010) or Wright and McCarthy (2004) have been excluded. The resulting list is the ten most cited papers on UX in our review.

These numbers cannot be considered universal, however. Figure 12 shows the citation numbers from our data, compared to those from Google Scholar (Google, 2018) for the same papers. The indexing of Google Scholar is performed automatically and includes a wide variety of

5 FINDINGS

Rank	Source	Citations	Rank	Source	Citations
1	Hassenzahl & Tractinsky (2006)	113	21	Law et al. (2008)	15
2	ISO F+DIS 9241-210:2010. 2.15	95	22	Lavie & Tractinsky (2004)	14
3	Law et al. (2009)	60	23	Law & van Schaik (2010)	14
4	Hassenzahl (2004)	39	24	Norman and Nielsen (n.d.)	14
5	Vermeeren et al. (2010)	36	25	Jordan (2000)	13
6	Hassenzahl (2008)	35	26	Väänänen-Vainio-Mattila, Roto & Hassenzahl (2008)	12
7	McCarthy & Wright (2004)	32	27	Nielsen (1993)	12
8	Hassenzahl (2005)	32	28	Nielsen (1994)	11
9	Forlizzi & Battarbee (2004)	29	29	ISO 9241-11:1998	11
10	Karapanos et al. (2009)	27	30	Alben (1996)	11
11	Hassenzahl, Diefenbach & Göritz (2010)	24	31	Hornbæk et al (2011)	11
12	Bargas-Avila & Hornbæk (2011)	23	32	Wright & McCarthy (2010)	11
13	Norman (2004)	23	33	Hartson & Pyla (2012)	10
14	Tullis & Albert (2008)	20	34	Battarbee & Koskinen (2005)	10
15	Hassenzahl (2010)	19	35	Hassenzahl et al. (2000)	10
16	Garrett (2010)	19	36	Hassenzahl & Ullrich (2007)	10
17	Hassenzahl, Burmester & Koller (2003)	17	37	Desmet & Hekkert (2007)	9
18	Kuniavsky (2003)	16	38	Buxton (2007)	9
19	Forlizzi & Ford (2000)	16	39	Thüring & Mahlke (2007)	9
20	Rogers, Sharp & Preece (2007)	15	40	Tractinsky, Katz & Ikar (2000)	9

Table 2: Top 40 sources cited by selected papers

sources, including duplicates, non-peer reviewed journals, and arbitrary web publications. Accordingly, when including every reference that can be found by Google’s crawler, the numbers look quite different, and the ranking order is not the same. However, as can be seen in figure 12, the landmark papers all carry high citation numbers in Scholar as well. Notably, the numbers from Scholar show a clear bias in favor of older papers that is not mirrored in the results from our review (see the preceding section for details on the distribution of the citations in the review).

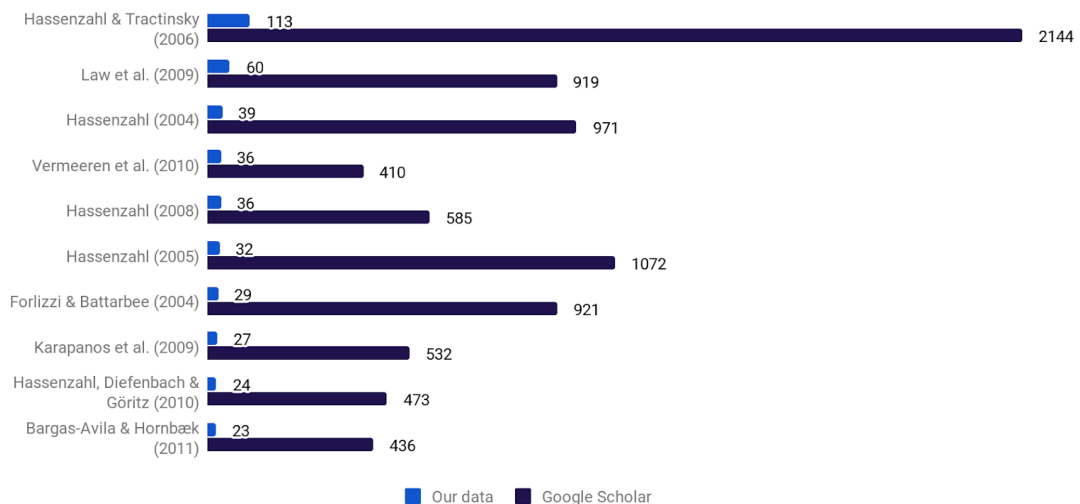


Figure 12: Citation numbers for the landmark papers from our data, compared to those from Google Scholar (Google, 2018)

As these particular papers have played an important role in the investigation of the concept

of user experience, several of these have naturally been used for the overview of the field and its history, presented in section 2. In this context, some of them have also been reviewed with some detail. Accordingly, as this section reviews and analyzes each of the landmark papers from a CDA perspective, there may be some overlap with the previous section. In some cases, that section may also provide additional information from these papers not deemed relevant for the current section.

The analysis in this section uses CDA to characterize the landmark papers (see section 3.5.5). The Habermasian CDA approach will be applied in an attempt to shed some light on the discourses present within the papers and their relation in a social context. The results of this analysis will then be used for a comparative analysis in relation to the findings from the interview study, where the interviewees' answers will be examined in the context of the discourses of the scientific literature. As these papers are the most frequently cited by our selected literature, they are assumed to have a leading role in shaping the socially constructed discourses of the UX community. Concerning this part of the analysis, it should be noted that the primary focus is to highlight the most dominant discourses and tendencies, and therefore will this analysis not be aimed at a fully comprehensive analysis of the landmark papers.

5.1.3.1 Hassenzahl & Tractinsky (2006)

The 2006 paper, *user experience - a research agenda*, by Hassenzahl and Tractinsky (2006) figured on the data from the literature review as the paper with most citation in total. This could imply that this paper is a prime example of what a large part of the research community has used as the basis for their own understanding of user experience. From a literature perspective this paper has been cited by approximately 20 of the papers included in our systematic review. This in itself might say something about the paper and stances made by Hassenzahl and Tractinsky (2006). From the perspective of social constructivism, having a large part of the relevant scientific community reference, cite and quote a paper, indicates that the presented arguments can be seen as important discourses that have had an impact on the socially constructed conception of what UX is.

The paper concerns itself with the issue of what exactly is meant by the term 'user experience'. The papers presents a cursory sketch of what is meant by UX, and an attempt to look at what UX would look like in the future, though with the stated intention of being a proposal rather than a forecast. The paper itself defines UX as "user experience is a consequence of a user's internal state, the characteristics of designed system, - and the context – within which the interaction occurs" (Hassenzahl and Tractinsky, 2006). This definition is presented in the paper utilizing three prominent perspectives. Each perspective is a representation of what types of facets reflect the user's interaction with technology, and aims to help with our understanding of the topic. The three perspectives are presented as; beyond the instrumental, emotion and affect, and the experiential. Furthermore this paper discusses the aspect of user experience becoming a major part of the HCI field, which increasingly focuses on creating an outstanding quality experience, rather than simply trying to avoid usability problems. This to some extent contradicts the traditional HCI assumption that a high amount of quality in design reflects fewer problems overall (Hassenzahl and Tractinsky, 2006).

These aspects presented above could be viewed as some of the more dominant discourses discussed within this scientific literature. From the perspective of social constructivism, this represents a constructed reality, accepted by a part of the user experience community, who

finds this approach to be applicable to their user experience definition and understanding.

There are however points to consider when looking at the amount papers citing and quoting the paper by Hassenzahl and Tractinsky (2006). First of all, the paper itself was published back in 2006, which means that it has been made available to the research communities for a longer period of time than much of the other literature discussing similar concerns. This itself could reflect a larger number of people talking and working with this paper, thereby influencing the scale in which it is reflected in the social reality of the research community. However, this does not necessarily mean that it is not an example of a socially constructed scientific paper. One of the interesting parts to look at in regards to citations is that the amount of citations of this paper has not been decreasing over time (see figure 13). This could indicate that the paper still shows relevance in today's conception of user experience understanding and definition.

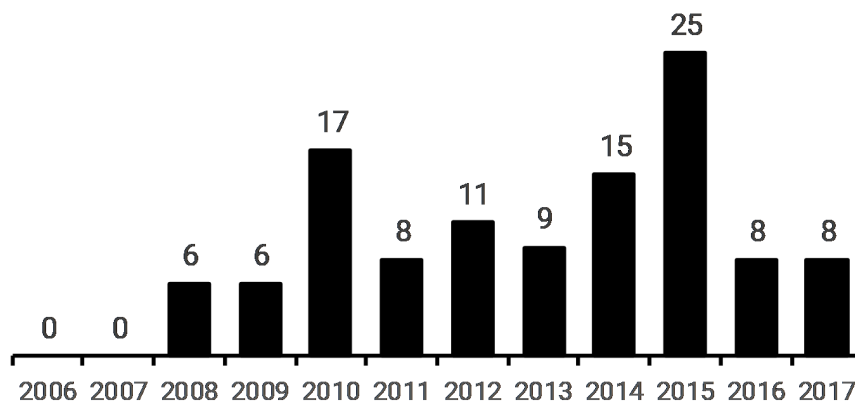


Figure 13: Number of citations per year since being published for Hassenzahl and Tractinsky, 2006, from our literature review data

The consistent ‘popularity’ is interesting, considering that the paper was published prior to wider spread of the term user experience, and the research that followed along with it. The paper itself is more a proposal to start examining the notion of user experience in depth than any sort of definitive statement on the matter. One of the authors, Marc Hassenzahl, has later presented evolved versions of the UX definition (eg. Hassenzahl, 2008, also presented in section 2.2). However, despite the publication of more thorough and evolved research, this comparatively brief paper still sees frequent citations more than a decade after being published. This indicates a level of habitual thinking and ‘follower-effect’ in the field, where an older paper is cited because it is what is usually done, even when it has been superseded by later, more extensive publications on the matter.

This paper primarily concerns UX discourses related to **domain** – by seeking to define and delineate the nature of the concept. However, in also discussing the state of UX research in the HCI field, including the consideration of whether UX should be considered a ‘buzzword’, and the call for more research to be conducted, it engages with discourses associated with **community**.

5.1.3.2 Law et al. (2009)

Understanding, Scoping and Defining User eXperience: A Survey Approach by Law, Roto, Hassenzahl, Vermeeren and Kort, is a scientific paper aimed at presenting the results of a survey

in which 275 UX researcher and practitioners participated, in regards to the view and understanding of UX (Law et al., 2009). The paper takes departure in the concept that UX, by 2009, was still a concept that is widely undefined and misunderstood (as other sections of this thesis have shown to very much still be the case). The aim is to address this, and attempt to find a unified understanding and definition of UX. Law et al. (2009) present a series of reasons as to why UX is a term that is so hard for researchers and practitioners to agree on the meaning of. First off, concepts that deal with the emotional aspects of a product, such as the hedonic qualities, are typically dynamic and somewhat ambiguous to try to comprehend and pinpoint. Secondly, the paper brings in the point that UX as an analytical tool is too acceptable to change and adaptations depending on the field or perspective that the researcher applies. This varies from approach to approach depending on who the end-users are, what the end-goal is, and what the product in question concerns. Thirdly, the paper touches upon the field of UX, where the general UX landscape is highly influenced by several other and different fields. This creates a very complicated and fragmented research field with different theoretical foci (Law et al., 2009).

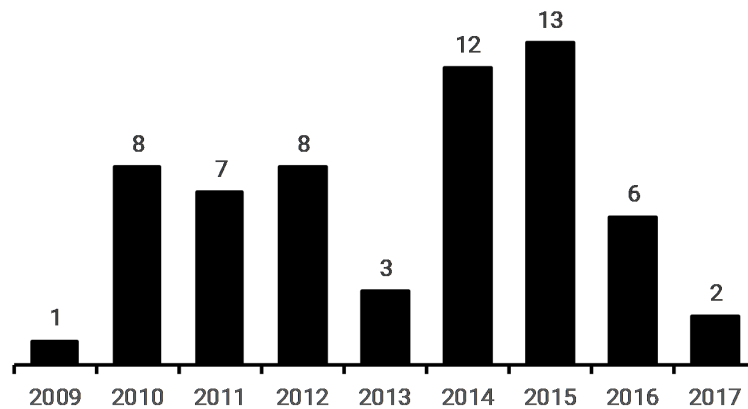


Figure 14: Number of citations per year since being published for Law, Roto, Hassenzahl, Vermeeren, and Kort, 2009, from our literature review data

The paper by Law et al. (2009) is reflected as a paper citing an original definition within the literature review. This was arrived at through the findings from a survey focused on evaluating characteristics and definitions of UX, with responses from members of the UX community. The paper defines UX as being “dynamic, context-dependent and subjective, [and related to] a broad range of potential benefits users may derive from a product” (Law et al., 2009, p.727). This definition is supposed to reflect the scientific as well as the practical view on the term UX, with specific focus on aspects such as the scope and nature of the term. The survey did present that the definition did not seem to differentiate depending on the respondents’ number of years working with user experience, or whether they were a practitioner or researcher. One of the aspect that did seem to influence the definition were shown to be the socio-cultural aspect of country of residence (Law et al., 2009). The chosen definition from the survey was said to be aligned with that of the (at the time) draft for an ISO definition of UX (International Organization for Standardization, 2010; presented in full in section 2.3). However, when looking at the answers to the survey it is important to remark that out of the 275 respondents approximately 50 of those were only partially responded. Furthermore, the respondents were gathered before, during and after the CHI’08 conference, and consideration towards what influences individual

people could have gotten during such a conference should be considered. Considering the fact that a standardized UX definition had been made public as a draft, and was being finalized, it is very likely that this particular conception was being discussed extensively in the community at this point in time – regardless of whether it would be accepted by most afterwards.

The paper reports that the definition is based on a survey of both researchers and practitioners. Of the respondents, 84 described themselves as researchers, and 43 as practitioners – in addition, 58 described themselves as consultants or managers, which would be considered part of the practice community. This puts practitioners and managers in the majority, which is also reflected in more than half being affiliated exclusively with the industry, with the rest split between academia, and somewhere in between the two.

It is notable how industry-heavy the respondent sample is, especially considering how much of the recruitment process was done in connection with a CHI conference – which, as shown in section 2.5, have long had trouble getting practitioners to attend.

The paper by Law et al. (2009) is a representation of the UX field having elements of confusion and misunderstanding in regards to its definition. This representation portrays a UX field having socially constructed discourses that deal with these elements and understand the problem of not having a unified definition. However, based on the survey data it does seem as if the people have a unified idea of what entails the field of UX, but how it is exactly to be defined is more a matter of whom the specific definition aligns with. In regards to the definition, the aspects of UX being dynamic, context-dependent and subjective are the most dominant discourses within this definition. These three discourses are to be acknowledged as a key part of this socially constructed definition of UX, and are to be taking into consideration when evaluating the gap between industry and academia.

This paper is very much about the interplay of **domain** and **community** – discussing and seeking to aid the process of arriving at a definition that can be widely agreed upon. In contrast to most of the research in these landmark papers, this study heavily involves voices from industry. Comparing this to its frequency of citation in academic publications, this paper may have had some gap-reducing effects.

5.1.3.3 Hassenzahl (2004)

The Interplay of Beauty, Goodness, and Usability in Interactive Products by Marc Hassenzahl (2004) is a paper with focus upon pragmatic attributes, hedonic attributes, goodness and beauty. The article goes into details of how goodness as a term is dependent on both pragmatic and hedonic attributes, while beauty is largely influenced by hedonic attributes alone (Hassenzahl, 2004). The article presents a series of lessons to be learned. Firstly, when working with UX it is important to first consider what kind of products are to be studied. Secondly, it is important to understand the importance of the model used for the UX, the aspect of causality, and whether the approach will be primarily top-down or bottom-up, in relation to the concept of beauty. Lastly it is important to make consideration towards the concept of satisfaction.

The paper recounts two studies of MP3-player skins. Goodness as a concept for Hassenzahl was in the study shown to have clear correlation towards the pragmatic attributes, with the article presenting that this was especially the case after a user had used the product (Hassenzahl, 2004). Beauty as a concept works from the premise that the product reflects a certain type of quality to the user, with beauty being very subjective to the person reflecting upon the product. Consequently, beauty itself can be hard to create. As a social concept, it works from the perspec-

tive that beauty is able to present a certain type of favorable identification to the relevant user. However, in the article Hassenzahl argues that the concept of beauty is not strongly affected by the users' experiences. Beauty is largely influenced by the hedonic attributes, which are primarily derived from the appearance of a product, and not the pragmatic attributes. Thereby Hassenzahl concludes that an aspect such as goodness is more oriented towards the user experience, than the aspect of beauty. Satisfaction is presented as an "emotional consequence of goal-directed product use" (Hassenzahl, 2004, p.345). In general, it disassociates itself from the concept of goodness because for a product to become satisfying, it needs to achieve a certain type of goal for the user, thereby meaning that the concept of satisfaction is tied the usage of a product.

Hassenzahl, 2004 conveys the concept of beauty, satisfaction, and goodness within his paper, which must be considered the three primary discourses being discussed. As discourses, they all focus primarily on the emotional responses resulting from a UX. As the paper highly cited and quoted paper – illustrated in figure 15 – its discourses are considered part of the social construction of the UX researchers' conception of reality.

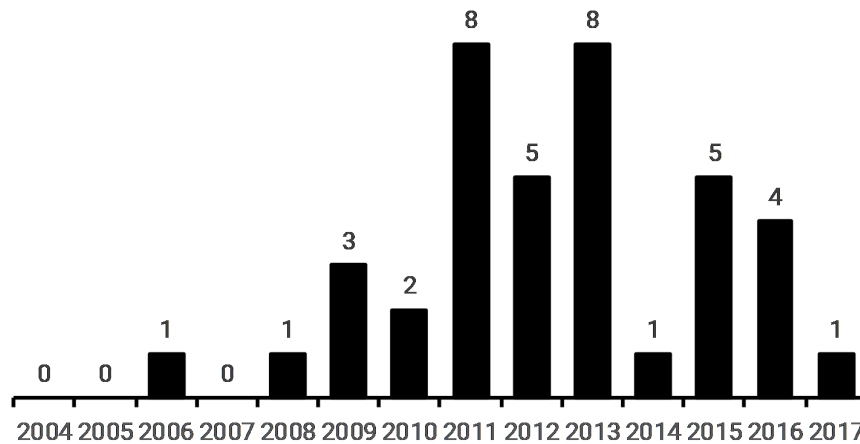


Figure 15: Number of citations per year since being published for Hassenzahl, 2004, from our literature review data

The focus of this paper is overwhelmingly on aspects related to **domain**.

5.1.3.4 Vermeeren et al. (2010)

User experience evaluation methods: current state and development needs by Vermeeren, Law, Roto, Obrist, Hoonhout and Väänänen-Vainio-Mattila concerns the various means of evaluation user experiences (Vermeeren et al., 2010). Figure ?? shows how widely it has been cited since being published. The paper presents a collection of 96 different UX evaluation methods that the authors have collected through various conference workshops and surveys. The article discusses how UX evaluation methods at that point had yet to be examined and organized in a structured manner (Vermeeren et al., 2010). Most of the methods were derived from academia (an estimated 70%) 20% were methods collected within the industry of UX, and the last 10% were collected from methods qualified as industry and academia. The article by Vermeeren et al. (2010) presents the perspective that industry rarely shares its methods publically, and because of that they have encountered an overwhelming majority of academia focused UX evaluation methods. According to Vermeeren et al. (2010), the industry could greatly benefit

from having access to certain validity measures to help them improve on the UX within the development phase.

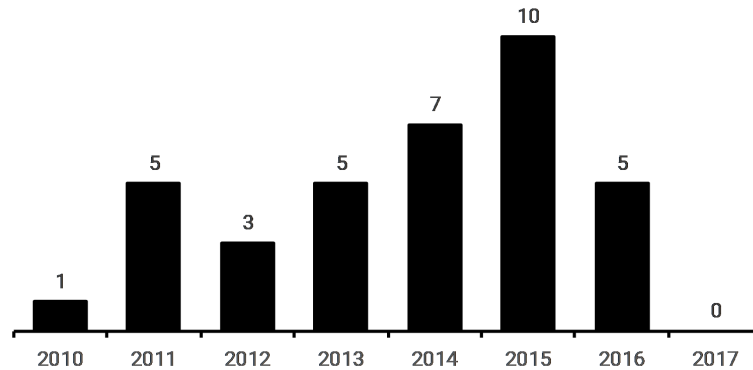


Figure 16: Number of citations per year since being published for Vermeeren et al., 2010, from our literature review data

Vermeeren et al. (2010) present a series of interesting discourses concerning the aspect of academia and industry as two different perspectives in relation to the development of UX evaluation methods. One of the primary discourses concerns the aspect that UX evaluation methods in general are not properly developed and understood within the field of UX. Such a discourse helps shed light on some of the problematic aspects with a field lacking a proper evaluation methodology. Furthermore, the discourse concerning the academia and industry perspectives raises questions regarding the information being made accessible. From one perspective there is academia, which usually makes new research and evaluation methods public, but is often met with concerns that most of these publications are of any relevance to the industry. The other perspective of industry not sharing their knowledge might owe itself to the fact that most companies will use an effective evaluation method as a market advantage over their competitors, and publically sharing their knowledge could mean losing their competitive advantage. The gap in collaboration and exchange between the two domains results in vastly different collections of methods being considered on each side – the availability of practical tools for UX evaluation being affected by conflicting socially constructed perceptions.

The idea of a company not sharing information might still mean that the discourses are socially constructed, but they are a social construct within the company, and not a social construct that is shared and discussed between multiple organizations. In relation to academia, the UX evaluation methods being developed might be relevant as a socially constructed discourse within the academia UX community –however from an industry perspective, this might not be the case, because the discourses presented are not understood and agreed upon as being relevant. Thereby it could be argued that some academia related discourses might only be discourses within the world of academia and not within the industry of UX.

This paper focuses on the nature of the **practice** of UX, by seeking to catalog the existing evaluation methods. In extension of this, it looks at the **community** surrounding UX, and notes the existence of an industry-academia gap that also manifests itself in what evaluation methods are known and used.

5.1.3.5 Hassenzahl (2008)

Marc Hassenzahl's paper, *User Experience (UX): Towards an experiential perspective on product quality*, is another example of a highly cited and quoted paper within the literature review (Hassenzahl, 2008). The paper itself came out in 2008, and has been highly referenced from 2010 and onwards, with 2010 being the highest peak. This peak could be contributed to people reading and examining the paper in 2008 and publishing their work in relation to the paper in 2010 (as academic publishing tends to take a while, due to the peer-review process). It should be noted that the paper has been shown to have been cited every year, as seen in figure 17.

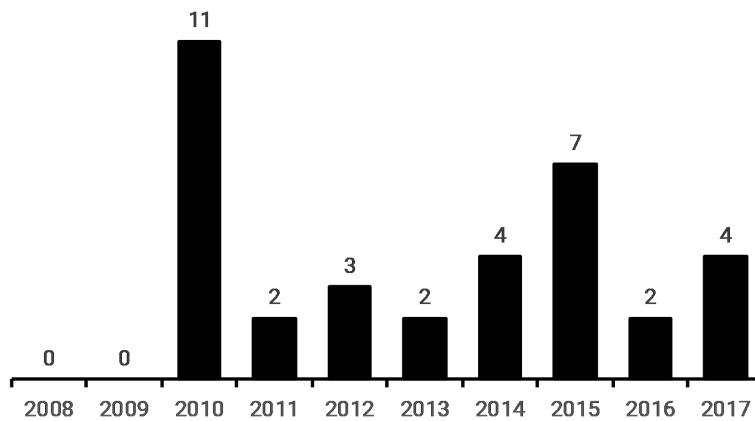


Figure 17: Number of citations per year since being published for Hassenzahl, 2008, from our literature review data

The paper presents an original definition of UX from the perspective of Hassenzahl himself. His definition being “the momentary, primarily evaluative feeling (good-bad) while interacting with a product or service; good UX is the consequence of fulfilling the human needs ... through interacting with the product or service. Good UX is the consequence of fulfilling the human needs for autonomy, competency, stimulation (self-oriented), relatedness, and popularity (others-oriented) through interacting with the product or service (i.e., hedonic quality). Pragmatic quality facilitates the potential fulfilment of be-goals.” (Hassenzahl, 2008). This paper focuses on the example of how the field of interactive technologies is moving away from the focus on problems and products, and being more aimed towards people and the positive experience (Hassenzahl, 2008). Within this definition Hassenzahl touches upon several different aspects concerning the definition of UX. In particular, hedonic and pragmatic qualities, which are often seen throughout UX related literature, as well as the aspect of good-bad, a reflection of the users feelings about an experience. Hassenzahl also presents his concept of do-goals and be-goals. Do-goals are in reference to the pragmatic qualities of a product, which concerns product's perceived ability to perform a certain task. Be-goals are a reference to the hedonic qualities in a product and its perceived ability in relation to reflect emotions. Hedonic and pragmatic qualities, as well as be-goals and do-goals, are examples of discourses presented within Hassenzahl's paper. These examples are seen to have been manifested within the UX community as socially constructed terms in relation to the definition and understanding of UX, where they have played a significant role in the literature following the 2008 paper. Indeed, these terms have been discussed in this thesis' overview of the UX concept presented in section 2.2.

Hassenzahl (2008) references an original definition of UX, which creates another interesting insight into history of the defining the term. The definition is referenced as being the UX

definition that Hassenzahl believes to be the correct definition. This definition is not made to be a one-size-fits-all definition, and is evidently different from the definition presented within the Hassenzahl and Tractinsky (2006) paper published two years prior. However, if you examine the amount of citations reflected in the literature review, then the earlier paper by Hassenzahl and Tractinsky (2006) is far more referenced and quoted, as seen in figure 17. Such a tendency could give hints towards the notion that the definition from Hassenzahl (2008) as a socially constructed discourse is less attractive to the UX community than that presented by Hassenzahl and Tractinsky (2006). However, it is still represented quite prominently in the literature. Accordingly, to the extent that the two definitions disagree and are not combinable, they must represent conflicting discourses within the UX community.

This paper is concerned with discourses related to **domain**, in the context of defining the term, and as well as to some extent **community**, in the context of how the definition fits within the socially constructed reality of the UX community.

5.1.3.6 Hassenzahl (2005)

In the paper *The thing and I - understanding the relationship between user and product*, Hassenzahl (2005) presents an early look at his work defining user experience. This paper presented a particular challenge when analyzing the literature selected for the review, as it has been cited under several different publication years. Most citations reference it being published in 2005 – however, the anthology *Funology* published in 2003 included it as well (a sequel to which, published in 2018, also appears to include it). The paper does not include empirical data, but rather a theory-based discussion from the author’s perspective.

Hassenzahl (2005) argues that there was an increasing demand in the HCI community to go beyond usability, which had not yet been met. He notes that user experience had become a “catchphrase”, and notes the calls of various researchers for a deeper exploration of the subject. While experience at the time was seen as increasingly important, and basic functionality as not enough anymore, models including pleasure were rare and simplistic. Hassenzahl seeks to address this by introducing a, in his words, more complex model that includes the subjective nature of experience, product perception, and emotional responses to products. This builds on a model that he introduced in an earlier publication from 2002.

The primary focus of the model is the *product character*, as seen from the perspectives of the designer and the user. The model, along with some discussion of its relationship with other Hassenzahl models, is shown in figure 4. A product, Hassenzahl (2005) describes, has features that seek to convey its intended character (or *gestalt*) and attributes. Coming into contact with the product, the user perceives its features and *constructs* its *apparent* character (consisting of pragmatic and hedonic attributes). This leads to various consequences – eg. value judgments, emotional and behavioral responses – which might change depending on the specific context of use. Many things may affect the user’s perception, and it may change with time and use. Designer selects and combines features to “fabricate” an intended product character (and to fulfill certain desired attributes), but there is no guarantee for how this will translate to the user. In describing the various attributes of the product character, Hassenzahl uses the terms pragmatic and hedonic, which are recurring features of his UX conception.

In relation to these, he presents another model that concerns the user’s perceptions of the pragmatic and hedonic attributes, which may be either weak or strong. Both being weak is

unwanted, and both being strong is preferred and desired. Author terms a strong hedonic and weak pragmatic product a SELF product – and vice versa an ACT product.

In this paper, Hassenzahl presents a broad definition that reads: “User experience encompasses all aspects of interacting with a product.” (Hassenzahl, 2005, p.41). He emphasizes that all user experience is subjective, and that the intentions of the designer may deviate drastically from actual experiences. The main focus of this conception of user experience is that a product has a character that the user perceives, and this character is specific to each person, and may change depending on the time and situation of use. In other words, this model takes an explicitly (not social) constructivist view on user experience. In other works, Hassenzahl puts a less direct focus on this.

As seen in the papers discussed in this section, Hassenzahl’s UX definition has been a work in progress over many years and articles. Concepts and models appear and reappear with new details and observations. As a consequence of this, what he refers to as the ‘definition’ of UX is constantly being updated, and older papers are being superseded by later ones. When older papers, such as Hassenzahl (2005) are still being cited – which they are, as seen in figure 18 – this indicates a fracturing within the discourse on UX that Hassenzahl’s work represents. If papers cite only the older papers, without also citing the newer ones, they align themselves with a perception of the realities of user experience that the author himself has abandoned. As a result, the published research might reflect multiple socially constructed realities simply based on Hassenzahl’s theories *alone*.

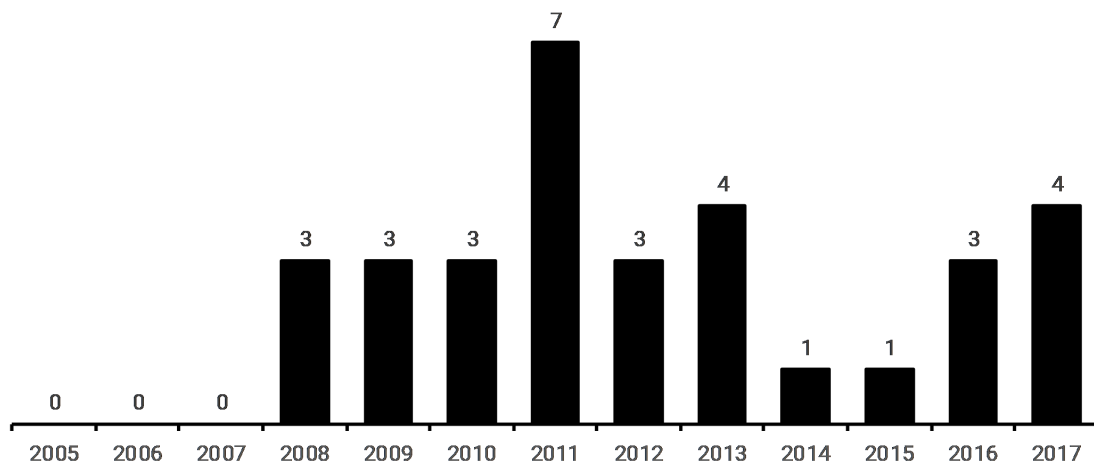


Figure 18: Number of citations per year since being published for Hassenzahl, 2005, from our literature review data

In the paper, Hassenzahl (2005) describes the model as suggested and preliminary. However, judging on the continuing references being made to the paper in the literature, it seems reasonable to assert that the discourses it represents (regarding product character and hedonic-pragmatic aspects of user experience, etc.) are still playing a major role in the UX research – despite the author having ‘moved on’ himself.

This paper has a clear focus on discourses related to **domain**, as it presents a conceptual model that is not based on empirical research.

5.1.3.7 Forlizzi & Battarbee (2004)

Understanding Experience in Interactive Systems by Forlizzi and Battarbee focuses primarily on the experience part of user experience. In particular, the paper tries to examine experiences in an interactive system, from the point of view of several different disciplines (Forlizzi and Battarbee, 2004; see citation trends in fig 19). The paper dives into aspect of understanding people, in relation to understanding their experiences with a system. It is based on observations from theory, rather than an empirical study. The paper presents an original definition for the emotional part of UX, based on the authors' previous work: "Emotion affects how we plan to interact with products, how we actually interact with products, and the perceptions and outcomes that surround those interactions" (Forlizzi and Battarbee, 2004, p.264).

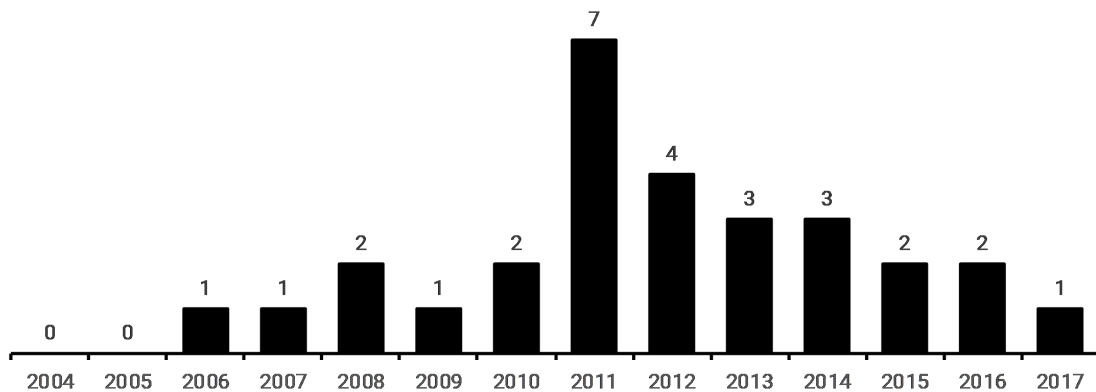


Figure 19: Number of citations per year since being published for Forlizzi and Battarbee, 2004, from our literature review data

One of the main discourses presented within the paper by Forlizzi and Battarbee (2004) concerns the concept of co-experience. Co-experience is originally a concept developed by Battarbee and Koskinen (2005), and is applied to the understanding of experiences. Co-experience as a concept works from the premise of UX within a social context (Forlizzi and Battarbee, 2004). Hereby meaning that co-experience functions as a socially constructed phenomenon in the sense that user experiences can be shared and understood between people. This at the same time opens up the possibility of different interpretations because it is shared among a wide range of people. From this perspective co-experience leads to examples of UX that could be agree upon, but at the same time UX that people might disagree upon. Hereby comes that the understanding and reflection of user experience is elaborated upon and understood through social interactions.

Co-experience as a concept is very much aligned with the concept of social constructivism and the development of socially constructed discourses. It works within the same premises in relation to the generation, understanding and defining of UX, and it could be argued that co-experience is a prime example of a concept that is socially constructed and at the same time works within the premise that experiences are socially constructed.

The paper is concerned with the **domain** of user experience.

5.1.3.8 Karapanos et al. (2009)

Evangelos Karapanos, John Zimmerman, Jodi Forlizzi, and Jean-Bernard Martens published the paper *User Experience Over Time: An Initial Framework* in 2009 (Karapanos, Zimmerman, Forlizzi, and Martens, 2009). Here, they argue that an overlooked aspect of the HCI research that at this point in time had started exploring factors beyond the instrumental and usability-oriented in depth, is that of temporality, or the experience over time. They find that it has been discussed to some extent in the research literature, but not been empirically studied in a manner that the authors find satisfactory. In other words, they identified what they considered an underdeveloped discourse in the UX literature, and sought to explore it further.

It reports an ethnographic study conducted over five weeks of six individuals purchasing an iPhone. Measurement was done using Day Reconstruction, a diary-based method for collecting experiences. Their findings indicate that the important aspects of user experience change over the time spent interacting with the product. The initial motivations, that are mostly hedonic in nature, are found to evolve into a desire for the product to provide meaningful experiences over prolonged use. They suggest three future research directions for HCI: designing for meaningful mediation, designing for daily rituals, and designing for the self. The paper being widely cited, as seen in figure 20, indicates that these discourses have taken hold, and have shaped the way time is being thought of in relation to user experiences.

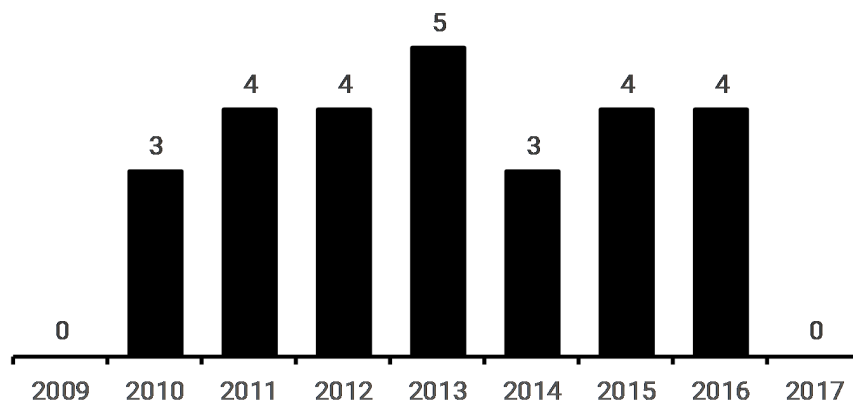


Figure 20: Number of citations per year since being published for Karapanos, Zimmerman, Forlizzi, and Martens, 2009, from our literature review data

However, the study that Karapanos et al. (2009) conducted was rather small in scale. They use terms such as “long-term usability” – but while five weeks is longer than the typical usability evaluation, it says little about the actual time scale wherein a user interacts with eg. a smartphone (as was the studied product), which is generally owned and used over a period of several years. In addition, six participants is too small a sample to make any generalizable observations from. This in itself is not problematic – as the title of the paper indicates, this is an ‘initial framework’, meaning that it should only be seen as a suggestion for more extensive and validating research. However, the text of the paper itself does not discuss generalizability or validity, but proceeds to discuss the implications of the findings. As indicated by the number of citations for the paper over the years, this study has become a linchpin of the discourse on temporality in UX. Thus, an essentially exploratory study directs the conversation and understanding of a fundamental aspect of user experience, rather than a more comprehensive empirical study. This in

effect means that the aspect of temporality in the socially constructed reality of UX discourses is being dominated by a paper with a thin empirical foundation that mostly acts as a suggestion for future research.

This paper explores both discourses related to **domain** and **practice**, as it discusses the concept of user experience over time, and attaches this to a specific empirical study of this, collecting data through practical research.

5.1.3.9 Hassenzahl, Diefenbach & Göritz (2010)

Needs, affect, and interactive products - Facets of user experience by Marc Hassenzahl, Sarah Diefenbach and Anja Göritz takes a look at concepts such as meaning, stimulation, popularity, security, autonomy, relatedness and competences, and discusses it in relation to that of a positive user experience (Hassenzahl, Diefenbach, and Göritz, 2010; see citation trends in figure 21). The article presents a series of data related to the relationship that might be seen between the two concepts of positive affect and fulfillment. The article also discusses how experiences can be categorized in regards to what exactly they fulfill in regards to the user, where it was shown that the aspect of fulfillment for the user is largely dependent on hedonic qualities and far less on that of pragmatic qualities. The idea behind the article is to present a link between the product perception and that of the need for fulfillment. This idea is to provide an insight into what processes are happening when product perceptions are achieved through the transformation of experiences (Hassenzahl et al., 2010).

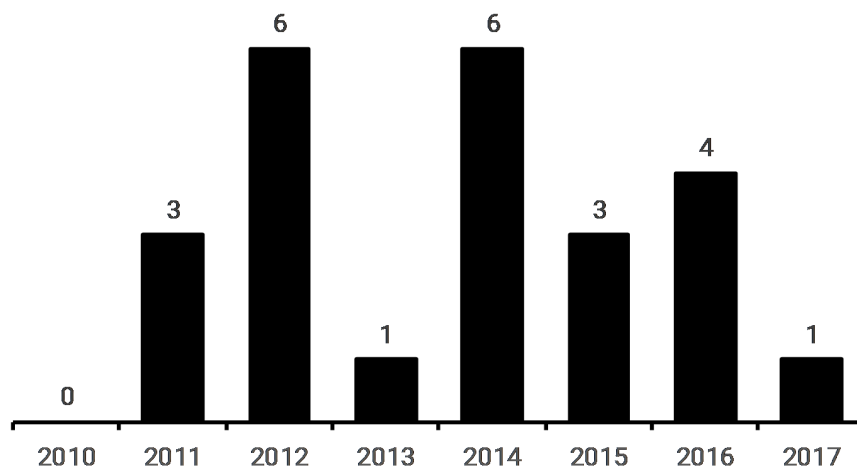


Figure 21: Number of citations per year since being published for Hassenzahl, Diefenbach, and Göritz, 2010, from our literature review data

From a discourse perspective, there are several discourses present within the paper by Hassenzahl et al. (2010). Firstly, the concepts presented within the paper – meaning, stimulation, popularity, security, autonomy, relatedness and competences – are all representations of different socially constructed discourses that are relevant to that of a positive user experience. Each of these concepts should be seen as an individual discourse concerning the positive user experience, and should be individually relevant in relation to the positive user experience. However it should be noted that these concepts are picked in relation to mobile phones and computers, as are the subjects of the paper’s study (Hassenzahl et al., 2010). Another three discourse ele-

ments relevant within the paper are those of product perception, positive affect and fulfillment. Each are relevant discourses by themselves, but are even more relevant when looking at how product perception, positive affect and need fulfillment correlate in order to provide the users with a better user experience.

From a social constructivist perspective, the article's data are founded on the idea of socially constructed discourses. Data from the article were collected through online questionnaires providing with an insight into how these concepts and understanding of them came to be. The article used the online questionnaire to learn about positive experiences with technology, and gathered this data to form a picture of which aspects of a positive experience are important, and to what extent the discourses surrounding product perception, positive affect and need fulfillment, were important to the users. Thereby a method of gathering data from general users was employed.

With this paper's strong focus on the effect of various psychological factors on the user experience, this paper is cleanly placed within the **domain** discourses.

5.1.3.10 Bargas-Avila & Hornbæk (2011)

The paper *Old Wine in New Bottles or Novel Challenges? A Critical Analysis of Empirical Studies of User Experience* by Bargas-Avila and Hornbæk (2011) presents a broad systematic review of the ways that empirical research on UX is conducted with the intention of providing a state of the art of UX research literature. Figure 22 shows the number of citations per year. The motivation for this work was the observation that despite the extensive literature on UX, “its definition and distinct characteristics as a research field are currently unclear. Moreover, empirical findings are rarely synthesized.” (Bargas-Avila & Hornbæk, 2011, p.2). The paper investigates the claims of many UX researchers of breaking new methodological ground, and seeks to clarify what UX is through the published empirical studies. The systematic review analyzes 66 studies across 51 publications from 2005 to 2009, out of an initial sample of 1254. It does not look at papers regarding practice or non-empirical research (eg. through design). The review methodology and rounds of exclusion is quite thoroughly described, lending credibility to the findings.

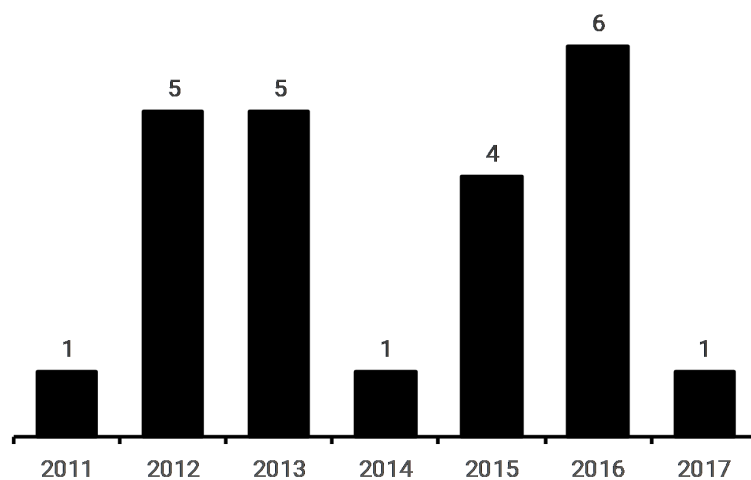


Figure 22: Number of citations per year since being published for Bargas-Avila and Hornbæk, 2011, from our literature review data

In presenting the study, the authors distance themselves from non-academic literature. This is in line with a discourse in academic circles of considering their own literature of higher quality by virtue of its scientific nature. The paper examines UX as a new movement within HCI, bringing about a focus on factors such as joy, aesthetics, and pleasure rather than the focus on task completion that characterizes the more traditional usability research. Based on the literature, the paper takes a number of clear stances on UX (quoting p.2):

1. “UX takes a holistic view of users’ interaction with interactive products.”
2. “UX focuses on positive aspects of users’ interaction with interactive products.”
3. “UX emphasizes the situational and dynamic aspects of using interactive products and the importance of context.” [Citations omitted]
4. “UX views and models the quality of interactive products as multidimensional.”
5. “UX entails a need for new methods and approaches for designing and evaluating experience”

As this paper expresses the summarized views of a large number of other papers, it provides almost a catalogue of discourses existing within the UX literature. Among these, the various stances on the relationship between UX and usability. The authors find that many papers seek to clearly differentiate between the two (each connected with its own goals and qualities) – however, they argue that this is a difficult and not very useful distinction to make, as the goals tend to be tightly interwoven.

A major criticism from Bargas-Avila and Hornbæk (2011) concerns the methodology of UX studies, where several weak points are noted. Often studies using questionnaires or interviews do not report the questions and procedure utilized (or only partly), making it difficult to judge if they were biased or poorly designed. Another weak point in the literature is that papers containing basic research on UX often do not reference each other, which holds back the development of new knowledge by doubling other people’s efforts. The paper also notes that no truly longitudinal studies have been published. As seen by the frequent citations of the methodologically underwhelming paper by Karapanos et al. (2009), there might be a need in the literature for this to be addressed. Bargas-Avila and Hornbæk (2011) find that studies of UX often focus on art projects and audio/visual products, with a general tendency towards primarily studying leisure use – a clear shift from the traditionally work task oriented usability research. The paper concludes that “UX – despite being thought of as a multifaceted construct – is often approached in quite selective and restricted ways.” Bargas-Avila and Hornbæk (2011, p.5).

The paper puts a particular focus on the **community** of UX, describing the various discourses that affect the way that research is conducted and discussed. In extension of this, it also discusses the **domain** by aligning it with a series of discourses on the nature of UX, as well as the **practice** by examining the methods used to study UX.

5.1.3.11 Summation of Discourses in Landmark Papers

Within the ten presented landmark papers, the focus is predominantly on the *domain* perspective on discourses. Out of the three elements of the community of practice model, this one was represented in discourses of nine out of the ten landmark papers. The paper by Vermeeren et al. (2010) was the only one where the discourses primarily concerned the perspectives of practice and community.

The extensive focus on domain-related aspects of UX within the most cited papers emphasizes the breadth of the discussion on definitions and conceptualizations of the nature of the term. Since there is no universal definition to align oneself with, researchers have to dedicate space in their papers to describe how they understand it. As this involves referencing the relevant literature, a few papers presenting definitions end up being cited very frequently. In many cases, the definition from the International Organization for Standardization (2010) is used (see citation numbers in figure 5.1.2). In other cases, the research papers presenting definitions are cited directly. As shown in this section, this often results in older literature being referenced, as a lot of the basic work on scoping and defining the term was done in the 2000s. However, this does not take into account that the definitions are often being developed and adapted over a several years and papers, as is the case with the one by Hassenzahl. While the definition presented by Hassenzahl and Tractinsky (2006) is the most widely cited in our data, the paper makes no claim that it should be – in fact, the paper reads more like an debate starter than the closing argument that it has arguably turned into by being cited as the definition of UX. Most of the ten landmark papers present definitions of UX – and four of those are different incarnations of the same person's definition (Hassenzahl, 2004, 2005, 2008; Hassenzahl and Tractinsky, 2006). All of these papers continuing to be cited indicate that to some researchers, an earlier incarnation is more in line with *their* understanding of the concept. In this way, the multiple working versions become the keystone of a different discourse that lives on in the literature. This underlines the fractures in the UX domain that keeps a shared discourse from being socially constructed by the community.

Practice is represented within three of the ten papers, whereas community is represented within five. In relation to practice, the highly cited papers focus on the various methods for evaluating UX, including collecting large numbers of them (Vermeeren et al., 2010), showing how longitudinal studies how UX might be conducted (Karapanos et al., 2009), and evaluating the way that UX research is being conducted in general (including methods used) (Bargas-Avila and Hornbæk, 2011). These papers show different sides of the social practices that direct the research work.

In these papers, the element of community is largely focused on how the research behaviors and various definitions affect the UX community as a whole. Hassenzahl (2008) discusses how his (latest) definition fits within the community, while Law et al. (2009) investigate what role the quest for a shared definition plays in the community, and how the differences in opinion reflect the different discourses at play. Hassenzahl and Tractinsky (2006) notes a lack research within the community towards shaping a common identity, and Vermeeren et al. (2010) discuss the industry-academia gap in extension of their study of what methods are being used. Finally, Bargas-Avila and Hornbæk (2011), through their systematic review of empirical studies, present the various trends and discourses that the community reflects through the research that is being conducted.

All of the papers presented several discourses related to the understanding, examination and definition of UX. A large number of the papers presented an actual definition for UX that primarily lead the discourses in the paper to be focused on aspects of that definition. Especially the concepts of hedonic and, to some extent, pragmatic qualities were seen to be dominant for the discourses for the definition of UX. Other noteworthy examples of discourses were Forlizzi and Battarbee (2004)'s discourse on co-experience, which resemblance the concept of social constructed discourse within the UX community, as well as Vermeeren et al. (2010)'s discourses

concerning the gap between academia and industry, which is aligned with the concept of this thesis. Bargas-Avila and Hornbæk (2011)'s paper took a systematic look at the ways that research is being conducted, resulting in a wide array of discourses being presented and discussed.

5.2 Interview Findings

The interviews conducted for this thesis contain a mostly equal distribution between practitioners and researchers, where all the participants have specific views on the field based on their different educations and work experiences. As we are exploring their worlds, we try to get the proper perspective of their unique views on the subject, which we will then compare across the participants to see what discourses are shared between them, and which ones are in conflict with each other.

In this section, an extensive overview of our participants is presented. To start off, a profile of each participant is presented to give a sense of their place within the UX field, with information ranging from education to work history. This is followed by a characterization of how they each understand and define UX, which is subsequently compared to each other. Afterwards, the views and responses of the participants regarding themes like knowledge exchange, sense of community, and use of literature are analyzed and discussed collectively.

5.2.1 Profiles of the Participants

The selected participants were chosen based on their diversity in the field of UX and their background education with the idea to cover a wider spectrum of experience and to see how they approach the same concept from different perspectives. To begin this analysis we would first present their general profile or, so to say, the general information about their work experience that have brought them to the field of UX in one way or another. By knowing their profile and using the analytical framework of CDA we can understand their perceptions of UX by the context they provide with their background work history, education, and current work position.

For the sake of anonymity all the companies, universities, and places they have worked and studied at has been omitted. Relevant quotes from the interviews are presented along the way. The full transcript for each participant is attached in appendix D.

To begin with a general overview of the participants is provided. Afterwards each of the participants will in turn be presented in further detail.

5.2.1.1 Profiles overview

The interview study contains eight participants. They have been named P1 - P8. As seen in table 5.2.1.1, they have a variety of backgrounds and work areas. Number of years of experience is defined vaguely, as it was not directly asked during the interviews, and instead inferred from the responses.

The three participants working primarily in academia (P4, P5, and P6), as teachers and researchers at Danish universities, all have PhDs. Their number of years of experience range from around 5 to around 15. P4 is primarily connected with the discipline of Experience Design, P5 with Interaction Design, and P6 with Human-Computer Interaction.

Two participants (P2 and P8) who work in the industry also have PhDs, and thus have a well-established connection to the academic world. One of them (P2) teaches part time at a Danish university. Experience ranges from around 5 to 10 years. For both, their current positions are

Name	Education	Work title	Years experience	Work area
P1	“Akademiøkonom” (Academic economist) from a trade school	Modern marketing manager	P1 defines it to be “a lot”	Industry
P2	Master in engineering psychology, PhD information systems	Senior UX lead	5+	Industry (Academia)
P3	Master in computer science	Usability engineer	5+	Industry
P4	Master and PhD in Library and Information Science	Researcher and associate professor	5+	Academia
P5	Master in “Humanistisk Data-logi”, PhD in Human-Computer Interaction in Computer Science	University professor and researcher leader	10+	Academia
P6	Master in Computer Science, PhD	Professor and researcher in HCI	15+	Academia
P7	Bachelor in Computer science	UX and Frontend development	10+	Industry
P8	Master’s degrees in software engineering, PhD in HCI	UX specialist	10+	Industry (Academia)

Table 3: Overview of the interview participants

more concerned with UX management and strategy than actual product development; both work at large Danish companies.

The final three participants (P1, P3, and P7) all belong clearly to industry. P3 and P7 work directly with UX and usability design, while P1 has a managing role relating to the development and social media departments of a marketing and web design agency. P3 holds a master’s degree, and P7 a bachelor’s degree; together they have around 5 to 10 years of experience. P1, meanwhile, has an education from a trade school and an undefined number of years of experience from a long list of jobs in the industry.

On a spectrum ranging from Academia to Industry, we place the affiliations of the participants as seen in figure 23.

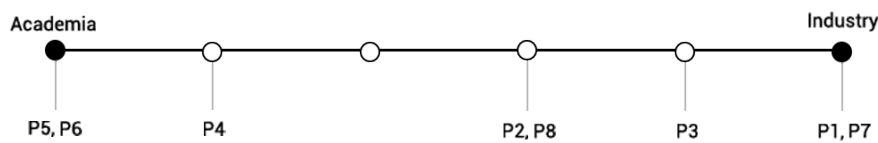


Figure 23: Participant affiliations with industry and academia on a spectrum

5.2.1.2 Participant 1 (P1)

For the full interview, see appendix D.2

Our first participant’s current work can be put on the opposite side of the spectrum from academia, as he is a Modern Marketing Manager in a marketing company, where he began work

November last year. He describes himself as a person with a lot of tasks, where he is dealing with the creative division of the company responsible for content creation, and also performing Key Account functions. He is the point-of-contact to a handful of companies regarding their marketing strategy. P1 continues to describe himself as involved in a lot of project management, eg. handling when the customers he works with need a new website. Regarding the many and varied tasks and responsibilities in his current job, he comments that “I’m involved with that, and sort of a bit of an octopus about these things”. The websites that his company develops are typically oriented towards selling products, with other examples being aimed at information based websites or websites that directs the user towards a network of dealers. The primary websites that P1 work with are “B2B” sites, oriented towards other companies rather than individuals.

In order to understand how P1 has ended up at his current work position, we have to take a look at his education and past experiences. P1 describes his education to be kind of blurry as it was “*many years ago by now*”, but he describes that the career path led towards an academy profession degree in financial management. With a specialization in international marketing that originated from working in [Country] for one year. Where afterwards the participant completed his education in Denmark for a total of two years education, following that, he completed additional business school bringing an end to his theoretical education.

As for P1’s past experiences, the field of work continued to revolve around marketing and sales in a company for air travel, when the company shifted its focus more on web channels and sales. They appointed him as the person most qualified to take care of those sales channels and leading him to operate those channels on the website. As he describes the company was interested in “*someone who could read the customers*”, so he got introduced to the digital world where the responsibilities where to work on sales for the web. P1’s thoughts on the web and social media for that matter required an understanding of “empathy”: “*That you can put yourself in the customer’s situation, and obviously, some are bloody born with it, and others have to learn it. But you have gotten far if you can sort of identify with the customer’s thoughts. But obviously, sometimes it makes use of feelings, and other times it has to be tangible. If it has to be tangible, then we go out and do these user studies...*”.

As the education and work history presented, P1 had never been exposed to UX from the academic perspective. Thus, he states that it is something he has picked up by working with people for years. It is comparable to gut instinct regarding how people will accept the flow of buying items on a website. P1 continues to elaborate that this is not something tangible and when that is required, he utilizes customer surveys to get an understanding of what people are saying. And he continues to add that this approach has been beneficial and provided guidance throughout the years.

Thus obviously, P1 can clearly be positioned as far away from the academics in our spectrum of UX. As his idea of UX is not about the actual product or service, but more oriented towards marketing and customer experience. It is still a perspective that can be used to contrast how the field can be used for various approaches even by utilizing a very small amount of methods present.

When approached about the literature or books he uses for his work or obtaining new knowledge, our participant categorically states about books: “*I mean, they’re outdated before they even come out.*” As he does not use any other literature sources for his work. This statement reaffirms the “gut instinct” he talks about earlier as his primal thing he relies on. Furthermore, from his

business oriented education we can see how the use of academic literature may not be a thing he is used to rely on for knowledge or obtaining new work processes. By this we can assure that his work is based on his practical approach and personal knowledge within his field. This may be rather one dimensional, but is something expected from his background.

5.2.1.3 Participant 2 (P2)

For the full interview, see appendix [D.3](#)

Our second participant is on the verge of both academia and practice, as she is a senior usability lead in a manufacturing company in Denmark. Alongside her work she teaches in a Danish university. Even though she is a lecturer, she defines herself as a practitioner since she is not involved in any academic research currently. From the practitioners perspective she describes working with strategy and framing, stakeholder management, and the occasional testing, but not designing which makes her a UX lead instead of the traditional UX designer. The general work in its entirety is connected to usability and UX, but she elaborates that it is more about aligning the processes and managing the teams, staying in touch with what is the progress and providing tools and procedures as needed in the development. She is part of the whole conceptualization, but at the end somebody else executes it. Moreover, her current work requires a lot of benchmarking and expert reviews so the products can be comparable with that of competitors. This typically requires testing, usually in the form of online or inhouse testing, which depends on a lot of various methods like surveys, interviews, user tests, think-aloud, A/B testing, contextual inquiry, and similar.

Ending up with her current work position was a result of her education, she began with engineering psychology where she found the compelling technical side with engineering and the “life side” from psychology. Upon finishing her Master thesis, she and the rest of the graduates were introduced to the title of UX designers, a term previously unknown to them. She explains by stating: *“I figured out I was UX designer. I’d never heard it before, we were just like, ‘Okay, which type of job can I actually apply for?’, we were just like, ‘We actually don’t know’”*. After which she began a PhD in information systems with focus on agile UX, where she approached standard methods by modifying them to fit different usability criteria in agile setting. Additionally in her PhD she worked at a company in [City] as a UX designer where she conducted her study and finally finishing it in [Year].

P2 has a firm grasp on how to approach new problems with academic and research perspective, she consults not only papers but also universities that works within the same field. This only relates to exploration projects when they are approaching a new field and do not relate to design based problems, since after all she is not responsible for the design part of the process. Additionally, this was something rooted in her education and her work history, as she has connections to universities and former research colleagues. This is expected from her side of the industry and can easily be traced back throughout her career.

5.2.1.4 Participant 3 (P3)

For the full interview, see appendix [D.4](#)

The third participant is directly connected to the more practical and application side of the UX field. Co-owning a company with just a couple of employees, where he predominantly works

with usability engineering. He prefers the term usability engineering more as opposed to user experience designer as it narrows the scope of the field and give a better definition of what the company is providing for its customers. It is a self proclaimed title aimed at the user to understand their intentions of making things more user friendly by implementing practical usability. Even with that title, it does not mean that he disregard the user experience in projects. He prefers to use usability as he said it is more grounded in practical theory that is easy to grasp by his clients. Additionally, it is the focus point in his work, as it revolves around structuring and organizing information, and following usability guidelines to ensure proper website functionality. With his mostly technical experience, he is not proficient at working with graphical design, and since there are just a couple of people in the company, he resorts to using his professional network when a aspects calls for it, or a design “*needs jazzing up*” as he puts it.

Our participants’ practical aspect come from his background and more specifically his Master education in the field of computer science. With a thesis based on information systems, he describes it as being mostly academic by using research methodology for real life development. With his mostly practical education, he discuss his introduction to the field of UX to be by some of his classes, even though they were rather too narrowly focused (as he laughingly compared to our education).

As he finished university, he began working as a front-end developer in a large development company, who had just laid off all of their UX personal. As he described it: “*there was kind of a hole there, which I fell into*”. Due to his interest of front-end development, he got dragged into the field where after one year he was responsible for more UX work than development. Thus he was working with that for the next 3 or 4 years, before parting ways with the company. As he did not approve of the new changes in the processes, internal politics, and rules enforced by a new management of the company.

Our participants work is sometimes supported by the help of some literature, to make sure things are on track. He refers back to looking at “*a couple of books on the shelf*” they have at the office, to be the main sources when approaching design of a website. As he defines that being in the field for some time, he knows the things but just don’t remember the exact wording. Even though, he mentions using well defined heuristics for instance by Jakob Nielsen. This, we can interpret to be in consequence of his practical knowledge and education, and furthermore to the fact he does not rely a lot on books.

He continues to describes literature he searches for, in the type of research papers summaries, since for him they present things in an easily understandable phrasing, even though he uses them to make a point to his customers above anything else. Regarding availability of the papers, he describes it being not so big of an issues and you can buy access, but the problem lies in the narrow purpose that they focus on. Thus getting the big picture would require reading a lot of them and this presents an issues by whether or not it is worth investing the time. He would much rather prefer for someone else to do it and outline everything in an article.

By looking at his work, how he has presented himself, and how he approaches customers, we can see some trends emerging. He uses easily understandable work title (e.g. usability engineer) so people will catch onto it better, this can be the case with the understandable phrased research paper summaries. Thus this can be an approach to sell UX as a product to customers by giving them various concepts to adapt. By practically “dumbing it down” he can potentially get more customers than approaching them with academic terms and vague researches.

The company itself consists of two people, including himself. The amount of work can be, to

some extent, cumbersome by not having a lot of time to do research or invest time on reading papers that may or may not be of value to him. Even with the background that he has being rooted in the practical, he has applied research methodology. By using literature for working in the practical field is not something new to him, but his past work experiences has not required it and thus possibly reducing the need for him to used them since.

5.2.1.5 Participant 4 (P4)

For the full interview, see appendix [D.5](#)

Our fourth participant is a full-fledged academic established in the university as a researcher and associate professor. She has been absorbed by the university life for the better part of five years. Starting as a assistant and moving forwards to her current position where she teaches various Master modules in information studies and experience design. From all the courses and modules, about fifty percent revolves around user experience design, this also includes either teaching or supervising students. She discusses that this is a reason based on what people want to focus on, as most of them are expected to learn about usability and since they are in the faculty of humanities, they don't study a lot of practical fields; such as programming. Thus focus on a more philosophical and theoretical approach aimed at, as well as understanding theory and what constitutes an experience.

A big part of her work revolves around research in which she elaborates to utilize the potential of qualitative methods and employing user studies, when she is researching different topics in the field of interaction design. In this part of her work, user experience design is more practically oriented in the physical field, an example project she gives us is the interactions in a science center, where the visitors interact with the exhibitions with the help of a number of IT elements. The qualitative methodology used within this project is oriented towards looking at the whole exhibition instead of single IT elements, thus understanding the whole interaction and experience.

To get a better understanding of her profile we can take a look at some of her educational background and work history. For starters her education is in Library and Information Science, where she has a Masters and a PhD. Her Master thesis was based on information retrieval (IR) that was not based on a user study and only focused at optimizing search. Even though the thesis did not utilize users, her education was heavily based on user behaviour and search. So the thesis was something different of interest to pursue, by were otherwise very different from her other work. After this she continued with a three year PhD position regarding digitization with a case study in a museum focusing on how visitors interact with the digitized systems.

After finishing her education she worked at a Library and Information science school for a couple of years and moving to another part of Denmark to a smaller branch of the same school. This unfortunately was a bit to small and she decided to use the opportunity to apply for a university position.

In her current work, the literature she uses revolves around understanding of terms and experiences, thus she refers to Hassenzahl on several occasions. As his literature help outline be-goals and do-goals in all the systems that we are surrounded by. She mentions: "*the factors that are important in order to obtain a good user experience is really much depending on what is the be-goal*". Certain factors are relevant depending on what is the be-goal of the system or app and they have to be tailored to support those goals. Another type of literature she prefers to use

and come back to is by McCarthy and Wright, as they discuss experience in the notion of technology and as a unpredictable notion. To better understand it she points to Dewey, since: *“good experience can be really difficult to pinpoint”*. In that regard she also adds Christian Jantzen to have interesting approaches. Furthermore, she addresses a lot of new articles and literature that comes from the projects of her students. As they find literature in various domains that she is not that well introduced. The students search for literature can sometime bring very good materials forward that is new to her.

So being in this university setting, we can see the difference from the previous participants, as P4 comes forward with a lot more authors and researchers in the vast field of user experience and experience itself. This of course is mostly for work purposes, but she has a well established education and background, so the field of research papers and literature is not new to her. The vast amount of researchers are to be expected from a person working in academia. Although, she does not differentiate between research papers and books, and actually tends to return back to research papers, the opposite of other participants for example P1 and P2.

5.2.1.6 Participant 5 (P5)

For the full interview, see appendix [D.6](#)

Our fifth participant is in the academic fields and expresses his strong opinions against working for and private companies. He is a university professor and a researcher, who focuses his work mostly towards more technical oriented fields such as usability. He discusses that he is not a part of the teaching of courses such as user experience design or visual design, but since his work is research oriented he dives into those fields as well. Although, in his research he mentions that usability creates user experience and specifically that user experience is around 20 percent of his focus. Since by his definition: *“I don’t do research in usability. I don’t think usability is something that needs research. It’s something we need to be able to do. The research has all been done. I think there’s a lot more room to do research on user experience”*.

As he is a researcher that comes from the university with a mindset that is set to the thought of *“I didn’t join the university to be a ‘praktikant’ – an intern in some company”*. Simply because as he puts it, companies were too focused on creating *“this one task”* with no reason for why it must be this way. This combined with his decision of working with something he is interested in, oriented him to stay at the university after finishing his Master in Humanistic Computer Science. Afterwards, around a year later he was offered a PhD scholarship in Computer Science, moving from Humanities to Technical Science and thus finishing his PhD of Human-Computer Interaction in Computer Science.

After his completion of the PhD, he began working for 10 years as a research leader in [Country], where he had a dedicated User Experience group. This was not a university organized research but rather government-funded research institution that did not involve any teaching. Additionally he discusses how the work or research that is government organized is far better and differs a lot from the private sector and thus he had no problems with it. Shortly after his government funded research he returned to get his higher doctorate degree in Natural Sciences, and has been working in academia with Human-Computer Interaction ever since.

When it comes to literature, the first thing he mentions is a book by Yvonne Rogers Interaction Design, regarding a figure of usability and user experience that he prefers since: *“they’re two types of effects that you are, that you’re creating with your Interaction Design”*. He expands by

also adding Hassenzahl on the list, as one of the people among many, that he based a questionnaire on and further developed it to include user experience quality exploring questions and also the ‘coolness’ qualities. Thus eventually being able to design for it.

He continues by talking about his interest in the development of methods and designs aimed at creating new experiences by applying new technologies and so on. In that regard he addresses the work of Kasper Hornbæk to be more oriented in defining the field more closely and additionally has done some structured work towards such concepts. He moves on to discussing how Hornbæk also defined usability when it was a new concept by stating: *“he was one of the guys who sort of cut it out and said, ‘this is what it’s all about’”*. So that’s why P5 also prefers Hornbæk’s work on user experience and praise it so highly.

Regarding the literature he prefers to use, P5 definitely looks into research papers as to the other option of textbooks. He compares books to *“the stuff that we then work out ourselves”*, where research papers are *“good because they are brief, to the point, and new”*. Nevertheless, he still uses books in regard to his teaching, and when it comes to the methods side of things he mentions Bill Buxton’s book on Sketching User Experience. He continues and expands on the literature by saying he tries to avoid papers that use the title of user experience just because it is a popular term. And so far he focuses on literature that centers its concept on interaction design because he states: *“that’s where I can do something, and then I know I will achieve a user experience”*.

When approached about literature or articles coming from the other side of the spectrum, namely practitioners, he dismisses it as not being even close to the standard of the literature from the academic side that he uses. He looks at them as they are: *“not reviewed or anything, it’s someone’s opinion”*. He even prefers not to use Wikipedia besides looking up a definition he is not clear on. So no question here that he would not point articles or blogs as a reference since *“it doesn’t give [him] anything. Apart from sometimes frustrations”*.

With his teaching and research it is natural to expect him to use a wide variety of sources spreading from research papers to books. Generally for his work he seems to prefer the precise bit of information that research papers provide him with compared to books that may have vast amount of not applicable information. Although he can not completely disregard them when it comes to his teaching. But regarding practitioners blogs, he thinks of them as the bottom of the barrel information that can, in no way, be considered for whatsoever. Although, he does expect his students to be looking it up, but for his line of research practitioners opinions are just not important. This maybe due to practice and research being so far apart from what they are working on that nothing applies from one to the other, or simply because practitioner are not known for their research contributions and definitely not doing it to advance the field in a significant way, more likely they do it to get some clicks on their page and a few cents ad revenue.

5.2.1.7 Participant 6 (P6)

For the full interview, see appendix [D.7](#)

Participant 6, like many others, is heavily rooted in academia, where he works at a University as a researcher and an assistant professor in the field of Human-Computer Interaction. As a researcher he focuses on his work by thinking *“how to have accurate and valid measures of what people do with computers – and of course that also includes some attention to user experience”*.

As he continues to elaborate that UX is integrated and also very important to this work. He approaches research work firstly by reading the literature, this way formulating the nature of the topic. But otherwise some things maybe already known from fields like psychology for instance or experience of meaning in interaction. Secondly, he uses theory and findings to see how it applies to Human-Computer Interaction.

In his work, he is prone to use various techniques and methods in order to properly research a topic or write a paper. They vary from qualitative to quantitative based on the topic at hand and the data it would require to sufficiently complete his work. Some of the ones he mentions are interviews studies, online qualitative studie or crowd-sourced qualitative studies, as well as in-lab and crowd-source quantitative studies. Continuing on by describing how they are different methods for different situations and he prefers to use a lot of various ones, stating: *“But I do believe sort of in general that there’s no right method or measures, so that all depends on the individual project and the needs there”*

We can see how his current work has evolved based on his educational background and previous work history. And like many other participants, P6 studied Computer Science after which he completed a PhD in [City]. Since then his work history mostly consists of academic papers and research on various topics concerning usability. He has several publications for conferences with other fellow researchers and has been conducting mostly quantitative studies on Human-Computer Interaction, where he describe usability as: *“simply a discussion of dependent variables, like what can you actually measure and how can you quantify how people interact with the computers”*. By expanding his work he turned to researching how to quantify and measure rich aspects of experience, which led him to work with user experience, that for him is just an aspect of interacting with computers.

For the literature P6 immediately points to Diefenbach and colleagues that approach interaction qualities and other aspects not directly related to visual, but more of the feel-good experience following interactions. This feeling good, he maps to the aspect of goodness that comes from Hassenzahl’s work, as definition of overall assessment. He proceeds to mention other people related to Hassenzahl, like Noam Tractinsky and Sarah Diefenbach, which he tries to keep up with based on his interest in the topics.

For the non academic literature, regarding mostly practitioner-oriented, he mentions that he pays attention to a few people in that field. Although, he does not focus on that and his primary source has always been academic literature.

Thus, looking at his work, we can see the obvious choices of literature related to the field, so this does not surprise us. We can definitely pinpoint a trend regarding the use of Hassenzahl literature and extending to some of Hassenzahl colleagues and other researchers related to the field. Despite the conventional use of this type of literature we can see the unconventional side of it, by not disregarding non-academic literature. This was present with some of our participants within the same field (for example P5) and with similar background. But here, for participant 6, those practitioners he regards have interesting work that suits him specifically and their work is definitely not blog oriented articles. Other than that, the literature choices seem fitting and well rooted in his education and work in the field of Human-Computer Interaction and usability.

5.2.1.8 Participant 7 (P7)

For the full interview, see appendix [D.9](#)

For the next participant, P7, we take a look at a more practical oriented person. As a practitioner our P7 is heavily focused on user experience and the side of the software the user is seeing and experiencing. As he is a interface designer and frontend developer, he considers himself to be responsible for the UX of the products he is involved in. As the company is developing mostly e-commerce solutions it is more than just making it functional, as he puts it: *“the user can put something in a cart and buy a product – but also that the user has a cool experience doing it”*. He is definitely interested to work with such things where the solution stands out a bit more than other similar solutions. *“So it’s not just a question of making a solution that works, and that, how to say it, is user friendly, that is, easy to use. It’s also a question of making something that you think is interesting to use. And that you return to and maybe share with your friends”*. This presents the things he tries to strive for when possible, but find it hard to obtain each time, since it depends on the customer and the solution they need.

And again, like some other participants, P7 has a degree in Computer Science, but where he differs is that he doesn’t have any higher education than that. He defines his interest to be programming and so he followed it and has been working with that for more than 15 years. P7 did receive a industry based certification in UX, pointing towards his knowledge as more practical, with most of his experience coming from the years working in the field. He elaborated with: *“my experience from my work has of course prepared me for it, and I’m more capable in it today. I can just add to that that I also has a certification in UX, which I have gotten through Nielsen Norman Group”*.

As he continues to describe how he got into the field of UX, he mentions working for another company’s frontend division as a team leader. That involved spending a lot of time in management of the team and it was sole frontend development. He decided to change and move to a part of a new team that would work exclusively with user experience. As he presents it to be: *“something we should be doing more in the company, because I felt that it was the future in terms of making good user experiences and making better interfaces and better experiences in general in the solutions that we work with”*.

When it comes to the literature, P7 discusses first and foremost the Nielsen Norman Group as he is certified by them. He also acknowledges another one called Baymard, because they together share a similar interest in e-commerce. As he remarks that: *“they do a lot of user tests and find a whole lot of results regarding that”*. Thus he keeps a close eye on things related to his field and further states that he also tries to keep up with some blogs.

For the academic literature, he mainly point to some books that deal with psychology as this is the root to the way people think. One of those books is Thinking Fast and Slow, which is about applying that knowledge to UX. For the rest of the literature he discusses that he can use the research paper but it would not be tested as much as he would like. Where he is more incline with something from a larger company that has done the research. He brings up that this research is more tangible and it is something he can take and use in relation to his work. Moreover, he also specifies using Nielsen Norman Group reports since they are again tangible and have been conducted with tests on actual uses and their feedback can be inspected. He mentioned this since it is something more practically oriented.

As seen in other participants with the same background (participant 2), the use of books is predominant in his work above anything else. On the one hand, since he bases his work in the practical field it would be better suited for practical well tested and reviewed literature, like the one provided by Nielsen Norman Group. On the other hand, he does not come from a

research oriented education and that can contribute to his lack of usage of academic literature like research papers. All in all, this may be the cause of his dismissal of all other academic research papers and not even mentioning them, as he never required them in the first place.

5.2.1.9 Participant 8 (P8)

For the full interview, see appendix [D.10](#)

Even though our final participant (P8) is in the private sector and falls on the practical side of the spectrum, she keeps her roots with university and academia when necessary. She defines that all of her job descriptions are about UX as she has been through various companies and currently working for a very large one as a UX architect. She brings up the administrative work as something that happens in every workplace and for her it's not an exception. But typically her tasks revolve around organizational change toward UX, teaching or disseminating knowledge, additionally working on developing interfaces for products, wireframing and testing. She stresses that the work depends on whatever the company has in focus at a given time, but all in all is connected to UX. For implementing her work she describes UX as a toolbox where you take what you need for the task at hand, and turning to methods she adds: *“you have so many methods, tools, and techniques, and some of them you use more frequently than others, others are perfect for some very specific tasks at hand”*. In spite of that she mentions the most frequent once are usability testing, wireframing, interviews, questionnaires, as they are the most common to her.

Working on projects, she prefers to incorporate the UX as soon as possible, this way providing all the right information in order to build the right product. *“And that whatever we are trying to achieve with that product is actually something we will achieve with that product. Because otherwise, it's wasted time and wasted money”*. This would traditionally require a lot of stakeholder management and interviews to find out their precise goals and needs for the product. As the business pays for the projects, she want to make sure that the initial goal is achieved, and this is done by understanding what that is and then afterwards looking into how to achieve it, and achieve it the right way. Furthermore, she does similar interviews to the people involved and the technical people to make sure the ideas are *“feasible and doable from a technical point of view”*.

Additionally to her work in the private sector, she is responsible for a lot of guest speeches and lectures on topics relating UX at universities and events. Thus keeping herself informed in the academic side of the field and so staying somewhat in the middle of our academic - practice spectrum.

The educational background helped her to get a good standing in the field of UX in Denmark, by first completing Masters of Software engineering specialized in Human-Computer Interaction. Later on she proceeded with Human-Computer Interaction for a PhD. During her education she was focusing largely on usability and usability testing, where all the UX problems were identified after testing, rather than learning to build a good design from the beginning. She elaborates with: *“that was the thing I was missing after my education was – one thing is finding problems in an existing interface, but how to actually create a good interface to begin with – that, I thought, was missing some focus [...]”*.

For a short time after her educations she was a researcher at a university, followed by changing to the private sector and working with creating apps for the next 5 years. Since there were

not a lot of positions about UX until this point, as she applied for companies that have never worked with UX, she got an unsolicited job where she could create her own position.

On the topic of literature, our final participant comments that she occasionally uses books. But unfortunately, they are not “*on the forefront*” of new knowledge and for such knowledge she expands to some other means of literature. Overall she does not use them as much, more so when there is “*some rule-of-thumb, an interesting topic or an interesting angle on a topic*” that she can find in a blog post or online article. If she feels the topic requires more research, she might research it more deeply with papers and books, otherwise she would stick to following it online.

This type of approach goes beyond what we have seen from the preceding participants in regards to their connection of literature use and educational background. She does not mention any authors or anything connected to academia even though she has association with the field and also the fact that she was shortly a researcher and continuing to have guest speeches and lectures. She may not require it so much in her current state of work, although she seems to use various methods and have a strong grasp of how to fully utilize them. This does not seem to have any negative effect on the work that she does, despite the fact that it seems unexpected for somebody with such background in education and compared to most of the other participants.

5.2.2 Participants’ Conceptions of UX

During the interviews, we asked each participant to provide an off-the-cuff definition of the concept of *user experience*. In addition, we asked them a series of questions regarding what factors help making the user experience of a product good.

As the participants come from a wide variety of backgrounds, and work with different kinds of products (eg. websites and physical products), their views of course come from different places, and are thus not strictly comparable.

The views on UX that they express will be compared to the five definitions presented by Law et al. (2009) – see figure 2.3 for a full overview of these. A repetition of the five is included here:

- **D1:** All aspects of the end-user’s interaction with the company. Its services and its products. The first requirement for an exemplary user experience is to meet the exact needs of the customer without fuss or bother. Next comes simplicity and elegance that produce products that are a joy to own, a joy to use. True user experience goes far beyond giving customers what they say they want, or providing checklist features. (Norman & Nielsen, n.d.)
- **D2:** A consequence of a user’s internal state (predispositions, expectations, needs, motivation, mood, etc.) the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.) (Hassenzahl & Tractinsky, 2006)
- **D3:** The entire set of affects that is elicited by the interaction between a user and a product including the degree to which all our senses are gratified (aesthetic experience) the meanings we attach to the product (experience of meaning) and the feelings and emotions that are elicited (emotional experience). (Desmet & Hekkert, 2007)
- **D4:** The value derived from interaction(s) [or anticipated interaction(s)] with a product or service and the supporting cast in the context of use (e.g. time, location, and user disposition). (Sward, 2006)

Area	Dimension	Scales
Look	Appealing visual design	How balanced and harmonic do you find the product? Do you like the design, colors, fonts used in this product? Do you find the text:image ratio appropriate?
	Communicated information structure	Does the product provide clear navigation and orientation? How consistently is the content and information organized? Do you find the provided information understandable?
	Visual branding	Do you trust this brand? Do you think this is an honest brand? Do you feel the brand is safe?
Feel	Mastery	Do you find this product easy to use? Do you find it easy to learn (and to remember) how to use the product? Do you feel you have full control over the product?
	Outcome satisfaction	How satisfied are you with the outcome? To what extent are you feeling successful with the outcome? How happy are you with the outcome?
	Emotional attachment	How pleasurable do you find using the product? Does the process of using the product provide you with gratification? Do you feel excited when you are using the product?
Usability	Task effectiveness	Do you think the product does what it is supposed to do? Do you find the product effective? Does the product help you fulfill your task?
	Task efficiency	Is the product the fastest way to achieve your goal? Is the product the most convenient way to achieve your goal? Does using the product fit with your schedule?
	Stability and performance	Does the system run smoothly? Are errors handled well? Does the product work fast and responsively?

Table 4: Overview of the elements of the Quantified UX model, from Lachner, Naegelein, Kowalski, Spann, and Butz (2016)

- **D5:** The quality of experience a person has when interacting with a specific design. This can range from a specific artefact such as a cup toy or website up to larger integrated experiences such as a museum or an airport. (User Experience Network, n.d.)

However, in some cases the participants do not align themselves exactly with one or even any of these. As these five definitions were collected to broadly represent the variety of available definitions, in some cases there are likely other definitions in the literature that would fit more precisely with the participants'. In the interest of keeping the overview consistent and comparable, only the five are used here.

Additionally, the Quantified UX (QUX) model by Lachner et al. (2016) (visualized in figure 5) will be used to analyze their understandings of UX. Table 5.2.2 shows the areas and dimensions of the model, along with the scale questions developed by Lachner et al. (2016) to measure the UX of a product.

5.2.2.1 P1 – Definition and Dimensions

For the full interview, see appendix [D.2](#)

Coming from a marketing perspective, P1 primarily defines *user experience* in terms of customer relations and sales. He describes it as “the entire flow through a website” – how smoothly and efficiently the user can get from A to B on the site, whether the destination is a piece of information or the ‘Order’ button. User experience, P1 emphasizes, should permeate the entire design and development process, right from the start; “UX is of course alpha and omega when it’s websites – at least it should be, right?”

As he sees it, the main way to achieve a good user experience is through extensive user testing. He insists that “should start in backwards direction – you should start with the customer,” and develop a good understanding of the website’s purpose and target user group. “[A]nd then sort of pull back from the customer and on to the company that wants to sell something or other.” He argues that it is easy to involve the users in the process, “because they would like to feel heard.” In his opinion, the feedback from the users will trump any theory that might be brought in.

User testing might be done by discussing in focus groups what the website should be, having users complete tasks on the site while recording reactions, and time and clicks needed, or even more advanced techniques, like eye tracking; “At all the places where I’ve been, we have in relation to websites done some studies like that.”

When putting together a website, P1 notes that all parts of the organization should be included, to prevent the project from being dominated by eg. technical or marketing-related concerns. He comments that if the project manager “sits over in a marketing department, well, then it can almost be too much UX too, right?”

Beyond the tangible user data, it is also important to be able to identify with the users’ thoughts and feelings. “That is that buzz-word ‘empathy’”, he says. “That you can put yourself in the customer’s situation, and obviously, some are bloody born with it, and others have to learn it.” But at the end of the day, the most important thing is what the users say: “Even if we all, myself included I think, have good gut instinct, it is after all the users that know the sum total.”

The understanding of UX expressed by P1 has its roots in marketing and customer experience (see section [2.1](#)). He emphasizes the *flow* of the experience. This is somewhat comparable to D3 (by Desmet and Hekkert, [2007](#)) or D4 (by Sward, [2006](#)).

To P1, the various dimensions serve the purpose of optimizing the flow of the website. In terms of making the site easy to use, this mainly comes down to understanding the purpose of the site and making it easy for the users to navigate and find what they are looking for; “How long is there from A to B”, or in other words, “how long time it takes them to click through to sale”. The technical aspects of the site are less of a concern to him: “the platform itself”, he says, “just needs to work. Of course it has to, right?”

Making the website feel good requires attention to the users’ needs and desires. P1 notes that “if you can bring feelings into play with a product, then you’ve already come a long way.” What this entails depends very much on what the purpose of the specific website is. As an example, he describes how, when he worked with an airline, the approach to selling trips was not to focus on the specifics of the transportation, but on what it would feel like to in eg. Paris. “It’s a bit of storytelling,” he says. “[T]hose feelings, that is definitely something worth playing on”.

Using visual means such as pictures can help making the site appealing, along with creating emotional responses from the users. The use of different colors can also contribute to this, with some colors having strong associations that can be played on. Again, the specifics of the visual elements is very dependent on the site's context; "it really depends on what kind of product you want to sell, right?"

Putting this terms of the QUX model, P1's main focus is on the "Emotional attachment" dimension of "Feel", and the "Task efficiency" dimension of "Usability". Meanwhile, "Stability and performance" is mostly taken for granted as part of the technical implementation.

While aspects of "Look" are touched upon, "Appealing visual design" in particular, they are mainly discussed in terms of how they contribute to the emotional responses of the users. Similarly, "Communicated information structure" and "Mastery" are primarily seen as means of shortening the users' path from A to B. With a focus on e-commerce websites, the goals are more oriented towards generating sales than prolonged, recurring use.

5.2.2.2 P2 – Definition and Dimensions

For the full interview, see appendix [D.3](#)

How P2 thinks of *user experience* relates closely to how she works with it. Here, it is seen as the highest level of the product design, concerning the overall feeling that it gives the user. "We work a lot with user experience, as some sort of cherry on the top," she says, and proceeds to explain a layered approach based around levels of user testing. First, they study the human factors, in a broad and basic sense, using all kinds of participants – "that can be people from the street, that can be customers, that can be everybody." Then, they look into the usability, where they test with the "right segment" – the intended user groups, based on factors such as age, gender, etc. Finally, "on top", UX involves testing the product with "the real end users". However, she notes that user experience should be a part of the design process from the beginning, informing the decisions along the way.

She describes usability as quantitative, being easy to measure and addressing issues such as time spent on a task, number of errors encountered, and so on; "does it work? Does it match to the different acceptance criteria you have?" In contrast, she sees user experience as qualitative, and concerned with the feelings and attitudes of the users.

There are problems with the way the terms are being used, in her opinion. "[T]he UX term is a bit washed out," she says. "I have a bit of a problem with it, because I think it's a bit of a buzzword." Her background is in engineering psychology, which she considers a useful mix for working with user experience. However, she was not aware of the term at the time; only after finishing her education, "I figured out I was UX designer". In her current work, her focus has changed to UX strategy, rather than execution and hands-on design. She considers the field to have changed quite a bit in the years after she left university, noting that "when I started out everything was about usability, and then it changed to UX, and now we are going much more towards customer experience as well". While these terms have a lot in common, there are also some important differences.

To that end, she wishes the term *user experience* would be defined in a more strict and clear-cut way. She works with Agile, and as an example, she describes how that field was defined and standardized. At a meeting in 2001, a number of principles and key values were established, and the use of the term was clearly demarcated. Meanwhile, UX is being used in numerous ways,

and there is confusion about what is actually covered by it. According to her, there are regular discussions among academics about developing a shared definition and vision for the field, similar to what was done with Agile, and while that would be “awesome”, she acknowledges that “we always end up saying that we’re way too, like, primadonnas to actually agree. And I guess I actually believe that’s right as well. So we try to have the best of it.”

P2’s notions about user experience are oriented towards the physical products so they differ quite a bit from those seen in digital solutions. But even so there are a lot of things that go into making a good user experience.

While there are many aspects to it, what she deems most important for the product to feel good is the user’s feeling of control and comfort. As noted above, usability testing precedes UX in her process, but in the end this is not the determining factor; “people try out a lot of stuff, and it can be fast and it can be slow, it can be whatever – but if they don’t feel in control, then it’s a bad user experience”.

Again from the physical product point of view, she regards the appeal to be rooted in the company’s perspective and the aesthetics of its industrial design. First, there is the “eye appeal”, as the user approaches the product, and then the actual user experience happens during use. But of course, she continues, there are a lot of things that affect the appeal beyond the visual, especially with regards to apps and websites, rather than physical products. She explains that “if it is not useful then you don’t have a great user experience, even though it can be as beautiful as, you know.”

For both physical and digital products, she notes that that the context plays an important role in making them usable; “you need to take into consideration the context, always.” In addition, you should strive to make the product simple and easy to use, to prevent a steep learnability curve; “That’s also a great thing”.

P2’s conception of UX fits D1 (from Norman and Nielsen, [n.d.](#)) somewhat, as that definition also is expressed in two stages – first, the product must fulfill the user’s needs, and after that comes the concern for elegance and joyful use.

For the QUX model, she describes mostly the “Feel” as the most important contributor to a good user experience. In particular the “Mastery” dimension, as the user should always feel comfortable and in control.

This is aided by the “Usability”, where errors should be prevented and the time needed to complete a task should be reduced. This is aided by careful attention to the simplicity and use context of the product.

While the “Appealing visual design” dimensions is important, it will not provide a good user experience without the other factors being in place. In industrial design, it also serves to invite the user to begin interacting with the product. It is thus closely tied to the “Visual branding”, where a company will often seek to stand out from competitors through their design aesthetic. With her orientation towards physical products, she is less focused on the “Communicated information structure” dimension.

5.2.2.3 P3 – Definition and Dimensions

For the full interview, see appendix [D.4](#)

In his work, P3 views user experience as an aspect of usability, rather than the other way around. At his company, they have chosen to call themselves usability engineers instead of

UX'ers, to give people a better and more precise idea of what they do. "We actually tried in our company to not use the term user experience," he comments, "except sort of as a good way to get some hits on our website."

User experience itself, he considers an umbrella term that encompasses various concerns. "There is information architecture, there's sort of like UI in the sense of how do we do things and how do we make it optimal to interact with," he says, and adds making the system look good – "All that stuff".

This requires extensive knowledge within the field. A knowledge that, in P3's experience, far from everybody describing themselves as working with user experience possesses; he finds that people "with a graphics background, drawing buttons, also call themselves UX'ers." This makes the term too broad and vague to be informative in practice.

While a UX'er should be involved throughout the process, he says, it is not strictly essential, in the sense that an architect is for building a house. "[Y]ou can have an engineer build a website without a UX'er, and you'll have a bad website," he notes, "but if you just hire UX'er, you'll have a design document." Both are needed to arrive at a website with a good user experience.

Since his conception of UX is, by his own admission, much the same as usability, none of the five definitions fit directly. The most applicable would be D4 (by Sward, 2006).

To P3, the focus is on usability above all. This involves making sure that the necessary information is displayed, and cutting unnecessary content from the pages. In this regard, it is important to think of the users of the website, rather than the customers having the site made – "It's sort of an ongoing task, keeping them from adding extra stuff," he notes. With the information architecture being an important aspect of the site, care should be taken that the menus should work and be organized as expected.

For the appeal of a website, he mentions "the looks" as a way to enhance it. In some cases, this can mean be a deciding factor for continued use; "if you have a positive relationship to whatever website or app or whatever you are using, you're willing to forgive some of the usability flaws".

However, the usability must be tested thoroughly. As a way to test the actual usability, ignoring the looks, he describes his use of heuristics. "I like the sort of really old Nielsen ones", he says, in reference to Jakob Nielsen's landmark ten usability heuristics (Nielsen, 1995). From these he highlights "recognition" and "reuse in terms of what are other people doing". By this, he explains, he does not mean chasing trends, but rather following accepted conventions; for instance, "people are used to the shopping cart being on the right corner, let's go with that instead of trying something new." Building on recognized interaction patterns enables the user to more easily navigate the site.

With regards to usability, the very first thing you must know is what you are making, "as in, what is the point of having a website". If the goal of the website is unclear, the work will move in all directions, and the result will suffer from it. Consequently, he says, "understanding the foundation that you are building on."

Looking at the QUX model from the perspective of P3, the main focus is on the "Usability" dimensions. He brings up conventional methods such as proper functionality which can be connected to "Task efficiency" by relation to product aims and efficiency.

In extension of the site's usability, he emphasizes the importance of the "Look"-dimension "Communicated information structure". He also notes the benefit of an "Appealing visual design" – while also stressing that graphic design on its own does not constitute UX.

Meanwhile, he is mostly unconcerned with factors related to “Feel”, beyond what following conventions and predefined interaction patterns may provide of sense of “Mastery” to the user, as well as the “Emotional attachment” that may be a product of an appealing design, and which may lead the user to ignore usability flaws.

5.2.2.4 P4 – Definition and Dimensions

For the full interview, see appendix [D.5](#)

In her work, P4 is mostly focused on the notion of *experiences* in a more general sense, and not the interaction with digital products or websites as such. As an example of her research, she mentions working with the user experience of interactive exhibits at a science center. “I am not even sure if I would call myself a UX professional,” she says. Her background is in interaction design and user studies, and to her, “user experience design is one aspect of interaction design.”

Defining user experience is difficult, she posits, as there are so many perspectives and definitions described in the literature. To her, it concerns at its core a person’s “interaction with digital technologies”, beyond a simple focus on functionality. Regardless of the type of system or technology, the interaction must be understood in terms of what its aim is.

P4 refers to the user experience model developed by Hassenzahl (2010) (see section 2.3) and its “distinction between be-goals and do-goals and motor-goals”. This model emphasizes the need to first understand the be-goal of a user experience, which she finds helpful. While not all systems have be-goals, she says, providing as an example systems for calculation of wages at the university, the more experience-oriented systems do. “And this be-goal is really critical to understand and to analyze,” she says, in order to determine what functionalities the system should have to support its be-goal.

“Within the last five years”, she notes, “the concept of UX has become very popular.” Many private companies and departments at the university describe themselves as working with user experience, but they use the term in vastly different ways than she does in her research and teaching. “So I think there is this – you could call it the battle of the concept of UX”, she says. “And I don’t think that we can end up with just one definition.”

P4 aligns herself with Hassenzahl’s notion of user experience, which divides it into hedonic be-goals, pragmatic do-goals, and motor-goals (Hassenzahl, 2010, detailed in section 2.3). This puts her within D2, which was developed by Hassenzahl and Tractinsky (2006). What factors that are important in providing a good user experience, P4 says, depends very much on the be-goal of the particular system. “If the be-goal is to make people connected,” she mentions as an example, “then you need to tailor the functionalities that can support being connected.”

However, usability is a basic necessity for a good user experience, she says, again referring to the work of Hassenzahl. This includes factors such as whether the system is easy to use, understand, navigate, and so on; “if the usability of a website fails, then there’s no way that you will have achieved a good user experience.” Without going into further detail, she also mentions the importance of aesthetics in user experience design.

This discussion of the elements of a user experience is on a mostly theoretical level, and is thus not very explicit regarding the dimensions of the QUX model. In general, the “Usability” dimensions are an important prerequisite – these roughly cover the do-goals and motor-goals, along with dimensions like “Mastery” and “Communicated information structure”. “Appealing visual design” concerns the aesthetics. With their focus on experiential and hedonic qualities,

the be-goals relate to the “Feel” dimensions, and in some systems, these make up the most essential aspect of the user experience.

5.2.2.5 P5 – Definition and Dimensions

For the full interview, see appendix [D.6](#)

P5 defines *user experience* as the effects created with an interaction design. He describes the core competence as interaction design, with knowledge of user experience being an important dimension of it, alongside usability, user interface programming, user-centered design methodology, and other competences. “[To] me,” he says, “the user experience is the experience of using an interactive system that’s computerized and [where] someone has designed those interactions to create a certain experience.” From that perspective, he considers all his work to be focused on user experience.

In P5’s opinion, there is widespread confusion about what the *user experience* means, particularly among practitioners. To them, he says, user experience is often simply seen as a “cooler” way of saying usability, which he objects strongly to: “We’re certainly not talking about the same thing. They’re two related but very easily separable all concepts, and in my world you don’t mix these things.” In his experience, the terms tend to be used interchangeably by companies, “[b]ut as professionals we should be able to separate between the two.”

Overall, he objects to the notion of user experience being a field on its own. “[I]n research”, he says, “it will be HCI researchers who look at user experience, as a part of the HCI work”. While some people describe themselves as “UX’ers”, he prefers not to take part in that discussion. In his view, user experience cannot be designed (except, he speculates, outside the field, eg. in the design of theme parks); instead, an interaction design is created, which then in turn generates a user experience. For that reason, when he was part of creating a university program on the subject, he insisted it be called Interaction Design, rather than User Experience.

This relates to the views expressed in D5 (from User Experience Network, [n.d.](#)).

P5 sees user experience as an effect created by an interaction design, along with usability (in reference to a model from Preece et al., [2015](#)). The factors that affect the usability are “very objectively measurable qualities of an interaction design” – “issues like ‘easy to learn’, ‘fast to use’, [and] ‘effective to use’”. In contrast to that, the user experience qualities covers factors like “‘playful’, ‘fun to use’, [and] ‘aesthetically pleasing’”, as well as more specific ones, like “coolness”. These used to be considered subjective factors of usability that have since grown into their own topic, which P5 commends as they otherwise might be overlooked. The subjective factors related to the feeling of using the system “can be quite hard to achieve and quite hard to measure as well”. He considers usability the basic necessity in an interaction design – “Then you can start talking about user experience on top of that.”

In making a product appealing, P5 considers visual aesthetics very important – as well as highly subjective and dependent on the context. Beyond the visual design, an in P5’s opinion perhaps underexplored factor is the aesthetics of the interaction; “how an interaction can have an aesthetic quality and not just a functional quality, like being fast of being easy to remember or supportive of not making errors and so on, but actually be an aesthetically pleasing interaction.”

P5 stresses that what factors are important depends on the context of the specific system, and that the factors he mentions are simply examples. Determining what factors would be important to a particular product would involve analyzing the domain and who the expected users

are, as well as consulting the extensive lists in eg. Preece et al., 2015. One might “sit down with the list of all the possible user experience factors, and decide upfront which ones are probably not important, and then make a short list to start with.” If the system were a game, the relevant factors would tend more towards subjective factors, such as enjoyment, rather than traditional usability metrics. As the context becomes better understood, other factors may prove important. “So it’s about trying to understand what are the success criteria for this design”, both in terms of user experience and usability. These goals may also be in conflict with each other; for instance, a system that is effective to an expert may be difficult to a first-time user.

While usability has been studied extensively, P5 argues that there is still much research to do on user experience, “working out if there are other dimensions of user experience that’s important for interactive designs, and then working out how to focus design for that, or evaluate those components.”

In terms of the QUX model, P5’s conception of user experience mostly concerns the ‘Feel’ dimensions, as well the ‘Appealing visual design’ dimension. He emphasizes the importance of the ‘Usability’ dimensions, noting that it should always be prioritized when designing a system; “if it doesn’t have usability, you’re just not done with the basic level”.

However, determining which factors are most important depends entirely on the particular system, its context, and its intended users. In some cases, usability will be less important, and its individual dimensions may be in conflict.

In terms of what dimensions immediately come to mind for P5, the more communication, information architecture, and marketing oriented aspects, collected in the QUX dimensions “Communicated information structure” and “Visual branding”, receive less attention. This fits with P5’s dominant field of research and teaching is within interaction design, and human-computer interaction in general.

5.2.2.6 P6 – Definition and Dimensions

For the full interview, see appendix D.7

P6 has a broad definition of user experience, as he considers it an umbrella term, covering all the user-facing parts of an interactive system; “sort of all the aspects of those things that people care about is for me user experience, unless they are technical things like specs of systems”.

His work has previously been focused on usability, based on empirical studies measuring how people interact with computers. As his focus has expanded to include how “rich aspects of experience could be quantified and measured”, he has begun using the term user experience in his work. To him, the two concepts are closely related: “I’m not so sure that those are very different”. Indeed, he would almost consider “capturing every quantifiable aspect of human interaction with computers [to be] user experience or usability.” His projects often combine qualitative and quantitative data, and he has been working with importing knowledge from psychology into human-computer interaction; “for instance, the experience of meaning in interaction, and then use theories and findings from there to see if they apply to HCI.”

Regarding user experience research, he notes that very few longitudinal studies have been conducted, and that studying real-life use over extended periods of time could provide a deeper understanding of various aspects of user experience.

When used in practice, P6 argues that user experience often becomes about superficial aspects of visual design and the organization’s strategic goals. Rather than using the deep trove of

knowledge on user experience, it is based on basic measures, like number of clicks; “it becomes too much sort of Google Analytics style of reasoning that way”.

This conception of UX is aligned with D3 (by Desmet and Hekkert, 2007). While phrased somewhat similar to D1, this definition includes the technical aspects that P6 excludes from the user experience aspect.

Whether a system feels good to use, or is appealing, are both overall assessments in P6’s opinion; “I would imagine that a lot of different features of interaction and interfaces could be related to, or contribute to those assessments.” A system ‘feeling good’ might be determined by the visual design and other aspects of the user interface, as well as factors such as whether the user sees a benefit in using it. “[B]eing clear about the aspects that contribute to assessments of feeling good is a bit complicated, I think.”

Regarding ease of use, P6 notes that it might be possible to be more specific, as the dimensions can be differentiated by themselves. This pertains to the pragmatic qualities of the system – “logical, structured, understandable” and so on. Some dimensions of ease of use may also contribute to the overall assessments of goodness and appeal; these might include if the system is “easy to learn, easy to remember and return to”.

Other useful measures of user experience might be found by using the needs in self-determination theory, where P6 in particular highlights the work by Marc Hassenzahl, as well as the validated questionnaires on feeling good or bad from the field of psychology.

Determining the most important dimensions of user experience, however, would not be meaningful, according to P6, as “which of those that are the most important things depends on a lot of considerations”.

While P6 does not consider a ranking and differentiation of the most important dimensions meaningful, and in terms of the QUX model, breaking the areas “Look” and “Feel” into dimensions would be very complicated – they should instead be considered overall assessments. However, he does mention most of the dimensions represented in the model.

The “Usability” dimensions are generally considered directly measurable. Aspects of the system’s ease of use might also affect the overall “Feel”. The response time and delays in the system, covered by the “Usability” dimension “Stability and performance”, could also influence the user experience.

For dimensions associated with “Feel”, such as emotional responses and satisfaction of needs, theories and techniques from other fields, such as psychology, might be utilized. This also includes the interaction and visual design, as well as perceived benefit of system (which might be sorted somewhere around “Mastery” and “Outcome satisfaction”).

The system being logical, structured, understandable, considered pragmatic qualities by P6, relate to the “Communicated information structure” dimension of “Look”. An “Appealing visual design” contributes to the user experience; however, he stresses that it should make use of the depth of knowledge that has been developed on this subject. That branding-oriented aspects are not immediate concerns to P6 makes sense, given his overwhelmingly academic orientation.

5.2.2.7 P7 – Definition and Dimensions

For the full interview, see appendix D.9

As a practitioner, P7 has a less theory-oriented conception of what *user experience* means. To him, it means that the system – a website, in his case – is not just user-friendly, easy to use, and

works well. It should also be interesting to use, and make an impression; something “that you return to and maybe share with your friends”. While noting its reductive nature, he presents an illustrative analogy. “You have probably seen this classic with a ketchup bottle,” he says, recounting an example he sometimes uses to help his customers understand what user experience means, “that you have the old ketchup bottle, right? And that is sort of the design of the product, and then you have the new ketchup bottle made of plastic, which then is user experience.”

Similarly, he also describes a graphical model of what user experience is, widely shared on the internet. “I wouldn’t say that I use that description myself exactly as it is there, but it has a lot of aspects to it that I think make sense,” he comments. Shaped like a pyramid, it shows the layers that make up the user experience – with, as far as he recalls, the lower levels being about the system needing to be functional and usable, and the upper levels being about the experience in a more subjective way.

“It’s about making a good experience,” he concludes, “beyond just getting it to work”.

Since P7’s work is primarily concerned with designing e-commerce websites, a lot of work has already been done to determine what works well, and he makes use of these “best practice” recommendations; “we sort of try to use that as a starting point”. As his company’s primary UX’er, he handles many different tasks; “I work with interaction design, I work with quantitative studies, and qualitative studies, and focus groups, personas, user scenarios, in one way or another.” User testing, in particular, is something that he regards highly. As he explains, it is easy to film users interacting with a website, and it is useful for locating problems as well as for arguing for certain choices with the customers. “So that’s a tool that I value highly and which I think works really well and which can result in a lot of good UX.”

In terms of the five definitions, P7’s conception of UX ranges somewhere in between D4 (from Sward, 2006) and D5 (from User Experience Network, n.d.).

When asked what is most important for making a website feel good to use, P7 emphasizes the usability aspects. If that part is lacking, the user will not stay on the site – if the website does not respond quickly, if it errors occur, if it is incompatible with the web browser, and so on. It should be easy to use and follow design conventions, so it can be used intuitively and immediately.

The factors that make the website appealing, then, is the subjective part. While noting that this is a priority in his work, and that no part is more important than the others, he reiterates the essential nature handling the basic concerns regarding usability first; “if that isn’t there, then the other things that are a bit more subjective, will be harder to put on top.”

P7 also notes the psychological aspects of UX, which in terms of eg. navigation includes how many items the user will be able to recall and remember. Another benchmark that he highlights several times is that the website is what might be termed *shareable* – something, the user leave the user with a positive impression, and a desire to pass the website along to others. If at all possible, the website should be what he terms “exceptional”. “That is what we try to strive for, whenever possible, for our customers to get to,” he says. “It is just so hard to reach every time, you know, because it depends on the customer and the solution.”

In terms of the QUX model, the dimensions related to “Usability” are the most essential for the user experience, according to P7. This concerns “Stability and performance” in particular, with emphasis being put on good performance, fast response, stability, error prevention, and device compatibility. To him this is instrumental in making the website feel good to use.

Also relating to the “Feel”, the system should also be easy to use, follow familiar interaction patterns and conventions (“best practice”), and be intuitive, approachable, and functional

While also being described as important, P7 is somewhat more vague about what makes the website appealing – the “Look” dimensions. In terms of navigation and layout, he notes the utility of a psychological understanding of what the users will be able to keep in their head at a time. Beyond that, regarding the subjective aspects of the site, he puts emphasis on the website’s design being interesting to use, clever, memorable, and something, the user will be likely to share with others.

His description of what makes for a good user experience does not detail specific considerations regarding the visual design, branding, “Outcome satisfaction”, “Emotional attachment”, or precise measures of task completion. Briefly, this conception of user experience revolves around a smooth technical implementation and a design that is unique and memorable.

5.2.2.8 P8 – Definition and Dimensions

For the full interview, see appendix [D.10](#)

To P8, *user experience* is a broad term that covers any kind of interaction between the user and the company. In her view, it is about much more than just interfaces and digital systems, which is what people tend to focus on; “User experience in the broadest term means, every single point of contact the user has with a given company or organization.” She gives the example of an airline, where the user experience does not stop at using their website to book a trip – it extends to the experience with the cabin crew on board, the luggage handling, and any other interaction with the company.

Lack of understanding of what user experience means is in her opinion very widespread, with many practitioners describing themselves as UX’ers, with little to no actual knowledge of what it entails. Instead, they use UX as a “magic key” and a simple selling point in their business. “I tend to joke about it, but it’s only half a joke,” she says, “I tend to joke about that UX should be a protected title.”

When approaching the design of a user experience, she begins by doing research and interviewing all the stakeholders, to find out what the business is trying to achieve, what the best and most effective way of achieving it is, and what the technical challenges and possibilities are. In addition, she interviews users to find out what they need and want. “So,” she says, “aligning all the stakeholders, making sure that this is the right thing to do.” She compares the methods and techniques of UX to “a really large toolbox”, with different tools for different tasks. Like in an actual toolbox, there are some tools that are needed often – like a hammer and a screwdriver – and some that are very specialized and only rarely needed, but when they are, they are indispensable. She highlights usability testing, wireframing, interviews, and questionnaires as her most used tools.

The definition of P8 is very much in line with D1, from Norman and Nielsen ([n.d.](#)).

P8 considers all aspects of user experience to be important – if any single one of them is lacking, the whole user experience will suffer. A perfectly designed website will be ruined if the performance is inadequate and the site loads slowly; similarly, if the users are not able to complete their tasks, no level of performance can salvage the user experience. “It’s when all of the factors come together correctly, that’s when you have user experience.”

She describes usability as the active side of user experience, “where tests find problems, rather than [having] a good design to begin with.”

Regarding what makes a product appealing, she remains at an abstract level, pointing to the users' sense of control and mastery; "they like to feel that they are good at what they are good at what they are in the middle of doing."

What contributes to a good user experience changes over time, she notes. While some aspects of user experience are based on human psychology and cognition – "and the cognitive abilities of the human mind change as slowly as evolution" – others are more mercurial and subject to trends and fashions. This is especially true for visual design, where the dominating ideas change quickly; "one minute you are supposed to do [skeumorphism] design, and the next minute you are supposed to do flat design".

Above it all, her overall headline remains: "The most critical factor you have is the one that you missed and that you messed up."

Putting her comments into the context of the QUX model, this could be taken to mean that every single dimension is of equal importance. The user experience should first and foremost be cohesive and address every factor that might affect it – like the proverbial chain, it is only as strong as its weakest link.

The factors that she highlights as examples, however, do address most of the dimensions of the model. In terms of "Usability", she mentions both the "Stability and performance" and the ability to complete tasks as. Noting the user's sense of control, satisfaction, and pleasure, she covers the dimensions sorted under "Feel", and while respecting the user's cognitive abilities is always important, is especially pertinent in relation to the "Communicated information structure".

What goes into an "Appealing visual design" is described as the most variable factor, as it is subject to current trends. This means that it is also the most likely to become outdated and affect the user's enjoyment negatively. This puts heavy emphasis on the user research, and the decision of whether to strive for a contemporary or a timeless design.

5.2.2.9 Tendencies in Participant Definitions

Each participant was placed among the five definitions collected by Law et al. (2009) (see section 5.2.2). However, as noted previously, the fit was rarely perfect, and much of this is general interpretation from what they said. Following, some comparisons will be drawn between which participants were most in line with what definitions.

P2 and P8 both work at high level, managerial positions in industry. They both align closest with D1, from Norman and Nielsen (n.d.). This makes sense, as D1 is very much a birds-eye view of the entire interaction of the user, noting both practical aspects of the product and the emotional aspect.

P4 teaches experience design, and is of all the participants the furthest from the design of the UX of eg. websites and products (instead mentioning projects on interactive exhibits). She follows the Hassenzahl perspective (eg. D2 from Hassenzahl and Tractinsky (2006)), which is very much focused on the experience of the user, and less on design features and product characteristics.

Desmet and Hekkert (2007) (D3) are concerned with UX in the context of products (discussing it as 'product experience'). P6, and to some extent P1, were aligned with this definition. Interestingly, these two participants are on opposite sides of the spectrum, suggesting that the work domain is not the only factor influencing one's conception of UX.

P7, P3, and P1 were all in partial agreement with the views of Sward (2006) (D4). These participants are all fully on the industry side of the spectrum, which fits well with Sward (2006)'s focus on user experience as a business strategy. In the industry, UX functions as a means of increasing sales and customer engagement, rather than an intrinsic interest in human experiences.

P5, and to some extent P7, agree with the D5, presented by User Experience Network (n.d.). This is a perspective that is very concerned with the specific design that is resulting in the user's experience. As P5 is a researcher and teacher working with interaction design, arguably a more practical approach to UX, and P7 works with the design and development of websites, this focus on the role of the design in shaping the experience makes sense.

Overall, the participants are as scattered across the five definitions as they are across the industry-academia spectrum, with some fitting cleanly into one, and others splitting across multiple. This reflects the plurality of opinions on the concept of UX. Mostly, albeit with some exceptions, the definition expressed by the participants matched their position on the spectrum.

The approximate number of years of experience for the participants did not show any clear influence on preferred definition; neither did the specific levels of education. However, field of work and research was a major influencing factor.

5.2.3 Participants' Discourses Regarding the UX Community

First off, we take a look at what particularly visible discourses appear independently from one another on the use of academic literature. It is described by P2 as being developed in an "ideal world", as researchers tend to be removed from the messy reality of practice – which also concerns P3 and P7 as the research is not being extensively tested for practical application. Both participants have more interest in practice-based research that has been tested and perfected, ensuring that it would bring them the needed results when they utilize it. They find that using research papers would require investing too much time on new and untested methods that may not turn out to work. For that reason they express interest in Nielsen Norman Group for their more tangible research reports. A reason that P3 mentions not using academic papers is that they tend to be expensive and hard to access, and usually just one is not sufficient as their subject matter tends to be quite narrow. "[G]etting something from one research paper is really hard," he says, "you often need to read ten of them to get the big picture."

More than half of the participants have PhDs – P2, P4, P5, P6, and P8. We expected these participants to have a tight connection with academia and a clear understanding of which discourses are dominant within the scientific community. As P4, P5, and P6 have remained at universities, they expectedly report an extensive use of academic literature in their research and/or teaching. The remaining two – P2 and P8 – have backgrounds in both industry and academia, with P2 teaching part time at a university. Accordingly, we expected that these participants would express a wider use of academic literature. They only reported to do so to a limited extent, however. P2 remarked that she sometimes uses a few papers when approaching a new topic, and consults some people from the universities. Similarly P8 notes that she largely follows the developments online, through blogs and the like, but if she comes across an interesting topic she sometimes will seek out more information in books or papers. She does however emphasize the limits of the more formal literature, remarking that "if you want to be on the forefront it has to be other means than books", since they "[tend] to have been underway for a

long time.” A similar comment was made by P1, the participant with the least connection to academia, who said that books are “outdated before they even come out”.

When P2 and P8 report less attachment to academic literature, it seems a likely product of their work history in large companies where schedules tend to be too hectic for much reading and research. They also do not name any authors they use, as opposed to the rest of the participants with ties to academia (P4, P5, and P6), who present a wide variety even though the interview did not explicitly ask for them.

The author that was most prominently pointed out by the participants from academia was Marc Hassenzahl, as they all shared an aspect of his work that they are interested in. The work by Marc Hassenzahl could be argued to be socially accepted by these participants including the discourses he represents concerning UX. P4 discussed the use of his be-goals and do-goals, P5 addresses his widely used UX evaluation questionnaire AttrakDiff (Hassenzahl, Burmester, and Koller, 2003), and P6 connects to his work on defining feelings of experience. Some of the other authors on the topic of UX that the academia-based participants mentioned paying particular attention to were John McCarthy and Peter Wright, Christian Jantzen, Yvonne Rogers, Kasper Hornbæk, Bill Buxton, Sarah Diefenbach, and Noam Tractinsky. In addition, P4 – whose work primarily concerns experience design, beyond computer systems – highlighted the writings of John Dewey on the nature of experience.

Besides the academic literature used, several of the participants proclaimed their use of on-line resources such as blogs and social media – Twitter and LinkedIn, in particular. While this was somewhat to be expected, the extent of it was surprising to us as we discovered that even academics prefer to use Twitter to keep up with the work of authors that they are interested in. Initially, we predicted that mostly the practitioners would be more oriented towards that, but this was disproved by statements from P6 and P8, who noted their use of Twitter. Blogs were also popular among some of our participants, but as expected, predominantly with participants from the industry side. They present it as a way to keep up to date with new and emerging technology or other people from the industry. Among academics, there is some antipathy towards practitioner-oriented literature. P5 professes his dislike of the literature from the industry and their ‘contributions’ with blog articles, saying: “It doesn’t count as literature for me. It’s not reviewed or anything, it’s someone’s opinion.” In general, he distances himself from the notion of ‘following’ people, remarking that “it’s not like an expert I follow, it’s more a colleague within my own field that, whose work I respect, that I read.” Conversely, P6 (fully affiliated with academia) does not completely dismiss the more practitioner-oriented writers, mentioning that he follows some of them on Twitter (Steve Krug, Dan Saffer and Alan Cooper are mentioned). The concept of social platforms can help establish social constructed discourses within the UX community, because of the social interactive nature of these platforms. However, it would seem that Twitter would be the preferred social platform for community collaboration, because it is deemed more overall valuable by our interviewees.

A clear discourse appears from the definitions of our practitioners, P1, P3 and P7, whose definitions align more or less with the definition of Sward (2006). This is in no means surprising as this definition is oriented towards a value-based perspective and in the business world “money talks”. For those participants the turnover is an important selling point, so if engaging users with pleasant and enjoyable interactions will bring the users back to their products again and again, that is what they will strive for. Furthermore, basing their work on interactions is generally suitable for these participants as their background is based on practical knowledge – in particular

P3 and P7 who focus more on developing interactions and not so much on emotional aspects.

P5 and P6 have some similarities in their way of understanding and approaching UX. Even though they are positioned differently in the definitions from Law et al. (2009), they still have a lot in common. Both of their definitions revolve around the role that the design of the interactive systems plays in the user experience that is created. Both participants see user experience as the emotional result of the interconnected terms, interaction design and usability. This indicates that UX, as a discourse, is a nuanced and multifaceted concept that is difficult to contain within one brief definition, as well as suggests that the five definitions selected by Law et al. (2009) does cover the full depth of the concept.

An additional discourse is observed between P2, P3, and P8, as they each discuss how UX is a term that is being overused by people without proper training in the field. In particular, P8 bemoans the tendency of graphic designers who claim to be able to design UX, without actually having any relevant qualifications for it: “if they just say that they are able to do UX, then all sorts of doors open – despite the fact that they’re really not able to do UX”. This sometimes presents a problem, P8 finds, and she recounts several times having been engaged in expensive collaborations with agencies that turned out poorly: “I could do a simple usability test and I could [rip] their design apart completely. The graphical design was beautiful, but the interaction design underneath was horrendous.” This is reflected in the responses from P3, who remarks that some designers “get by learning very little”. Expanding on this, he says that “you can sort of piece together a relatively okay resume just by copying, if you have a flair of copying the right bits.” From his experience, the “good UX’ers” have a university background. P8 comments that “I tend to joke about that UX should be a protected title” – while adding that she is only half joking.

When the term UX is appropriated by people without the necessary qualifications, it might very well have adverse effects on the reputation of the term itself, as well as the professional community using it. For this reason, P2 tends to avoid the term, thinking that it is “a bit of a buzzword”. She describes how everybody talked about usability when she started working in the field, which was then replaced by UX – and increasingly, she notes, as the term UX gets washed out and oversaturated, it is being replaced by customer experience (presented in section 4.2.1). There is a need for a more clear terminology, she concludes. She compares UX to the Agile method for directing work processes, which she is heavily involved in. The meaning and work procedures of Agile were defined and explicated at a conference in 2001, she says, resulting in a universal and standardized understanding of what it means. She notes that there have been discussions in academic circles of doing the same with UX, to develop a shared vision, but that it has always fallen through: “we always end up saying that we’re way too, like, primadonnas to actually agree”.

As discussed previously, a single field, such as UX can be understood differently by people, no matter if they are practitioners or researchers. This can significantly hinder the amount of professional knowledge exchange taking place between them. This is illustrated by P5’s statement: “I would avoid working with someone where the foundational understandings of the relations between interaction design and user experience and usability and so on are completely opposite. Because then you would end up discussing this stuff all the time, rather than getting the job done.”

Within the industry, we see a lot of discourses concerning collaboration with the academic side. Most of our practitioners agree that there is a good opportunity for collaboration and

it is certainly beneficial for both camps. Even some that have never collaborated and are not aware of the extent of it taking place, agree that there is potential in it, as is the case for P1, P3, and P7. The connection between them provides a clear picture to what might be the cause of this lack of collaboration, as they all are mostly rooted in industry and have little to no regular contact with researchers. Meanwhile, the tendencies observed in P2 and P8, being both PhD graduates working in the industry, is their explicit willingness to collaborate. However, even with their willingness, they still express concern with the vastly different work processes in the two domains.

While academia has an extensive research period to produce new knowledge, the industry cannot afford to invest their time due to their much faster turnaround and demands for results to be useful in specific products. This present a main reason why other practitioners do not collaborate with academia. Additionally, they are not aware of the academic work approach and the time spent teaching. P4, an academic, describes this as a major reason why industry and academia collaborations falls through. Since industry have time constraints and limitations in performing extensive research, they expect academia to assist them in this, as this is their field of experience. However, academic work is scheduled on semesters, and academics simply cannot fit in any more work besides their teaching and research.

According to P5, the knowledge created in academia is transferred to the industry not so much by collaboration but by the students getting jobs in the industry and applying their academic education. But since this is not a direct path, the industry misses out on new methods, knowledge, and conceptual tools that would be useful to them.

This point is also reflected by P6's comments. However, he does not see only the negatives and notes that in some cases, knowledge manages to trickle down into industry. Some of the areas include the design techniques of prototyping and strategic user experience buy-in. Hence, we see that industry is capable of obtaining new knowledge when they realize it increases their competitive advantage.

With participants P4, P5, and P6, similar discourses are presented, as they all have views that point out why collaboration suffers between industry and academia. P8 thinks that the lack of collaboration between academia and industry is due to a lack of contact between the two.

"I think that the networking part is missing. Private companies, they network an awful lot in between each other. . . . At university, they are rarely part of these groups and the conferences that people from university attend are scientific conferences rather than public. So we don't have an interface between the two sectors." She thinks that the industry misses out on new knowledge as a consequence.

Our interviews indicate that while knowledge exchange *is* widely engaged in, it tends to take place between people from the same side of the spectrum. The practitioners P1, P3, and P7 discuss occasionally talking with people from other companies to discuss projects and ideas, but they don't mention the academic field. Similarly, P4 exchanges ideas among different groups that are within academia. This divide increases the likelihood of different discourses being formed within each domain.

By her own account, P4 is usually only in contact with people from industry when they are her students. P6 does not engage in formal knowledge exchange with people from industry, but notes that he does it informally among friends.

The two participants with ties to both academia and industry, P2 and P8, both prioritize knowledge exchange highly. P2 frequently engages in informal discussions of UX, and P8 keeps

connection to the universities, even when she has no formal ties anymore. She has good reason to do so, she says, “cause they are the ones who produce my future colleagues”.

Conferences are popular among some participants, especially those with a connection to academia (eg. P5, P6, and P8). P3, a practitioner, mentions attending the UX LX conference. He belongs to a local UX network – “we sort of keep each other updated on what is going on”. Within this network, they have discussed starting a small UX festival in their city.

P7 (a practitioner), on the other hand, does not attend any conferences. “I almost went to one of these newest conferences just recently, actually. But I didn’t end up making it there. So I haven’t participated in conferences like that”. He is unsure if he will get anything definite out of it that he can use for something, which is important to him. “If it’s more sort of general, then I usually won’t participate, because I feel that in some way, I could get that same information online or by sparring with some of my colleagues.” He does, however, attend training courses at NNG.

According to P5, a Danish subgroup of the SIGCHI organization is very active in Copenhagen, whereas there is less of an active professional community in the rest of the country. He attributes this to people being spread out, making meetups difficult to arrange.

As these discourses show, there is a clear divide between researchers and practitioners within the Danish UX community. However, there are also bridges between them. In general, there are as many perspectives here as there people asked, which makes it difficult to get a clear picture of the current state of the field. Some practitioners and researchers kept very much to themselves and their peers, and had a very dismissive attitude towards the other side of the spectrum. While some did reach out, the ones that were most dedicated to engaging with both sides were the ones with backgrounds in both industry and academia. This underscores the assumption that the primary cause of the gap is a lack of exposure to the other side’s perspectives and workflow.

This has a self-amplifying effect. When the two sides are not talking with each other, they do not have a clear sense of what the other is doing, and what value it has. This serves to cement their containment within their own side and its discourses, which makes them less likely to then seek out the other side, whom they perceive as not having anything of relevance to offer. The result is a gap that continues to grow, and what should be considered one community of practice – gathered around a shared domain of interest – being pulled in two different directions, developing their own practices and discourses. If the perceived reality of what UX is and should be is socially constructed, the lack of one shared community will only deepen the rift between the two realms.

Bridging the gap must then depend on furthering the contact, and making sure that each side knows what the other has to offer of value to them. It is easy to end up isolating oneself. For example, P7 says that “There are also various events that you can participate in. I’m not participating that much in them myself, but that’s because – I don’t really know why, I guess.”

Education seems to be the most effective facilitator. The practitioners with the strongest ties to academia were, unsurprisingly, also the ones with the longest educations. A dedication to both teaching and learning from one another in the field is essential in furthering collaboration and a sense of community. But one must keep an open mind. If “people [are] willing to learn, I am more than willing to help them.” But “you can’t teach somebody who is not willing to learn”.

5.3 Comparative Analysis

In order to gain a broader understanding of our interviewees and their perspectives on the field of UX, this section presents a comparative analysis of the discourses identified in our interviewees and the systematic literature review. In order to primarily focus on the most prevalent discourses, the ten landmark papers will be used as a representation of the literature identified through the review. The leading discourses, as introduced in the previous sections, will be examined to better understand the perspectives of the landmark papers in relation to our interview participants. This provides an overview of the general tendencies and socially constructed discourses within the field of UX, as well as an analysis of how concepts and ideas are derived from the most cited literature, and how our participants are a representation of this. It is not to be seen as an exhaustive analysis of the overlaps and agreements and disagreements present in the literature review and interviews, but rather an overview of some points that were deemed of particular note.

Several of the participants referenced their use of the work of Marc Hassenzahl, eg. P4 and P6, who said “I’m mostly excited by needs satisfaction and in any kind of need theory. So it’s particularly the work by Marc Hassenzahl”. The widespread use of his theories is also seen in the landmark papers, where he is the author or co-author of six of them (Hassenzahl, 2004, 2005, 2008; Hassenzahl et al., 2010; Hassenzahl & Tractinsky, 2006). This speaks to the influence that his conception of user experience has had, and still has, on the UX discourses in the academic community. However, it seems unlikely that he has had much direct influence on the practitioners of UX – for instance, none of the participants employed in the industry mentioned him or any of the terms associated with his models of user experience.

When one looks at the nature of his work, it makes sense that this would be of little use to someone trying to make a website more pleasurable to use. His definitions are very heavily based in the psychology and nature of experiences, and they tend to view the actual product characteristics from a quite abstract point of view. If one looks at the criticisms often directed at academic literature (as discussed in section ??) – that it is not operationalizable, that it is abstract, and that it is narrow in its research aims – these seem particularly applicable to the works of Hassenzahl. For instance, P3 expressed the point of view that the research based perspective of UX can be too abstract for their customers, as an argument for describing himself as a usability engineer instead of UX designer, “*We call ourselves usability engineers instead, to sort of narrow the scope of expertization when talking to people – they have a better idea of what we are doing*”. This suggests that there is a divide in the discourses between industry and academia in relation to P3 attempting to provide a more understandable definition of what he does to regards his clients.

There is plenty of room for research like that of Hassenzahl. In fact, it is arguably very essential to the science of understanding the way users experience interacting with systems of various kinds. However, this is what one would term “hard science” and it is not in any way oriented towards practitioners, or *any* practical uses for that matter. This is the theory that forms the backbone for *others* research to arrive at operationalizable recommendations and measures. But the mere fact that this kind of work dominates the academic literature (as six out of the ten most cited papers must be considered as), underlines the vast difference between what researchers and practitioners concern themselves with. Based on the list of landmark papers, this seems to back up the claim that what is considered important by academia and by industry are very different things.

In a general sense, it seems clear that the landmark papers portray the concerns of researchers, and not practitioners. Most of the papers are about defining the term, discussing the way that UX is researched, or other methodological considerations. Very little of this has any relevance to practitioners, it seems safe to assume. If we take a look at what the participants from industry say when asked to define UX, it is very general and immediate stuff, as represented with P1 “I kind of see UX like this... it’s that whole flow. If we take a website, right, then it’s the entire flow through a website”. P7 describes UX in these broad terms: “It’s about making a solution” that is not just “easy to use. It’s also a question of making something that you think is interesting to use. And that you return to and maybe share with your friends”.

It does not seem that the specifics of defining what is and what is not UX are very present on their mind. In the business world, all that matters is the quality and availability of the product.

The most practically oriented of the ten papers could be considered that by Vermeeren et al. (2010), which collects a large set of UX evaluation methods. Evaluating the quality of a user experience is a topic that is of specific relevance to industry. However, the paper itself is more focused on how the methods were collected and what characterizes the collection as a whole (using statistics) than any one method – and accordingly, there is little of use to be found there for someone looking to learn more about how to actually evaluate UX. This stands in sharp contrast to what the practitioners are looking for, in regards to literature. The industry-based P7 talks about the notion of using literature, and touches upon what is important to him – he in regards to the Nielsen Norman Group, whose reports he values “[b]ecause they are tangible ... they have been tested on some users, they have gotten some feedback from some users, and then they conclude from that and do some reports about it... It’s not, like, theoretical, it’s more like ‘This is what the users said, we saw the users experience this – ergo, we should try to do like this.’” This clearly reflects the more practical perspective of relevant literature for an industry-based UX professional.

Except for P3, who mainly uses heuristic usability evaluations, all the participants working in the industry conduct user testing to evaluate the UX of products or websites. To P1 and P7, this is the primary evaluation method – in addition, P1 often uses it as a focus group, testing multiple users together. P8 uses several well-established evaluation methods in her work: “some of the more frequent ones are of course usability testing, it’s wireframing, it’s interviews, it’s questionnaires, that sort of thing. Those four are probably the most common ones.” P2 emphasizes the importance of conducting user tests, noting that “we would like to set up much much testing than we do”. At her company, they currently use semi-structured interviews and questionnaires, as well as more specific user testing methods such as think-aloud protocols, A/B testing, contextual inquiry, and to some extent card sorting. In addition, they conduct unmoderated tests, that are performed online. The methods and approaches mentioned by the participants tend to be the ‘classic’ well-known and well-tested approaches, which fits with the picture of the industry as preferring to lean on what is known to work. This may mean that the more experimental and novel methods produced regularly by academic researchers are not being put into use.

As presented above, Vermeeren et al. (2010) is the most practically oriented paper of the ten landmark papers, and it also presents the argument that industry could benefit from the academic methods, while acknowledging that they often are not properly understood and implemented. The paper presents 96 different UX evaluation methods, but as the paper notes, 70% of the collected methods were from academia. The authors found a mostly equal distribution between qualitative and quantitative methods, and that around half of the methods can be

done remotely, or by someone with little formal training. This fits well with the impression given by the participants. Most UX evaluation were found to be conducted using one user at a time. Group testing and expert-based testing without users corresponded to 17% and 14%, respectively. Based on our participants' responses, these may play a larger role in practice. Vermeeren et al. (2010) find some use of long term and before-use experience testing. These approaches are not reflected by the participants' comments.

However, it is worth noting the age of the paper. At the time of writing this thesis, it is eight years old, which in terms of technological developments is quite a long time. Consequently, it is likely that the findings are not representative any more. As discussed in the literature review analysis in section II, there has been a significant rise in the number of papers regarding matters of UX being published. This mass of literature likely introduces several newly developed methods for UX evaluation. However, noting the relative fit between the distribution of methods found by Vermeeren et al. (2010) and the methods reported by the participants, it does not seem that any particular new methods have markedly transformed the ways that UX is being evaluated in practice. Indeed, the traditional nature of the methods reportedly being used serves as an argument against the point of view expressed by P1 that most literature is "outdated before they even come out."

In the paper by Karapanos et al. (2009), the general discourse concerning UX is expressed as an experience that is extending over a time period, which is reported to have been overlooked in the UX research. P6 expresses interest in pursuing long term UX studies, noting a lack of these in the literature. This echoes the conclusions of Karapanos et al. (2009), and indicates that the call from that paper for more research into the developments of user experiences over extended periods of time has not been addressed over the intervening nine years. This may be changing, however, as P6 also brings up a colleague of his working on a rather similar study of mobile phone usage over time – something that might have been inspired by the paper by Karapanos et al. (2009). P6 continues to express his interest in performing a user experience research over extended period of time employing several appropriate methods. His goal is more long term not than the five weeks studied by Karapanos et al. (2009), aiming towards several months. This would give a more representative look at aspects such as appeal or goodness in the construct of real life usage.

The findings of Karapanos et al. (2009) points towards the user experience changing over time while the person is interacting with the product. This comes close to the discourse of P8, although hers is not strictly related to a product but the whole experience provided by the company or organization. She argues that the experience should be seen to extend beyond one medium and account for all the interaction of the person with the provider of the experience. This is a more broad definition than that of Karapanos et al. (2009), but it is also representative of an experience that is occurring over a period of time, since the digital part of the user experience is only one part of the whole user journey. Through this example it is possible to draw some parallels between P8 and Karapanos et al. (2009), which could suggest that some of the social constructed discourses are present between our landmark papers and that of the participants. This might even be the case with the participants not even realizing that their views correlates to that of the views of specific academic literature.

The rest of our participants do not bring up the concern for user experiences changing over time. This likely reflects the nature of their work, as not all designs are intended to be used continuously over longer periods of time. P7, who mainly works with designing web shops, is

primarily focused on providing a good experience on an immediate level that will encourage the user to make a purchase, remember the site, and to share it with other people. In wanting users to return to the site and become repeat customers, there is an indirect goal of use over longer time (if only periodically), but he never explicitly states that his work is oriented towards long term experiences. As this is a single case we can not count it as a socially constructed discourse, but it presents an interesting approach to an otherwise common trend in e-commerce websites.

In general, it is found that the discourses of the landmark papers reflect the points of view of the academic participants rather well. In particular, the theories of Marc Hassenzahl play an important role in the way that researchers approach and understand the concept of user experience. Conversely, the predominant discourses in the literature are found to be far from those expressed by the more practice-oriented participants. This underlines the divide, in that the most prominent literature of academics is found to be inaccessible and of little use to practitioners in the industry.

6 Discussion

In this section, some overall reflections regarding the methodologies and execution of the literature review and interview study will be presented, along with some discussions of how our findings correlate to the conclusions of other studies with similar aims.

In the paper by **gray2014**, a lot of the discussions revolve around the findings emerging from the relationship between researchers and practitioners in the HCI field. Those findings were gathered from a sample of 13 practitioners with comparable backgrounds. Some of the more noteworthy findings include a perceived lack of understanding of practical design by researchers, which discourages practitioners from paying attention to methods developed in academia. Besides that the most important way of obtaining new methods or information was found to be through colleagues and online sources, such as blogs, articles, and Twitter.

What we can observe from our own interview study confirms these findings. Even though both studies had a small sample – theirs with 13 participants, ours with eight in total – similar patterns can be identified. The main difference is that our interview sample contains a mixture of practitioners and researchers. Some of the trends of the paper presented by **gray2014** are also visible among our researchers, in particular the use Twitter to keep in touch with the UX community and its development.

In a paper by Øvad and Larsen (2015), a follow-up interview study of eight participants is conducted two years after the original one (in 2013 and 2015). The paper describes that in the time span between the studies, significant changes in how UX is used and applied in practice were found. A markedly better understanding of the definition of UX was reported, which was ascribed in part to the increased focus on the field and other related fields such as usability. This underlines the constant changes in how UX is used and approached.

With its findings of considerable developments over a relatively short period of time, the study by Øvad and Larsen (2015) prompts us to evaluate the continuing relevance of studies only a few years old, as this indicates that they might very well be completely outdated already. Contrary to books, research papers do not get regular revisions and updates. New trends and improvements can only be discovered if the research is carried out again. Our literature review shows that older research is being cited quite frequently, and continues to do so even (in some cases) 15 years after it was carried out. We found several cases of papers continuing to be cited,

despite the author having published newspapers aimed at updating the earlier conclusions (in particular the evolving definitions of UX by Marc Hassenzahl).

Following comments by John Pruitt from Dell, we can see a lot of similarities with some of our participants (Nah et al., 2015). He describes his experience of collaboration between industry and academia to be a less costly approach than the alternative of consulting agencies. Additionally, the process is “often less formal, more friendly and open” (Nah et al., 2015, p.735). But here the problem lies in the faster turnaround times of industry, with shorter project timelines that are prone to change depending on various factors. Thus, such collaborations might end up not producing any value for the corporation, and as he presents it, the bottom line is what matter the most in any industry. This reflects the view of participant 2, as her expressed remarks come close to these from Pruitt. Where P2 is concerned that the methods produced from academia are not optimized for this faster turnaround in industry, Pruitt is concerned with academics not being able to adjust their research as fast as the industry requires. And since P2 has an extensive background in academia, we can count on the weight of her statement. Which is further proven by participant 4, in her discussions on how academic time schedules are structured around semesters that are planned in advance and leave little time for extensive cooperation with industry.

Here with some of the statements and some of our literature we see potential problems between the collaboration of industry and academia. Øvad and Larsen (2015) discuss in their paper that most of the companies they interviewed are utilizing Agile processes in their daily work. And since this is a very dynamic approach to development it is just not possible to fit into the not so flexible semester schedule presented by P4. As academic work takes time and additionally accompanied by teaching, it does not leave much time to fit into the various agile processes and their weekly or monthly requirements changes.

From the literature we came across references of UX becoming the new and popular term in the world of HCI (Hassenzahl and Tractinsky (2006)). In addition, from our interviews, we see similar trends emerging towards the term from the industry side. This made UX into a buzzword that can be applied to a number of different areas so they look more appealing. Certainly a lot of people have incorporated it into their titles as a way to make them more desirable by companies or the labor market, as reported by P8.. Accordingly, on the other side are the companies that use it as a way to get more competitive advantage in their field. We see this in the interview responses of P2, where she discusses the term being “washed out” as a result of the terminology being confused. Since the industry’s move from usability to user experience did not account for a significant difference, we can interpret this statement as something happening on the surface, with very little changes reach the development process.

Regarding our methodology, some of the interview questions prompted our participants to ask for clarification, sometimes due to the question complexity and others due their relevance regarding the particular participant. Generally, these remarks are not a sign for a bad interview, as the questions follow a structure that is fitted for the wide variety of participants’ backgrounds. Within the responses of P1, P5, P7, and P8 we see that their understanding of some questions is very general in nature. Some of them express it outright and ask for clarification, where other just discuss based on their understanding and note that the discussed might not be completely relevant for that question.

Leaving aside the responses and looking at the questions themselves gives as a bit more clear perspective of why this occurs. The questions that participants 6, 7, and 8 found problems with

are quite extensive and long. Distracting the participants before they even have a chance to start answering it. And in the case of P1, the questions was not particularly oriented towards his medium.

In some cases the participants outright state that a specific question was not relevant for them. Most notably was P6, regarding the question about what would be the most important UX factors according to him. Where he discuss the questions was not meaningful, since it was an aspect that features many considerations. Even though, the questions was marked as such by this participant did not mean a whole lot, since it is a singular opinion. Where as the rest of the participants did not have any comments towards it.

During the interview, one question prompted participant 5 to reflect more closely on it, as he has never thought about it beforehand. This was the question about what would be the reason for avoiding working with someone. Kvale and Brinkmann (2015) presents that it is not uncommon of the subject to change his mindset towards a theme during the interview, as the interview can be a learning process for both parties involved. The question made our participant to reflect on this perspective and come to a well reasoned conclusion.

In the interview we received some criticism, but alongside that we also received some positive comments for our questions and the overall process. P5 expresses that his participation was based on the fact that the term of UX brings confusion to some people, and additionally that he also encourages his students to perform such interviews. Additionally, P2, P5, and P8 stated their interest towards some of the questions, as they thought they were meaningful and required some reflections. Also in the concluding remarks some even expressed that we had a well covered interview approach with over all well rounded questions.

7 Conclusion

This thesis offers perspectives on the understanding and work of researchers and practitioners in the field of user experience. As this field is ranging across a lot of aspects we have narrowed our focus to the work revolving around interactive digital systems. We have set our goal to investigate the field by first looking at how the understanding of it has developed in the duration of the past 20 years.

We set about by performing a systematic literature review ranging from 1998 to 2017. In it we have looked at the academic literature on the topic of user experience in the Scopus database of peer-reviewed publications. From an initial 2900 documents we narrowed it down to 565 that are relevant to our inquiry. By categorizing all the papers we found trends and have presented them in various formats and graphics. Most notable are the ten most cited papers that present what we have used to represent the main understandings in the research literature on UX. In them we see several papers that define user experience. Most notably, six out of ten papers were written or co-written by Marc Hassenzahl, attesting to the importance of his contributions to the academic discourse on UX. Notably, several versions of his definition have been cited continuously over the years – even though updated versions have been made available. This points to a certain inertia in the field of UX research.

As presented by the selected papers, the field was relatively small before the year 2005 where it had only a few publications per year. A significant rise in the popularity can be observed for the years following. In some years seeing a rise double of that from the previous year.

A lot of the papers discuss a definition of the term and some even propose improved versions

of old definitions. But the matter of the fact is that reaching a consensus on one single definition appears to be an impossible task, mostly due to the overall accepted, by researchers, subjective nature of the term. Some more predominant definitions seen used the most are:

- The ISO definition (International Organization for Standardization (2010))
- Hassenzahl's developing definitions (eg. Hassenzahl, 2008)
- Law et al. (2009)'s survey, reaching conclusions that mostly agree with ISO

Alongside the systematic literature review, we conducted 8 interviews with practitioners and researchers across Denmark. We used their points of view to characterize the field and understand how they use the term in their work. In addition, the systematic review has shed some light on the points of view that characterize the academic domain. Since generalization of UX perspective is impossible from this small set of interviews. The focus of this project has largely been on a series of particular cases being studied in more depth using qualitative interviews and critical discourse analysis. From the interviews, several perspectives can be observed that agree with findings presented in the research literature.

Mainly for practitioners, the concern lies with the business goals that they have to achieve, and their interest in UX is based on making products and services more appealing to their clients. Literature and research is mainly used to find solutions to specific problems or to spark specific design processes. For this reason, academic literature is widely regarded as too theoretical and not useful in practice; instead, knowledge is primarily found through professional networks, blogs, and social media such as Twitter and LinkedIn. The level of deeper understanding of UX varies a lot, and possessing extensive theoretical knowledge does not appear to be a success criteria for working in the business.

As for the researcher side, they are primarily working towards mapping the nature of user experiences in more detail, and to develop new theory. In addition, much of the work of researchers also involves teaching students. In some cases, these students are the researcher's main link to the UX practice. Some regard practitioner-oriented literature as inferior to the academic, and factors such as sound methodologies and deep knowledge of existing theory is highly valued in this regard. However, social media are also used by researchers to connect to the UX community – this in some cases provides an interface to the practice-based community. The understanding of the concept of UX is very well-founded in theory; however, there are still many different perspectives and opinions on what the term should be defined as.

Such differences in perspectives can be seen as a reason to increase the collaboration and sense of community between the researchers and practitioners. Our final research question is oriented towards this, as we see from the literature that the field of UX is to some extent divided into two. The observations from the literature are to some extent corroborated by our interview study. In it we see that participants from different ends of the spectrum had little interest in associating with academics. This was due to reasons of practical and business concerns more than anything else. However practitioners with an extensive academic background establish a large middle ground, where they provide a natural connection and freely engagement with people from both domains. We conclude that this is mostly done because of their broader knowledge of work processes in both domains, meaning that they can more easily adjust to the work environments. Furthermore, as several participants mentioned, education plays an important role in shaping how a person understands UX, engages with the community, and finds and adopts new knowledge. This makes it important that universities prepare the students for work in the

industry, but also that they highlight the usefulness of knowledge from academic research, and the value of properly conducted research. This will help these ideas proliferate in the industry, as ideas and approaches from academia become a larger part of the UX discourse in the industry. Having more UX professionals with a clear sense of belonging in both domains will help shrink the divide that still exists.

Our findings are a result of the interview study, as well as a comparative analysis with the results of the systematic literature review. Additionally, this builds on and substantiates findings from various similar studies that have also been reviewed and presented. This places the findings of this study in line with previous work.

We found that the term user experience still, after many years of research, does not have a universally agreed-upon definition. Instead, a large number have been introduced and are used in various contexts, both in the academic and the practitioner-oriented literature. In order to move towards a clearer understanding of what needs various definitions serve, we suggest that a collection of the available and utilized definitions of UX should be categorized and mapped, to show what dimensions are considered important in what contexts. This should serve to take another step towards a common understanding, and towards bridging the gap.

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CONCLUSION

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Appendices

A Literature Search Query for Scopus

(ABS ({user experience}) AND TITLE-ABS-KEY (“user experience” OR “UX”) AND TITLE-ABS-KEY (digital OR computer OR hci OR web OR interactive OR interface OR usability OR software)) AND PUBYEAR > 1997 AND PUBYEAR < 2018 AND NOT KEY (“Quality Of Service” OR “ Mobile Telecommunication Systems ” OR “ Wireless Networks ” OR “ Wireless Telecommunication Systems ” OR “Photonics” OR “Phishing” OR “Vulnerability detection” OR “ Virtual Reality ” OR “ Augmented Reality ” OR “ Network Architecture ” OR “ Energy Efficiency ” OR “ Bandwidth ” OR “ Energy Utilization ” OR “ Internet Protocols ” OR “ Telecommunication Services ” OR “ Video Signal Processing ” OR “ Cellular Network ” OR “ Telecommunication Networks ” OR “ Network Layers ” OR “ Telephone Sets ” OR “ Robots ” OR “ Internet Of Things ” OR “ Virtual Worlds ” OR “ Internet Telephony ” OR “ Signal Encoding ” OR “ Mathematical Models ” OR “ Complex Networks ” OR “ Graph Theory ” OR “ Artificial Intelligence ” OR “ Recommender Systems ” OR “ Algorithms ” OR “ Data Mining ” OR “ Signal Processing ” OR “ Transportation ” OR “ Embedded Systems ” OR “ Natural Language Processing Systems ” OR “ Java Programming Language ” OR “ Distributed Computer Systems ” OR “ Image Processing ” OR “ Security Of Data ” OR “ Telecommunication Equipment ” OR “ Video Streaming ” OR “ Data Handling ” OR “ Gas turbines ” OR “ Combustion ” OR “ Data processing ” OR “ Climatology ” OR “ Vectors ” OR “ Broadcasting ” OR “ Network protocols ” OR “ health education ” OR “ Radio communication ” OR “ Three Dimensional Computer Graphics ” OR “ Global System For Mobile Communications ” OR “ Temperature ” OR “ Low temperature solders ” OR “ Autonomous vehicles ” OR “ Vehicle wheels ” OR “ Robotics ” OR “ Vehicles ” OR “ Automobile simulators ” OR “ Cache management ” OR “ Proxy caches ” OR “ Gray prediction models ” OR “ Network condition ” OR “ Long-range projection ” OR “QOS” OR “ QOS management ” OR “ Intelligent Information Infrastructures ” OR “ Orthogonal Frequency Division Multiplexing ” OR “ Wireless Local Area Networks WLAN ” OR “ Automatic Channel Switching ” OR “ Channel Interferences ” OR “ Channel Switching ” OR “ Enterprise WLANs ” OR “ Enterprise Wlans ” OR “ Network Function Virtualization ” OR “ Real-time Channels ” OR “ Software Defined Networking SDN ” OR “ Transmission Delays ” OR “Climate data” OR “Architectural problems” OR “Earth (planet)” OR “HTTP protocols” OR “Transmission control protocol” OR “TCP connections” OR “Automation industry” OR “Brain computer interface” OR “ QoS optimization ” OR “ Resource allocation ” OR “ Computational complexity ” OR “ Proxy architecture ” OR “ Network data transmission ” OR “ Bit-rate allocation ” OR “ Wearable technology ” OR “ Image Segmentation ” OR “ Interactive Segmentation ” OR “ Algorithm ” OR “ Interactive Image Segmentation ” OR “ Kd-tree ” OR “ Nearest-neighbor Recognition ” OR “ Codes symbols ” OR “ Computational Fluid Dynamics ” OR “ Turbo-machinery Design ” OR “ Cosimulation ” OR “ Autonomous Decision ” OR “ Autonomous Managements ” OR “ Cache Management ” OR “ Distributed Proxies ” OR “ Distributed Proxy Cache ” OR “ HTTP Proxy ” OR “ Network Congestions ” OR “ Proxy Caches ” OR “ Storage Mechanism ” OR “ Network condition ” OR “ Turbomachinery ” OR “ Blade Geometry ” OR “ Fluid Dynamics ” OR “ Stream Surface ” OR “ Reproducibility Of CAD Schemes ” OR “ Trees mathematics ” OR “ link congestion ” OR “Noise removal algorithm” OR “Wireless Networks” OR “Quality-of-service” OR “Manufacture” OR “Terminals (electric)” OR “Network overhead” OR “3G Networks” OR “Sporting goods” OR “Satellite navigation aids” OR “Image matching” OR “Distributed database systems” OR “Electric power transmission networks” OR “Power communications” OR “Smart power grids” OR “Automated test systems”

OR "Service resources" OR "System architectures" OR "Data storage equipment" OR "Mobile storage system" OR "Wearable Computers" OR "Motion controller" OR "Automated analysis" OR "Automated driving systems" OR "Network traffic" OR "Audio acoustics" OR "Factorization model" OR "Stochastic systems") AND (EXCLUDE (SUBJAREA , "MEDI") OR EXCLUDE (SUBJAREA , " MATH ") OR EXCLUDE (SUBJAREA , " BUSI ") OR EXCLUDE (SUBJAREA , " ARTS ") OR EXCLUDE (SUBJAREA , " BIOC ") OR EXCLUDE (SUBJAREA , " DECI ") OR EXCLUDE (SUBJAREA , " HEAL ") OR EXCLUDE (SUBJAREA , " MATE ") OR EXCLUDE (SUBJAREA , " PHYS ") OR EXCLUDE (SUBJAREA , " ENVI ") OR EXCLUDE (SUBJAREA , " EART ") OR EXCLUDE (SUBJAREA , " AGRI ") OR EXCLUDE (SUBJAREA , " NEUR ") OR EXCLUDE (SUBJAREA , " NURS ") OR EXCLUDE (SUBJAREA , " ENER ") OR EXCLUDE (SUBJAREA , " CHEM ") OR EXCLUDE (SUBJAREA , " CENG ") OR EXCLUDE (SUBJAREA , " ECON ") OR EXCLUDE (SUBJAREA , " PHAR ") OR EXCLUDE (SUBJAREA , " IMMU ") OR EXCLUDE (SUBJAREA , " DENT ") OR EXCLUDE (SUBJAREA , " VETE ")) AND (LIMIT-TO (DOCTYPE , "cp") OR LIMIT-TO (DOCTYPE , " ar ")) AND (LIMIT-TO (LANGUAGE , "English")))

B Interview Participant Communications

B.1 Recruitment Mail

EMNE: Interview til speciale om User Experience

Hej [Navn]

Vi er tre kandidatstuderende fra Aalborg Universitet, der er ved at skrive speciale om User Experience (primært fra et webside-orienteret perspektiv).

I den forbindelse interviewer vi folk, der arbejder med UX – hvad enten det er som forsker eller designer – om hvad de forstår ved begrebet User Experience, hvordan de har arbejdet med det, og hvordan de oplever at det bruges af forskere ved universiteterne og designere i private virksomheder.

Vi skriver for at høre om du kunne tænke dig at stille op til et interview. Det bliver enten ansigt til ansigt eller via et lydchat-program (Skype, Facebook, osv.), alt efter hvad der passer dig bedst [Tilpas den enkelte]. Interviewet vil vare 30-45 minutter, og finde sted i løbet af uge 19 (7.-11. maj) eller først i uge 20.

Interviewet vil blive optaget og transskriberet til brug i vores speciales analyseafsnit. Dine svar vil naturligvis blive anonymiseret i den endelige tekst. Vi skriver specialet på engelsk, men hvis du foretrækker at blive interviewet på dansk er det helt fint. Hvis du er interesseret i resultatet, kan vi sende specialet til dig når vi er færdige.

Skriv endelig hvis du har nogle spørgsmål, så vil vi gøre vores bedste for at besvare dem.

Din hjælp og snarlige svar vil blive værdsat.

Med venlig hilsen

George, Stig og Sigfred

B.2 Consent Form

EMNE: Lidt oplysninger vedr. interview om UX

Hej [navn]

Forud for vores interview [dag], kommer der her lige nogle opfølgende oplysninger.

Vi kunne godt tænke os at høre hvilket sprog, du foretrækker at vi gennemfører interviewet på. Specialet vil blive skrevet på engelsk, men det er helt fint hvis du hellere vil interviewes på dansk.

Derudover har vi en formel samtykkeerklæring, så vi er sikre på at du er indforstået med omstændighederne for din deltagelse. Du kan give dit samtykke i et svar på denne email.

Mvh George, Stig & Sigfred

B.2.1 SAMTYKKEERKLÆRING

Dette er en samtykkeerklæring, der beskriver vilkårene for din deltagelse i en interviewundersøgelse. Dette interview vil blive brugt til at udarbejde et speciale, der afleveres til Aalborg Universitet. Den endelige udgave af specialet vil være offentligt tilgængelig i universitetets projektbibliotek.

- Specialet omhandler User Experience, især i forbindelse med websider, og undersøger baggrunde, tilgange og opfattelser hos folk der arbejder med User Experience, både ved universiteterne og i den private sektor.
- Din deltagelse er anonym, og navne og identificerende oplysninger vil blive udeladt. De indsamlede data vil blive slettet efter eksamen. Vi er de eneste, der har adgang til dem. Nogle af dataene vil muligvis blive delt med specialets vejleder.
- Du kan til enhver tid vælge at trække dit samtykke tilbage. I så fald vil alle data om dig blive slettet og ikke brugt i specialet. Du er velkommen til at få det færdige speciale tilsendt via e-mail, hvis du er interesseret
- Specialet vil blive skrevet på engelsk. Du kan selv vælge om du ønsker at blive interviewet på dansk eller engelsk.
- Interviewet foregår enten ansigt til ansigt, gennem et lyd-chat-program eller over telefon, efter aftale. Lyden vil blive optaget og transskriberet. Hvis interviewet blev gennemført på dansk, vil det blive oversat til engelsk.
- Vi forbeholder os retten til at undlade at bruge dit interview i det endelige speciale, hvis det skulle blive nødvendigt.
- Denne samtykkeerklæring indgås med:
 - Georgi Dimitrov Partulov (gpartu16@student.aau.dk — tlf: 6173 1978)
 - Sigfred Hyveled Nielsen (shni16@student.aau.dk — tlf: 2857 3044)
 - Stig Nedergaard Hansen (snha13@student.aau.dk — tlf: 2046 8760)

C Interview Guide

C.1 English Version

C.1.1 Introduction Checklist

- Make sure the interviewee knows when they're being recorded, and who's present
- Make sure they know it's anonymous, and we will not include identifying details.

C.1.2 Be aware of

Especially for audio-only:

- Talk clearly and concisely
- Acknowledge responses
- Steer the conversation – don't let academics define UX for 20 minutes – politely – be ready to try to move on to next question, so we get them all in the time
- Use an engaged and interested voice – don't sound downtrodden, bored, confused, tired
- Only interviewer and interviewee speaks, to not confuse

For face-to-face:

- Set up chairs in a neutral way
- Be aware of body language
- Nod, smile – but not too much
- Any one in the room not interviewing, sit off to the side

C.1.3 Questions

- If it makes sense, in the situation, use the section headlines (minus the first word) to give a sense of structure to the interviewee.
- If the response is short – eg. *yes/no* – ask them to elaborate or go into more detail.
- Any time it says [product/website], adapt this to whether the interviewee works with websites. It's silly to say 'product' to a website designer, and silly to say 'website' to someone who don't do no web.
- While interviewing, keep an eye on the features of each of the two models – make sure the themes are touched upon. If something is neglected, turn the conversation to that topic.

Domain: Understanding and defining UX

- *Could you briefly describe your educational background and work history?*
 - [Gauges level of experience in academic and industrial environments.]
 - Follow-up: depending on whether they are associated with industry or academia, how much experience have they had with the other 'side' – eg.:
 - * **For practitioner:** *Did your education prepare you to work with User Experience?*
 - * **For researcher:** *Have you ever worked with User Experience in the **private sector**?*
 - Possible follow-up: *Did you do research, or have you also worked with design and development?*

- * Ask them to elaborate on short answers.
- Follow-up: *How did you end up working with User Experience?*
 - * **For practitioners**, did they choose it themselves, or were they steered towards it by the company?
 - * **For researchers**, is this their dominant field of research? Were they previously focused on another topic, and then turned to focus more on User Experience?
- *Could you [briefly] try to describe what the term User Experience means to you – just off the top of your head?*
 - [Their definition – how they understand the concept. Their response also tells us if they have consciously thought of this before.]
 - [Make sure that the answer doesn't drag on too long – especially when interviewing researchers]
- *Now I would like to ask a few questions about what factors you think are most important for a [product/website] to provide a good User Experience.*
 - [UX model keywords are highlighted]
 - *What factors would you say have the biggest influence on whether it **feels** good to use?*
 - *What would you say are the most important factors for enhancing the **appeal** of a [product/website]?*
 - *And what would you say is most important in making the [product/website]–[usable/easy to use]?*
 - *Are there any other factors, you prioritize when evaluating a User Experience?*
 - [These questions let us get a picture of how they think of each part of the UX, based on a model by Lachner et al. (2016) – further description in a later section in this text. We can then analyze if they have a limited understanding of the concept.]

Practice: Ways of working with and learning about UX

- *How much of your work is related to User Experience?*
 - Follow-up: *And how do you usually **work** with User Experience? Are there any particular techniques, methods or approaches you prefer to use?*
 - * *Are you happy with the methods that you are currently using, or are you looking for new and better methods?*
 - Adapt to what they work with.
 - * **For practitioners:**
 - *When designing or evaluating a [product/website], how do you incorporate User Experience?*
 - *When in the process do you bring it in?*
 - *Do you feel that the User Experience receives enough attention?*
 - * **For researchers:**
 - *How do you decide what aspects of User Experience to focus on?*
 - *How do you approach beginning a new study or research project on UX?*
- *How closely do you follow new developments and trends in the field of User Experience Design?*

- [Gauges whether they are ‘cutting-edge’ or lean on traditional, tried-and-true approaches. It is expected that researchers will be up to date on research developments.]
- Follow-up: *What are your influences in the User Experience field? Are there any experts that you give particular attention to, and follow what they write?*
- **For practitioners:** *When designing or evaluating a user experience, do you consult literature on the subject?*
 - [It is expected that researchers follow academic literature]
- *Could you broadly describe the User Experience literature that you mainly use in your work?*
 - Follow-up: What do they think about the literature from the other ‘side’? Do they use it, ever? Why/why not?
 - Use to assess barriers between the sides:
 - * Do **researchers** discard non-academic literature?
 - * Do **practitioners** lack access to academic research, or do they find it impossible to use in practice?

Community: Interaction and sense of togetherness across the UX field

- *How much do you collaborate with UX professionals from the [private sector/university]? [The opposite side]*
 - In your **experience**, how much do you think that UX professionals in the private sector and at the universities in general collaborate and interact with each other?
 - [This lets us dig into their impressions of whether there is a gap between the two. Adapt the follow-up questioning to their response.]
 - * *Do you think it makes sense for them to collaborate?*
 - * *Why do you think that there isn’t more collaboration?*
 - * *Are there any areas where you see a potential for collaboration that isn’t being realized currently?*
 - * *How do you feel that this affects that development of new knowledge about user experience?*
 - * *Do you think the [researchers/practitioners] make enough of an effort?*
 - * *Do you make enough effort?*
- *As a UX professional, do you feel any sense of community with other UX professionals [in Denmark]?*
 - Follow-up: *Do you attend conferences? Do you attend other gatherings of UX professionals?*
 - Follow-up: *Are you in regular contact with UX professionals working in [the private sector/the university]?*
 - Follow-up: *Do you regularly exchange knowledge and experiences regarding UX with others in the field? How/when do you do it?*
- *From working with User Experience, what are your impressions of the general level of skills and knowledge? Do you think your fellow UX professionals have a clear understanding of what User Experience means?*

- [This gives us a sense of how they view other people working in the field; how much of an ‘honor’ they put in their own work and competences; as well as anecdotal impressions of the wider field, beyond our subjects]
- Possible follow up **for practitioners**: *Have you ever taken it upon yourself to train others in UX when you found their skills lacking?*
- Possible follow up **for researchers**: *Are there colleagues or peers that you will avoid working with because you consider their skills and work of poor quality?*

Closing Question

- *Before finishing our interview, is there anything related to the topics we have discussed today that you would like to elaborate on further?*

C.1.4 Procedure

We will conduct a series of qualitative, semi-structured interviews with UX professionals with a variety of university and private-sector affiliations.

Some interviews will be conducted face-to-face, while others will be conducted via audio chat software (eg. Skype or Facebook, depending on the interviewee's preference) or telephone.

Face-to-face interviews will be conducted on-site, or where the interviewee prefers.

- One of us takes on the role of interviewer for each interview, while the others are present.
 - We all interview. Beyond the language factor (if an interview is in Danish, George will not do it), who do which will be decided once we have a full list.
 - Who handles which transcription will be decided as they are recorded or processed.
- Audio will be recorded. For videochat, the video feed will be recorded. Cameras will not be set up for face-to-face interviews, as this adds complexity and might be distracting to the subjects.
- Before the first ‘real’ interview, we have conducted a pilot test of it. Based on this, several smaller changes were made.
- We will also inform them of how their data will be stored, treated, and disposed of, and who will have access to them. Prior to the interview, we email them an informed consent form; consent is given via email response.
- In the initial contact, we have offered to send the participants a copy of the finished thesis. This offer will be reiterated during the introduction or concluding remarks.
- The interviews are expected to take 30-45 minutes. The list of questions will be designed to aim for 30 minutes, providing some extra time to dig into any topics of particular interest in the individual interview.
- The interviews will be transcribed in full, before they are coded and analyzed. The transcription process will be aided by automatized software, which is corrected, revised, and reformatted.
- In processing the interviews, we will make them anonymous and refer to them by a code designation – eg. Participant 1, 2, etc. Specific identifying details will be obscured – eg. [Q] University.

To record skype sessions with: <https://obsproject.com> – alternatively, use Audacity and an external mic recording.

C.1.5 Transcription guidelines

- Sections in the document:
 - Introduction
 - Questions - Domain
 - Questions - Practice
 - Questions - Community
 - Additional comments
 - Conclusion
- The interviewer is written in italics. The interviewee in regular type. Other people speaking are indented. Time codes are written in bold.
- For every main question being asked, write a time code.
- Some cleanup is done in the transcription – removing ummms, laughs, some false starts, stutters, corrected mispronunciations, etc.
 - Agree on exactly how much to correct. Note in the project text that the interviews have been lightly edited for clarity.
- Add basic notes on the interview: who performed it, when was it done, what were the circumstances, were there any technical issues during, how long did it end up being?

C.1.6 Thematic framework

Check responses against these.

UX Model

- Look
 - Appealing visual design
 - Communicated information structure
 - Visual branding
- Feel
 - Mastery
 - Outcome satisfaction
 - Emotional attachment
- Usability
 - Task effectiveness
 - Task efficiency
 - Stability and performance

CoP Model

- Domain: what we care about
 - Creates common identity, meaning, purpose & value.
 - Inspires participation, mutual exploration
- Practice: what and how we do things together about it

- Creates domain-based knowledge the community develops, shares & maintains
- Frameworks, tools, ideas, stories, documentation, etc.
- Community: who cares about it
 - Creates social fabric of learning, fosters mutual respect and trust, willingness to share, ask, listen, be vulnerable and courageous

C.2 Danish Version

C.2.1 Indledende tjekliste

- Introducér hvem der er til stede, og at interviewet vil blive optaget
- Klargør at den interviewede er anonym og identificerende detaljer vil ikke være inkluderet i specialet.

C.2.2 Være opmærksom på

Lydoptagelser:

- Snak klart og tydeligt
- Anerkend svar
- Styr samtalen. En akademiker skal ikke fortælle om deres definition på UX i 20 minutter. Spørg venligt om det ikke er muligt at fortsætte til næste spørgsmål, så der er tid til at besvare dem alle.
- Sørg for at være engageret og interesseret i samtalen. Lad være med at lyde ligeglad, forvirret og træt.
- Det er kun den interviewede og interviewerens som snakker

Ansigt-til-ansigt:

- Sæt stole op på en neutral måde
- Være opmærksom på kropssprog
- Smil og nik – dog ikke for meget
- Alle som ikke er en del af interviewet skal sidde på sidelinjen.

C.2.3 Spørgsmål

- Når det giver mening i situation, brug overskrifter (minus det første ord) til at give den interviewede en fornemmelse af struktur
- Hvis svaret er kort (fx ja/nej), så bed dem uddybe det eller beskrive det mere detaljeret.
- Hver gang der står [produkt/webseite], så tilpas det til om den interviewede arbejder med websider. Det er fjollet at sige 'produkt' til en web-designer, og fjollet at snakke om websider til én der ikke har noget med dem at gøre.
- Hold øje med de tematiske modeller under interviewet – sørg for at temaerne bliver berørt. Hvis noget er blevet overset, så drej samtalen over på det emne.

Domæne: Forståelse og definition på UX

- *Kan du kort beskrive din uddannelsesbaggrund og arbejdshistorie?*
 - [vurderer den interviewedes akademiske niveau og erfaring i industrien]
 - Opfølgende spørgsmål: afhængende af om de er tilknyttet den industrielle eller akademiske side af UX
 - * **Praktiserende:** *Har din uddannelse forberedt dig på arbejdet som UX designer?*
 - * **Forsker:** *Har du nogensinde arbejdet med User Experience i den private sektor?*
 - Evt. opfølgende spørgsmål: *Var det forskningsarbejde, eller har du også arbejdet med design og udvikling?*
 - * Bed dem uddybe korte svar.
 - Opfølgende spørgsmål: Hvordan endte du med at arbejde med UX?
 - * **Praktiserende:** *Har de selv valgt at arbejde med UX eller er det noget som deres arbejdsplads har styret dem mod?*
 - * **Forsker:** *Er UX deres hovedfelt? Eller har de før arbejde med andre områder, og efter fokuseret på UX?*
- *Kan du [kort] beskrive hvordan du forstår begrebet User Experience?*
 - [Deres definition hjælper os med at forstå hvordan de opfatter dette koncept. Deres svar kan også fortælle os om dette er noget de har tænkt over før]
 - [Pas på at dette spørgsmål ikke trækker ud, specielt i forhold til forskere]
- *Nu kunne jeg godt tænke mig at stille et par spørgsmål om hvilke faktorer, du mener er de vigtigste for at [et produkt/en webside] giver brugeren en god User Experience.*
 - [Nøgleord fra UX-modellen er fremhævet]
 - *Hvilke faktorer vil du sige har den største indflydelse på om det **føles** godt at bruge [et produkt/en hjemmeside]?*
 - *Hvilke faktorer vil du sige er de vigtigste for at gøre det **tiltalende** at bruge?*
 - *Og hvad vil du sige spiller den største rolle i at gøre [produktet/hjemmesiden] **[brugervenligt/nemt at bruge]**?*
 - *Er der andre faktorer, som du prioriterer når du evaluerer en User Experience?*
 - [Disse spørgsmål lader os male et billede af hvordan den enkelte person tænker over de enkelte dele af UX, baseret på modellen af Lachner et al. (2016) – Dette vil blive beskrevet senere i dette afsnit. Dette gør at vi kan analysere om end personen har en begrænset viden omkring enkelte faktorer/koncepter].

Praksis: Måder at arbejde med og lære om UX

- *Hvor meget af dit arbejde handler om UX?*
 - Opfølgende spørgsmål: *Hvor meget plejer du at arbejde med UX? Er der nogen bestemte teknikker, metoder eller fremgangsmåder du foretrækker at bruge?*
 - * *Er du tilfreds med de metoder som du i øjeblikket bruger, eller leder du efter nye og/eller bedre metoder?*
 - Tilpas til den enkelte.
 - * **Til praktiserende:**

- Når du designer eller evaluerer [et produkt/en hjemmeside], hvordan inkluderer du User Experience i arbejdet? På hvilket tidspunkt i din process begynder du at anvende UX?
- Føler du at UX får nok opmærksomhed?
- * **Til forskere:**
 - Hvordan afgør du hvilke UX-aspekter, der skal fokuseres på?
 - Hvordan griber du det an at begynde en ny undersøgelse eller forskningsprojekt om User Experience?
- **Hvor tæt følger du udviklingen og nye tendenser indenfor User Experience Design?**
 - [Bruges til at vurdere hvorvidt personen er fokuseret på at være på forkant, eller mere fokuseret på en mere traditionel fremgangsmetode.]
 - Opfølgende spørgsmål: Hvem lader du dig inspirere af inden for UX-feltet? Er der nogen eksperter som du følger eller som har større indflydelse på din opfattelse af UX?
- **Til praktiserende:** Når du designer eller evaluerer User Experience, bruger du så litteratur om emnet?
 - [Det er forventet at forskere bruger akademisk litteratur]
- **Kan du helt overordnet beskrive hvilken slags User Experience-litteratur, du bruger mest i dit arbejde?**
 - Opfølgende spørgsmål: Hvad mener de om litteratur fra den “anden side”? Bruger de dette? Hvis ja, hvorfor, hvis nej, hvorfor ikke?
 - Brug dette for at kunne vurdere mulige barrierer mellem de to sider:
 - * Kasserer **forskere** ikke-akademisk litteratur?
 - * Mangler de **praktiserende** adgang til akademisk forskning, eller synes de ikke at dette kan bruges i praksis?

Fællesskab: Interaktion og følelse af et sammenhold inden for UX-feltet

- **Hvor meget samarbejder du med folk, der arbejder med UX [i det private/på universitetet]?**
[Den modsatte side]
 - Ifølge dine erfaringer, hvor meget vil du mene at UX-arbejdere i den private sektor samarbejder og interagerer med UX-arbejdere fra universitetet?
 - [Dette giver os mulighed for at undersøge om der er en forskel mellem de to. Tilpas de følgende spørgsmål i forhold til deres svar.]
 - * Vil du mene at det giver mening for dem at samarbejde?
 - * Hvorfor tror du ikke der er mere samarbejde?
 - * Er der nogle områder, hvor du vil mene at der er et potentiale for samarbejde, der ikke er blevet realiseret endnu?
 - * Hvilken effekt vil du mene at dette har på udviklingen af ny viden inden for UX-feltet?
 - * Vurderer du at [**forskere/de praktiserende**] gør nok i forhold til denne vidensdeling?
 - * Føler du at du selv gør nok?

- Som en, der arbejder med UX, har du en fællesskabsfølelse med andre, der arbejder med UX [i Danmark]?
 - Opfølgende spørgsmål: *Deltager du i konferencer? Er der andre typer af sammenkomster af UX-arbejdere, du deltager i?*
 - Opfølgende spørgsmål: *Er du i regelmæssig kontakt med folk, der arbejder med UX [i den private sektor/på universitetet]?*
 - Opfølgende spørgsmål: *Deler du regelmæssigt viden og erfaringer om UX med andre i dit felt? Hvordan/hvornår gør du dette?*
- Gennem dit arbejde med User Experience, hvad er så dit indtryk af det generelle niveau af viden og kompetencer? Føler du at andre UX professionelle har en klar forståelse af hvad User Experience betyder?
 - [Dette er for at give os et indblik i det opfatter andre folk som arbejder inden for User Experience; hvor meget vægter de deres eget arbejde og deres egne kompetencer; endvidere anekdotiske indtryk af feltet]
 - Evt. opfølgende spørgsmål til den **praktiserende**: *Har du nogensinde oplært andre i UX, fordi du fandt deres færdigheder mangelfulde?*
 - Evt. opfølgende spørgsmål til **forskeren**: *E der kolleger eller andre folk i branchen, som du undgår at arbejde med fordi du har vurderet at deres færdigheder er mangelfulde?*

C.2.4 Afsluttende spørgsmål

- *Før vi afslutter interviewet, er der så noget relateret til de emner, vi har diskuteret i dag, som du gerne vil uddybe nærmere?*

C.2.5 Tematisk model

Tjek hvordan svar passer med disse.

UX-model

- Udseende
 - Tiltalende visuelt design
 - Velkommunikeret informationsstruktur
 - Visuel branding
- Følelse
 - Følelse af kontrol
 - Tilfreds med resultat
 - Emotionel tilknytning
- Brugbarhed
 - Opgaveeffektivitet
 - Stabilitet og ydeevne

CoP-model

- Domæne: hvad vi er interesseret i
 - Skaber fælles identitet, betydning, formål og værdi.
 - Inspirerer samarbejde, gensidig udforskning
- Praxis: hvad og hvordan vi gør ting sammen om det
 - Skaber domæne baseret viden som fællesskabet udvikler, deler og vedligeholder
 - Modeller, værktøjer, ideer, fortællinger, dokumentation, osv.
- Fællesskab: hvem er interesseret i det
 - Skaber social sammenhængskraft om læring, former gensidig respekt and tillid, villighed til at dele, spørge, lytte, være sårbar og modig.

D Interview Transcripts

D.1 Interview P1 (DK)

Sigfred

Participant 1 (P1)

Timecode

D.1.1 Questions – Domain

0:00

Kunne du kort beskrive din baggrund indenfor User Experience?

Sådan indenfor User Experience, specielt? Ja. . .

Også generelt, din uddannelsesbaggrund og arbejds historie.

Ja. Altså, min uddannelsesbaggrund, det er jo efterhånden rigtig mange år siden. Der var der noget der hed – man kunne blive akademiøkonom. Og det blev jeg indenfor “international marketing”, og det kom sig lidt fra at jeg havde været et år i Tyskland, hvor jeg havde arbejdet, som der var en del af der arbejdede ved [Virksomhed A] dernede som en slags trainee/praktikant/et eller andet. Og så tog jeg resten af uddannelsen her i Danmark, der var ét år. Så det er en to-årig uddannelse, kan man sige. Og det er faktisk den uddannelse, jeg har. Og så selvfølgelig noget handelsskole og sådan noget der fra, ikke? Men det er den teoretiske uddannelse, som jeg har. Så kom jeg over og arbejdede med salg derefter, hvor det faktisk var indenfor [Virksomhed B] luftfarts-halløjsa. Og der arbejdede jeg stadigvæk med salg i flere år. Jeg blev sådan en Key Account Manager overfor, sådan, større virksomheder og så videre. Og så er det jo hundrede år siden, så der begyndte jo lige sådan at der var noget der skulle over på Web'en. Og der var de faktisk nogen af de firstmovere dér indenfor [Virksomhed B], hvor man sagde at der kunne det godt køre – gear'e op på den salgskanal.

Ja.

Også fordi at [Virksomhed B] var dengang et af de firmaer hvor man godt turde give sine kreditkortoplysninger til. Det var et kendt firma. Så det var taknemmeligt at arbejde med. Men der fik jeg faktisk ansvaret for den salgskanal, og noget af grunden til at jeg kom over fra salg og så skulle varetage hjemmesiden, det var at de ville gerne have én, der havde salgsbriller på og én, der ligesom – hvad skal man sige – én, der kunne afkode kunderne.

Ja.

Og kender salgsmønsteret, ikke? Så der blev jeg lidt hevet over fra vores salgsafdeling, og så skulle tænke noget salg ind i web. Og det er klart, at for mig, så noget af det vigtigste når vi taler om web – og også sociale medier, for den sags skyld – det er det dér buzz-ord “empati”. At du kan sætte dig i kundens sted, og det er klart, nogle er det sgu' medfødt for, og andre skal lære det ind. Men så er man kommet langt, hvis man kan ligesom sætte sig ind i kundens tanker. Men det er klart, at nogle gange så kører det på følelser, og andre gange så skal det være konkret. Hvis det skal være konkret, så er det at vi går ud og laver de her brugerundersøgelser, ikke? Nå – videre. Jeg var [*utydeligt*] – der var jeg totalt set i otte år faktisk, men hvad angår marketing, der var jeg der i tre år. Så har jeg haft kørt lidt selvstændig virksomhed, også, som jeg egentlig stadigvæk har – der ikke er noget aktivitet i, men det startede dér også. Og så har jeg været ved [Virksomhed C], efter [Virksomhed B] dér, og så flyttede jeg tilbage til Nordjylland. Der var jeg ved [Virksomhed D]. Og så har jeg været ved en eksportvirksomhed,

der hedder [Virksomhed E], der laver naturgødningsteknik og så videre. Og så startede jeg her i November. Men noget af dét, der i hvert fald – nu skal du bare stoppe mig, nu snakker jeg bare– *Jamen, du har da været lidt rundt omkring, kan man sige.*

Ja.

3:48

Er der nogle af dine uddannelse eller baggrund, der specifikt har forberedt dig til User Experience-arbejde, eller er det noget du sådan har samlet op?

Nej. Det er noget, jeg har samlet op, ikke? Og der er vi lidt – altså, jeg føler jeg kan meget sådan meget godt på gefühl med hvordan hvis vi smider det her budskab ud, eller vi laver det her købsflow, eller noget – hvordan vil det blive modtaget. Altså, det føler jeg jeg har en meget god fornemmelse for. Men det er klart at når nu vi kører sådan et forløb i gennem, så hvis der er nogle andre beslutningstagere i processen omkring en ny hjemmeside, eller hvad det måtte være, så skal man jo have lidt konkret at kunne smide på bordet. Og der er sådan, der har jeg arbejdet en del med faktisk – det var noget, jeg især startede med i [Virksomhed C] – med at bruge det system, der hedder Enalyzer. Det minder meget om Rambølls SurveyXact, hvis I kender det også.

Ja, lidt.

Ja. Og altså, smække det op i sådan et system dér, og så lave – jeg har arbejdet meget med nyhedsbreve også – og de forskellige steder, jeg har været, der har jeg ofte lavet sådan et panel, spørge om de kunne tænke sig at være med i et panel for [Virksomhed D] eller for [Virksomhed C], hvor de så løbende vil kunne deltage i spørgeundersøgelser og noget, og det er sådan nogle – folk vil gerne høres, så derfor at deltage i sådan noget, det har faktisk givet meget.

5:24

Bare lige for at have det på plads, hvad er din titel og overordnede arbejdsopgave her?

Her? Jeg er Modern Marketing Manager. Og, ja, det lyder ret bredt sådan, ikke? Og jeg føler mig også lidt som en blæksprutte nogle gange. Men altså, mit primære, det er jo sådan lidt en Key Account-funktion i forhold til en otte virksomheder, hvor jeg ligesom er ham de griber fat i. Og jeg sidder i vores content-afdeling, så det sådan en kreativ afdeling, der finder på indhold til de forskellige medier.

[Talen i munden på hinanden – spørgsmål ikke til at høre]

Men, ja, men der er meget projektledelse i det og sådan, altså, jeg er sådan måske lidt atypisk i forhold til de andre i afdelingen, fordi der er en del projektledelse i det. Det kan også være de lige pludselig skal have en ny hjemmeside – så er jeg inde over dét, og sådan lidt blæksprutte omkring de dér ting. Men det er meget med fokus på det digitale – næsten hele huset er, ikke?

6:22

Ja. Så hvor meget UX-arbejde involverer det?

Jamen UX. . . Altså, jeg ser lidt UX som det her, som jeg har sagt flere gange, ikke? Altså, det er jo hele flowet. Hvis vi tager en hjemmeside, ikke, så er det jo hele flowet i gennem en hjemmeside, og der er en mine teser jo altid, at du skal starte bagvendt – du skal starte med kunden. Hvem er kunden, hvem skal du ramme? – og så trække den tilbage, ikke? Så derfor så ville det bedste jo være at gå ud i forbindelse med at der er nogen der skal have en ny hjemmeside, gå ud og lave en eller anden undersøgelse først og sige “Der er det her firma, de vil gerne sælge det her, der er det her produkt, hvad har du behov for at vide om det før at du kan købe det produkt? Er du overhovedet interesseret i at købe det?” osv., og så ligesom trække den tilbage fra kunden og så til det firma, der gerne vil sælge et eller andet. Ja, det bliver sådan lidt abstrakt.

Jamen, det passer meget godt til User Experience.

Okay, ja.

7:30

Jamen, mit næste spørgsmål var egentlig om du kort kunne beskrive hvordan du forstår begrebet, men det har du så lige gjort jo.

Ja.

Så der flytter jeg mig bare videre. Jeg kunne godt tænke mig at stille et par spørgsmål om hvilke faktorer, du synes er vigtigst for et produkt, eller for at vurdere om det har en god User Experience. Mhm.

7:50

Øh, hvilke faktorer vil du sige har den største indflydelse på om det føles godt at bruge produktet? Det vil så være en hjemmeside her.

Ja. Om det føles godt at bruge produktet? Øh...

Ja, det er også sådan lidt abstrakt.

Altså, hvis du kan bringe følelser i spil omkring et produkt, så er du jo kommet et godt stykke hen ad vejen. Jeg ved ikke om jeg er sådan derhen af hvordan spørgsmålet skal forstås, ikke? Men, øhm, hvad kunne jeg give? Altså, for eksempel i [Virksomhed B], altså, der talte vi jo ikke når vi skulle sælge en rejse, så taler vi jo ikke om at du kan komme fra A til B og så videre – så fortalte vi om at i Paris kan du sidde på en fortovscafé og så nyde solen mens det er vinter herhjemme, og få en kop kaffe med din veninde eller din kæreste, ikke? Det er jo at bringe nogle følelser i spil. Og det er klart, at hvis du i købsflowet kan få de der følelser i spil, indtil at du kommer ned og trykker på 'bestil'-knappen, så er du kommet et godt stykke henad vejen. Der er jo noget storytelling, og man kan koble alt muligt andet på, men de følelser der, det er jo helt klart noget der er værd at spille på – altså det gælder også sociale medier. Og mange de fungerer bedst i opslag hvor der er noget intensitet og følelser i.

9:25

Mhm. Og hvad vil du så sige er vigtigst for at hjemmesiden er sådan tiltalende og ser godt ud og sådan?

Ja. Alt med måde, men altså det er noget visuelt. Altså, et billede kan stadig sige mere end tusind ord, og nu kommer det an på hvad for et produkt du skal sælge, ikke? Og der vil jeg da sige, altså, tager du [Virksomhed B], så er det én type billeder, hvor der er – det kunne være kærlighedsferier, det kunne også være en forretningsmand der kommer hurtigt afsted i lufthavnen. Altså, det er sådan nogle billeder dér, ikke, der ligesom appellerer til noget følelser og noget konkret. Tager man så sådan noget som [Virksomhed C], ikke? Der er det lidt sværere at pakke ind i billeder og følelser, men der skulle også være noget mere håndgribeligt, ikke? Øh, ja, det ved jeg ikke lige om jeg har mere til.

10:35

Og så, hjemmesidens brugervenlighed – hvad mener du er vigtigt for at den er nem at bruge?

Ja. Er det her med specielt med fokus på hjemmesider sådan generelt? Fordi så er der ingen grund til at jeg tænker sociale medier og sådan noget.

Vi er primært hjemmesidefokuserede.

Super. Vil du tage den igen?

Ja, altså brugervenligheden – hvad der gør at hjemmesiden er nem at bruge.

Ja. Altså, der skal jo helst ikke være alt for langt fra A til B. Hvis vi siger B det er konverteringen, så skal der helst ikke være for langt der til. Det kan være en udfordring. Altså nogle

hjemmesider er jo lavet decideret med salg for øje, og andre – primært de B-til-B-sider som jeg sidder med i dag – der kan det godt være det faktisk mere er information og noget, og så kan man anvise til et forhandlernetværk – forhandlerkort, hvor de så kan foretage købet. Men i hvert fald den dér “hvor langt er der fra A til B”, den er altid vigtig at holde for øje – at der ikke er for mange klik inde på siden. Vi arbejder også meget med farver, ikke, og der er jo den klassiske – rød kan godt betyde fare og sådan noget, og grøn det kan betyde et eller andet med noget positivt og noget der er fuld gas fremad, ikke? Ligesom lyskrydset. Det er jo også noget man kan trække ind, noget omkring det billedmæssige, ikke – altså, du tænker fra venstre mod højre, ikke, og du følger øjnene derned, og sådan noget. Altså, det er jo noget man også kan trække frem via noget eyetracking og noget, og så kommer det ind dér. I alle de steder jeg har været, der har vi i forbindelse med hjemmesider lavet nogle undersøgelser. Der kan være fokusgrupper eller de her, øh ja, nogen forskellige ting, vi har lavet. Og så også simpelthen lidt ligesom vi gør nu, stille nogle spørgsmål og så sætte dem foran en computer og så se hvor hurtigt kan de finde ud af det her.

Hmm.

Og det synes jeg, det er noget man kan lære meget af i hvert fald. Altså, det er jo sådan set facit. Så det kan være nok så teoretisk, men det er jo brugeren der sidder med facitet.

D.1.2 Questions – Practice

12:40

Ja. Jamen, jeg vil godt stille nogle flere spørgsmål om hvordan I sådan rent praktisk arbejder med at øh, hvordan du arbejder med at lære om UX.

Mhm.

Så nu har du lidt snakket om hvordan du plejer at arbejde med UX. Så der var noget med at lave nogle brugertests især. Er der nogle andre teknikker og metoder og fremgangsmåder, du godt kan lide?

Ja, altså noget af det som jeg i hvert fald – det er nemt at inddrage brugeren, efter min mening, fordi brugere vil ofte gerne føle sig hørt. Nu er det måske lidt taknemmeligt fordi jeg har været ved nogle firmaer også som der måske er nogle, der gerne vil associeres med. Så når det har været [Virksomhed B], og vi har spurgt ind til “hvad kan gøre din rejse nemmere”, og sådan nogle ting, så vil de gerne have deres ‘say’ med i det. Sådan var det også med [Virksomhed D], hvor jeg ligesom havde lavet sådan nogle paneler, hvor vi kunne spørge om forskellige ting. Så det jeg vil sige med det er at det faktisk er rimelig nemt at involvere brugerne, fordi de gerne vil føle sig hørt. Og det er også min tese at der er nogen når de laver sådan noget, så sætter de en rejse på spil eller sådan noget, ikke? Og det var faktisk bevidst at det her aldrig var en større værdi end et par biografbilletter eller sådan noget, selvom de brugte en halv time på det. Fordi det kan godt farve resultatet i lidt for positiv retning nogle gange, hvis du sætter for stor en præmie på spil – de tror det har noget at sige i forhold til præmien og sådan noget, ikke? De skal gøre det af engagement i det firma helst.

Ja.

Men altså, nu nævner jeg meget de her som jeg har kørt igennem Enalyzer og SurveyXact, hvor jeg har lavet noget brugerpaneler og sådan noget, ikke? Men altså, vi har selvfølgelig også brugt nogle reklamebureauer til at sætte nogle fokusgrupper sammen, hvor de har udvalgt nogle forskellige stereotyper, så vi kommer hele paletten rundt i forhold til kundesammensætningen. Og så få, simpelthen, at de spørger ind, lidt ligesom I gør nu, med “Hvad føler du for produktet

og hvad skal der til for at du vil købe”, og sådan nogle ting. Så i forbindelse med nye hjemmesider, så også simpelthen have haft nogen inde og stille dem nogle opgaver og så optage dem på video, og så se hvor langt tid tager det for dem at klikke igennem til salg, hvis nu det var det vi ønskede.

Ja.

Så jeg har sådan haft forskellige metoder til til at afdække UX.

15:15

Ja. Er du så på udkig efter nye metoder løbende, eller er du tilfreds med dit repetoire?

Jamen altså, min stiling har faktisk ændret sig lidt. Nu har vi talt om hvad jeg tidligere har lavet, ikke, og det er faktisk ikke det jeg laver så meget i dag. Jeg sidder faktisk mere med content og primært på SoMe-plattformene, end jeg sidder med web-delen. Min fordel, det er at hvis jeg har nogle kunder, som jeg arbejder med content og SoMe med, så hvis de lige pludselig giver udtryk for at de godt kunne bruge en hjemmeside, jamen så kan jeg snakke med om det, fordi det har jeg trods alt brugt det meste af min arbejdstid på at arbejde med. Men det ikke min primære opgave lige her og nu. Der er det mere inde i vores web-afdeling, hvor de sidder med den bold der.

16:10

Når du så har haft arbejdet med UX –

Ja.

Hvordan har du så haft inkluderet det aspekt i processen med at arbejde med hjemmesiden?

Hvornår i processen begynder du at tænke på UX?

Jamen, UX er jo alfa og omega når det er hjemmeside – det bør det da i hvert fald være, ikke? Altså, det er jo klart, der er mange, der er meget fokuserede på teknikdelen, og selvfølgelig skal den spille. Altså, tager du en open-source platform som Umbraco, for eksempel, som jeg har arbejdet en hel del med, også de senere år – altså, så er det jo selvfølgelig fedt at det er brugerudviklet og open-source og sympatisk, koster ikke noget, og du er altid med på det, og det er Microsoft-kompatibelt, og alle de der ting. Det er jo selve platformen – så den har vi herovre, den skal bare være på plads. Selvfølgelig skal det dét, ikke? Men så UX-delen – i forbindelse med at du skal til at lave en ny hjemmeside, jamen så er den bare med fra starten. Det er omkring det man skal bygge det op, ikke? Og det er så der man siger, hvad er målet med hjemmesiden? Er det at skabe noget salg? Eller er det mere en informationshjemmeside, hvor det skal være nemt at finde rundt i og finde nogle oplysninger, og så er det faktisk et andet sted, man foretager købet? Det kommer an på hvad ligesom målet med hjemmesiden. Men det skal være der, UX skal være gennemsyret i hele processen.

Ja.

Ja.

Har du følt at UX har fået tilstrækkelig opmærksomhed, eller sådan at det lidt er blevet overset nogle gange?

Jamen, det er faktisk et godt spørgsmål. Fordi nogle af de steder hvor jeg har været, der – det kommer jo an på hvem der styrer sådan en proces. Og det er klart, at hvis det er en it-afdeling, der egentlig har ansvaret i den proces der, så kan det jo godt være teknikfokuseret. Er det mere en projektleder, eller én der har ansvaret, der sidder ovre i en marketing-afdeling, jamen altså, så kan det næsten blive for meget UX også, ikke? (griner) Så der er altså nogle afdelinger i organisationen, der er nødt til at spille sammen, der.

18:30

Ja. Og sådan, hvor tæt følger du generelt udviklingen af nye tendenser, nye viden indenfor User Experience Design?

Ja. Jeg har tidligere kaldt mig sådan en trendspotter inden for det digitale, og det bør jeg jo da stadigvæk være, men jeg må sige, det er faktisk noget jeg er droslet lidt ned på. Fordi det er ikke lige det jeg arbejder med nu, men det – indtil for et halvt år siden – så at følge med i det på diverse medier, og så videre, det har været en del af min opgave. Og det prøver jeg jo stadigvæk på at gøre også, men det er bare ikke lige mit fokusområde lige her nu. Men det er vigtigt, for det går stærkt. Så det skal man hele tiden holde sig for øje.

19:10

Er der nogen, du især har ladet dig inspirere af og fulgt inden for UX-feltet?

Inden for UX-feltet, specielt? Øhm...

Sådan, nogle eksperter, der har haft en særligt stor indflydelse på hvordan du arbejder med...

Altså, ikke specielt nogen UX-eksperter som sådan, der kan jeg ikke lige hive nogen op. Men det er jo klart, at følge sådan nogle som dem der står bag Umbraco, eksempelvis, der jo også er dansk, ikke altså det... dem følger jeg da, ikke? Og, ja – ellers så har jeg egentlig også, de steder jeg har været, der har jeg jo brugt reklamebureauer meget også, og dem der sidder dér, de kompetencer, ikke? Så det er selvfølgelig også med at sparre med dem løbende. Men jeg har ikke lige sådan nogle gode, jeg lige kan hive op af... må jeg indrømme.

20:00

Det er helt fint. Når du har haft arbejdet med User Experience, har du så undervejs i processen forholdt dig til litteratur om området? Altså, har du læst bøger og sådan noget?

Nej. Nej.

Okay.

De er jo forældede inden de kommer ud.

Og du har ikke overvejet at, øh, kigge i – nej?

Nej. Altså, det er jo faktisk et medie, som jeg bruger en del, det er faktisk Twitter.

Ja?

Og det er klart, der kan jeg godt finde nogen, jeg følger, men der er ikke – men det er ret spektrum. Men der får jeg en del informationer inde, altså, det er også med hvad der virker, hvad der nytter noget.

Ja.

Så det er jo primært, det er de digitale medier, jeg bruger til at finde den inspiration der, og...

Hvad med sådan nogle blog-sider og forskellige...?

Ah, det kunne godt være, men altså, så er det mere fordi at så er der én eller anden, der henviser til det inde fra Twitter eller – ja.

D.1.3 Questions – Community

20:58

Okay. Fint. Så har vi lige den sidste store gruppe spørgsmål her, der handler om interaktionen og følelsen af sammenhold indenfor UX-feltet overordnet. Altså, hvor meget samarbejder du – eller har samarbejdet – med folk, der arbejder med UX? Og jeg tænker især udenfor, ligesom, din nære omgangskreds.

Ja.

For eksempel nogle universitetsfolk.

Ja, det var da et godt spørgsmål. Jeg vil sige at hvis vi har haft noget større projekt, så har jeg trukket nogen ind. Jeg har også faktisk ved [Virksomhed D], for eksempel, trukket nogen ind fra [Universitet A], der var inde, ikke? Men sådan, det er kun i forbindelse med større projekter, som sådan. I det daglige, så er det ikke lige umiddelbart den måde, jeg gør det på. Så er det igen, de der – altså, hvor jeg selv søger information, Twitter og sociale medier, hvad det måtte være af.

22:05

Sådan, baseret på dine erfaringer og opfattelser, hvor meget vil du vurdere der er af samarbejde mellem universitets og private UX-eksperter?

Altså, i forbindelse – jeg synes, ud fra den erfaring jeg har, så er det ligesom ved større projekter, at så er det virksomhederne, der kommer til universitetet. Det er ikke sådan at universitetet, der er ude og promovere sig en masse. Det er ikke min fornemmelse.

22:40

Ja, okay. Synes du det giver mening for de to at samarbejde?

Helt sikkert. Helt sikkert. Og jeg tror det kan gå begge veje. (griner)

Og mener du at der er nogle områder indenfor det, hvor der er et urealiseret potentiale? Altså, at der er noget der burde opprioriteres?

Jamen, jeg er da sikker på at der er rigtig mange virksomheder, når de også bygger nye websider, i det daglige vedligehold af den, der kører meget lidt ligesom mig på mavefornemmelser, ikke? Og der er jeg da sikker på, at universiteterne ville kunne have nogle værktøjer, man sådan mere kunne arbejde med og bruge struktureret. Så det er jeg da sådan set sikker på. Men det kommer også lidt an på den person, der sidder med det. Altså, hvor god er den mavefornemmelse – er det bare noget man selv føler, eller – og bliver det eventuelt dokumenteret et par gange om året ved at man lige laver den dér kundeundersøgelse, og sådan nogle ting der, ikke? Og jeg tror der vil være meget, der kunne være meget givende ved at give de forskellige ansvarshavere nogle redskaber til UX.

24:05

Så... vil du vurdere at forskerne og de private, at begge sider, at de gør nok for at skabe samarbejde, eller at der er nogen, der ikke gør helt nok der?

Nu er det jo ikke en hemmelighed hvad side af bordet, jeg sidder på. Jeg synes måske at godt at, altså, at uddannelsesinstitutionerne kunne gøre mere for ligesom at skabe den der *connection* til virksomhederne, ikke? For jeg tror egentlig der er mange, der ikke sådan er bekendte med at der er noget at hente, og man kan sparre om tingene.

Ja.

Et eksempel – jeg ved ikke, altså, [Forsker] kender I sikkert ude fra universitetet. Nej? Men det var jo faktisk én fra universitetet – han er professor på [Universitet A] – hvor vi hentede ham ind til [Virksomhed D]. Altså, det er sådan et meget konkret eksempel på at der da også er noget samarbejde, ikke?

Ja.

Men det tror jeg... Nej, jeg tør ikke sige om det var på vores eller hans foranledning. Jeg tror det var på vores, vi hev ham ind dengang.

25:25

Ja. Nu arbejder du så ikke med UX længere så meget, men har du generelt følt en følelse af fællesskab med andre UX-arbejdere i Danmark? Og generelt?

Så kommer vi lidt tilbage til det jeg nævnte med Twitter, altså, at der er nogen der ligesom følger hinanden, ikke? Jeg ved egentlig ikke på LinkedIn, men der er sikkert også nogle grupper og sådan. Så det er nok mere, det bliver brugt inde på de sociale medier og noget..

25:55

Men du tager ikke, sådan, til UX-konferencer eller sammenkomster?

Nej. Ikke som det er i dag, i hvert fald, nej.

Nej. Men du har haft indgået lidt i vidensdeling og erfaringsudveksling?

Ja. Altså, jeg synes faktisk at de grupper der eller dem der jeg følger, altså der er det lidt mere giv-og-tag, så hvis man har haft en eller anden positiv oplevelse med et eller andet, et nyt system, et eller andet man har lavet på sin egen side, der virker godt, at så er der noget vidensdeling blandt dem, jeg følger. Altså, det er jo det man får ud af også de sociale medier, det er noget med at give og tage, ikke? Så det er primært der, jeg henter inspirationen og også selv deler hvis der noget.

26:50

Sådan, gennem dit arbejde med User Experience, hvordan vil du så vurdere at det generelle evneniveau er? Altså, føler du sådan at der er nogle der ikke er sådan helt op til niveauet?

Jamen, altså der hvor jeg ser den største fare, det er jo at det hele skal være i organisationen. Der skal altid være et miks i sådan en projektgruppe, der skal have en ny hjemmeside – eller hvad det måtte være – op og køre. Der skal der gerne være indeholdt nogle fra de forskellige funktioner i organisationen, så der ikke bliver for meget fokus på it og teknikken omkring hjemmesiden, og det heller ikke bliver helt noget plidder-pladder, når vi taler om marketing, ikke? Der skal være nogen involveret fra de forskellige grene af organisationen.

27:45

Er det sådan at du har oplært andre i at lave UX?

Øh, ja. Altså, de steder hvor jeg ligesom har været projektleder, der er ansvarlig for hjemmesiden, så har vi nok haft nogle andre, der har været redaktører på hjemmesiden. Og der er det mig, der har stået for at lave de retningslinjer for tekster og sprogbrug, og så videre.

D.1.4 Additional comments

28:15

Ja. Jamen, det var sådan set de spørgsmål, vi har. Så vil vi bare gerne lige høre dig om der er nogle andre emner eller noget indenfor det her, du gerne lige vil uddybe noget om?

Det ved jeg ikke... Nej, jeg synes egentlig at mine points der, de er kommet sådan okay ud. Det ved jeg såmænd ikke lige hvad det eller skulle være. Men i hvert fald, noget af det der med at brugerne, de vil gerne lade sig høre. Eller, lade sig blive hørt, ikke? Så for pokker da, så lyt til dem, ikke? Selvom vi alle sammen, også mig selv synes jeg, har en god mavefornemmelse, så er det nu engang brugerne, der har facit. Så kan jeg runde af med det.

Det var da et fint afsluttende ord. Jamen, tak for det.

D.2 Interview P1 (EN)

Sigfred

Participant 1 (P1)

Timecode

D.2.1 Questions – Domain

0:00

Could you briefly describe your background within User Experience?

Like, within User Experience specifically? Sure...

Also in general, your educational background and work history.

Yes. Well, my educational background, that's really many years ago by now. There was something called – you could become an academy economist. And I became that, specialized in “international marketing”, and that kind of originated in that I had spent a year in Germany, where I had worked, like there were quite many of who worked at [Company A] down there as a sort of trainee thing. And then I completed the education here in Denmark, which was one year. So it's a two-year education, one might say. And that is actually the education that I have. And then of course some business school and stuff from that, you know? But that is the theoretical education, I have. Then I came over and worked with sales after that, where it actually was with [Company B] air travel stuff. And I still worked with sales there for several years. I actually became sort of a Key Account Manager to, you know, larger corporations and so on. And since this is a hundred years ago, it was just beginning that some things should be moved to the Web. And they were actually some of the first-movers there at [Company B], where they said that it could get up and running there – gearing it up on that sales channel. Yes.

Also because [Company B] at the time was one of the companies where you actually dared to give them your credit card details. It was a well-known company. So that was rewarding to work with. But there I actually got the responsibility for that sales channel, and part of the reason that I came over from sales and had to maintain the website, that was that they wanted someone with a sales focus and someone who – how to say this – someone who could read the customers.

Sure.

And knows the sales pattern, right? So I was dragged on over from our sales division, and then had to think some selling into the web. And obviously, to me, one of the most important things when we talk about the web – and also social media, for that matter – that is that buzz-word “empathy”. That you can put yourself in the customer's situation, and obviously, some are bloody born with it, and others have to learn it. But you have gotten far if you can sort of identify with the customer's thoughts. But obviously, sometimes it makes use of feelings, and other times it has to be tangible. If it has to be tangible, then we go out and do these user studies, you know? Right – onward. I was [*unintelligible*] – I was there in total or eight years actually, but in regards to marketing, I was there for three years. I have also been kind of been running my own business, which I've actually still got – there is no activity in it, but that started at the same time. And then I've been at [Company C], following [Company B], and then I moved back to Northern Jutland, where I was at [Company D]. And then I have been at an export company called [Company E], that makes natural fertilization equipment and so on.

And then I started here in November. But some of that, actually – feel free to stop me, I’m just talking here –

Well, you sure have been some places, you could say.

Yes.

3:48

Is there anything in your education or background that has specifically prepared you for User Experience work, or is that just something you’re picked up along the way?

No. It’s something I’ve picked up, you know? And here we are a bit – you know, I feel I can quite well kind of do a lot based on gut instinct regarding how if we send out this message, or do this buying flow, or something – how will it be received. That is, I feel like I have a really good sense for that. But it’s obvious that when we run such a process through, then if there are other decision makers in the process around a new website, or whatever it is, then you have to a little something tangible to throw down on the table. And with that, for that I have actually worked a lot with – it was something I really started with at [Company C] – with using the system called Analyzer. It’s quite similar to Rambøll’s SurveyXact, if you know that too.

Sure, a bit.

Sure. And I mean, throwing it into a system like that, and then making – I have often worked with newsletters as well – and the various places, I have been, I have often made a kind of panel, asking whether they’d like to be on a panel for [Company D] and for [Company C], where they continuously can participate in questionnaires and such, and that is something that – people want to be heard, so for that reason, to participate in something like that, that has actually given a lot.

5:24

Just to have it on the record, what is your position and overall work task here?

Here? I am Modern Marketing Manager. And yes, that sounds kind of broad, right? And I do feel a bit like sort of an octopus sometimes. But really, my primary, that is a little bit of a Key Account function in relation to about eight companies, where I’m kind of the guy that they get in touch with. And I’m sitting in our content division, so that’s sort of a creative division, that makes up content for the various media.

[Talking over each other – questions can’t be heard]

But, yes, but there is a lot of project management in it and so, like, I am maybe a little atypical compared to the other people in the division, because there is quite a bit of project management in it. It might also be that they suddenly need a new website – then I’m involved with that, and sort of a bit of an octopus about these things. But it’s very much focused on the digital – almost the entire house is, you know?

6:22

Yeah. So how much UX work does that involve?

Well UX... I mean, I kind of see UX like this, as I’ve said several times, right? You, know, it’s that whole flow. If we take a website, right, then it’s the entire flow through a website, and one of my tenets is always that you should start in backwards direction – you should start with the customer. Who is the customer, who are you targeting? – and then pull back, you know? So therefore the best thing is to go out when somebody needs a new website, go out and do some sort of study first and say “There is this company, they want to sell this, there is this product, what do you need to know about it before you can buy it? Are you even interested in buying it?”

and so on, and then sort of pull back from the customer and on to the company that wants to sell something or other. Yeah, it gets a little bit abstract.

Well, that fits in with User Experience in general.

Okay, yes.

7:30

Well, my next question was actually if you could briefly describe how you understand the term, but you have just done that anyway.

Yeah.

So I will just move on ahead. I would like to ask you a few questions about what factors, you think are most important for a product, or to evaluate whether it provides a good User Experience.

Mhm.

7:50

What factors would you say has the biggest influence on whether it feels good to use the product? That would be a website in this case.

Yes. Whether it feels good to use the product? Uh...

Yes, that is also a little bit abstract.

I mean, if you can bring feelings into play with a product, then you've already come a long way. I don't know if I'm in the right area with how the question should be understood, you know? But, uhm, what could I give here? Well, for instance at [Company B], you know, we didn't talk about when selling a trip, we don't talk about how you can get from A to B and so on – we talked about how you in Paris you could sit at a sidewalk café and enjoy the sun while it's winter here at home, and have a cup of coffee with your friend or romantic partner, right? It's about bringing some feelings into play. And clearly, if you can get those feelings in play during the buying flow, until you get down there and press the 'order' button, then you've come a long way. It's a bit of storytelling, and you can connect with all sorts of stuff, but those feelings, that is definitely something worth playing on – also regarding social media. And a lot of them, they work best in posts where there is some intensity and feelings in it.

9:25

Mhm. And what would you say is most important to make the website appealing and look good and such?

Yes. Moderation in all things, but surely something visual. You know, a picture is still worth a thousand words, and it really depends on what kind of product you want to sell, right? And I will say, well, if you take [Company B], then it's one type of pictures, where there is – it might love getaways, it might also be a business man who has to get going in a hurry at the airport. You know, it's that kind of pictures, right, that sort of appeal to some feelings and something tangible. If you then take something like [Company C], right? Then it's a little harder to package it in pictures and feelings, but there should also be something more palpable, right? Uh, yes, I don't know if I have any more for that.

10:35

And then, the usability of the website – what do you think is important to make it easy to use?

Yeah. Is this specifically focused on websites, like, in general? Because then there's no reason for me to think about social media and such.

We are primarily focused on websites.

Great. Would you repeat it?

Yeah, you know, usability – what makes the website easy to use.

Yes. Well, there shouldn't be too far from A to B. If we take B to be the conversion, then there shouldn't be too far to get there. That can be a challenge. I mean, some websites are of course oriented specifically towards sales, and others – primarily the B2B sites that I'm handling today – often times they are more about information and stuff, and then you can refer to a network of dealers – a map of dealers, where they can then complete the purchase. But anyway, that “how long is there from A to B”, that's always important to keep in mind – that there aren't too many clicks on the site. We also work a lot with color, you know, and there is of course the classic – red might mean danger and stuff, and green, that might mean something positive and something that's full speed ahead, right? Like the traffic light. That's also something you can include, something about the imagery, right? You know, you think from left to right, and you follow your eyes down there, and stuff like that. I mean, that's something you can draw out using eye tracking and stuff like that, and then it appears there. At all the places where I've been, we have in relation to websites done some studies like that. It might be focus groups or these, uh well, various kinds of things, we've done. And then also just a little like we're doing now, asking some questions and then putting them in front of a computer and then seeing how fast they can figure these things out.

Hmm.

And that, I think, you can learn a whole lot from that, in any case. I mean, that's pretty much the sum total. Then it can be oh-so theoretical, but in the end the user has the sum total.

D.2.2 Questions – Practice

12:40

Yes. Well, I would like to ask a few more questions about how you on a practical level work with, uh, how you work with learning about UX.

Mhm.

So now you have talked a bit about how you usually work with UX. So it was something about doing user tests in particular. Are there some other techniques and methods and approaches, you like to use?

Yes, well, something that I usually – it's easy to involve the user, in my opinion, because the users will often like to feel heard. Now, this might be a bit forgiving because I've been at some companies as well that there may be some, who would like be associated with. So when it's been [Company B], and we have asked about “what could make your journey easier”, and stuff like that, then they would like to have their say in it. It was also that way at [Company D], where I sort of made some panels, where we could ask about various things. So what I'm trying to say is that it's actually fairly easy to involve the users, because they would like to feel heard. And it is also my tenet that there are some when they do something like this, they offer up a trip or something like that, right? And it was actually a conscious decision that this was never a bigger value than a couple of cinema tickets or something like that, even though they spent half an hour on it. Because it might very well color the results in a too positive direction sometimes, if you offer up to great a prize – they will think that it has a say in regards to the prize and such, you know? They should be doing it out of engagement with the company, preferably.

Sure.

But I mean, now I mention it a lot how I've run these through Enalyzer and SurveyXact, where I have made some user panels and stuff like that, right? But you know, we have of course also

used some advertising agencies to put together some focus groups where they have picked out some different stereotypes, so we cover the entire field with regards to the customer base. And then get, simply, that they ask, a little like you're doing now, about "How do you feel about the product and what would it take for you to buy it", and that sort of things. So in relation to new websites, then also simply have had someone in and give them some tasks and then record them on video, and then see how long time it takes them to click through to sale, if that's what we wanted.

Sure.

So I have kind of had various methods for uncovering UX.

15:15

Yes. Are you then on the look-out for new methods as you go along, or are you satisfied with your repertoire?

Well actually, my position has actually changed a bit. Now, we've been talking about what I used to do, right, and that is not actually what I'm doing much of today. I actually deal more with content and primarily on the SoMe-platforms, than I deal with the web part. My advantage is that if I have some customers, with whom I work on content and SoMe, then if they suddenly express a desire for a website, well, then I can talk to them about it, because after all, I have spent most of my working time working with that. But it's not my primary task right here and now. That is more over in our web division where they've got that ball there.

16:10

So when you have worked with UX –

Yes.

How have you then included that aspect in the process of working with the website? When in the process do you start thinking about UX?

Well, UX is of course alpha and omega when it's websites – at least it should be, right? I mean, obviously, there are many, who are very focused on the technical side, and of course that has to just work. I mean, if you take an open source platform like Umbraco, for instance, which I have worked quite a lot with, also in recent years – well, then it's of course nice that it is developed by users, and open source, and likable, doesn't cost anything, and you're always right on it, and it's Microsoft compatible, and all those things. That's the platform itself – so we have that over here, it just needs to work. Of course it has to, right? But the UX part – with regards to when you have to make a new website, well, then it's just there from the start. It is around it that you have to build it up, right? And so that's when you say, what is the purpose with the website? Is it to create some sales? Or is it more of an information website, where it has to be easy to find your way around and find some information, and then it's actually somewhere else that you actually have to complete the purchase? That depends on what's kind of the purpose with the website. But it must be there, UX must permeate the entire process.

Yes.

Yes.

Have you felt that UX has gotten sufficient attention, or that it has sometimes been overlooked a little?

Well, that is actually a good question. Because some of the places where I have been, it – it depends on who is managing a process like that. And it's obvious that if it's an IT department who has the actual responsibility in that process, it can become quite tech-focused. Is it more of a project manager, or someone who has the responsibility, who sits over in a marketing

department, well, then it can almost be too much UX too, right? (laughs) So there are some departments in an organization that have to work together there.

18:30

Yes. And well, how closely do you generally follow the development of new tendencies, new knowledge within User Experience Design?

Well. I have previously called myself kind of a trend spotter in terms of the digital, and really, I should still be that, but I've got to say, it is actually something that I have wound down on a little. Because it's not really what I work with now, but it – until a half year ago – following it through various media, and so on, that has been part of my job. And I still try to do that of course, but it's just not my main focus right at this moment. But it's important, because it moves fast. So you have to keep an eye out for it all the time.

19:10

Are there anyone in particular that you have been inspired by and followed within the UX field?
Within the UX field in particular? Uhm...

Like, some experts who have had a particularly great influence on how you work with...

Well, not any UX experts in particular, as such – I can't really pull any out there. But obviously, to follow someone like the people behind Umbraco, for instance, which is Danish, you know, that's – I follow them, you know? And yeah – beyond that I actually also have, the places I've been at, I have used advertising agencies a lot as well, and the people working there, those competencies, right? So it is of course a matter of sparring with them continuously. But I don't really have any good ones, I can just pull out of... I must confess.

20:00

That's quite alright. When you have worked with User Experience, have you then consulted any literature on the subject during the process? That is, have you read any books and anything like that?

No. No.

Okay.

I mean, they're outdated before they even come out.

And have you ever considered, uh, taking a look at – no?

No. Well, actually it is a medium that I use a lot, that's actually Twitter.

Yeah?

And obviously, I can find someone there that I follow, but there's not – but it's a broad spectrum. But I get quite a bit of information there, you know, it's also about what works, what's worth it.

Yeah.

So it's primarily, it's the digital media, I use to find that inspiration there, and...

What about something like blog sites and various...?

Ah, that might be, but I mean, then it's usually because someone has referenced it from Twitter or – yeah.

D.2.3 Questions – Community

20:58

Okay. Alright. Now we just have one last big group of questions here that are about the interaction and the feeling of community within the UX field in general. I mean, how much do you collaborate – or have collaborated – with people who work with UX? And in particular, I'm thinking about outside your, like, closest acquaintances.

Yes.

For instances someone from the university.

Yes, that's a good question. I will say if we have had some larger project, then I have pulled someone in. I have actually also at [Company D], for instance, pulled someone in from [University A], that came by, you know? But in general, that is only in conjunction with larger projects, as such. In the daily work, it's not really the way I do it, off the cuff. So again, where I myself seek information is Twitter and social media, whatever it is.

22:05

So, like, based on your own experiences and impressions, how much would you say that there is of collaboration between the UX experts of the university and the private sector?

Well, in regards to – I think, from the experience that I have, it's kind of on the larger projects, then it's the companies that approach the university. It's not like the university it out there promoting itself a whole lot. That's not my impression.

22:40

Yes, okay. Do you think it makes sense for the two to collaborate?

Definitely. Definitely. And I think it can go both ways. (laughs)

And do you think that there are some parts of it, where there's potential that hasn't been realized? That there is something that should be prioritized higher?

Well, I'm sure that there are a lot of companies, when they build new websites, in the daily maintenance of it, where it's done kind of the way I do it, on gut instinct, right? And I'm sure that the universities might have some tools, you could sort of work with and use in a structured way. So I'm actually quite sure of that. But it also kind of depends on the person who's working with it. You know, how good that gut instinct is – is it just something you feel yourself, or – and is it perhaps being documented a few times a year by doing that customer study, and that kind of things, you know? And I believe that there's a lot there that could be rewarding by giving the various people in charge some tools for UX.

24:05

So... would you say that researchers and those in the private sector, that both sides, that they do enough to generate collaboration, or that there are some who aren't doing quite enough?

Now, it's no secret what side of the table I'm sitting on here. I think that maybe that, well, that the educational institutions could do more to, like, generate that 'connection' to the companies, you know? Because I actually do think that there are many that aren't aware that there's something to gain there, and that you can spar about stuff.

Yeah.

One example – I don't know, well, [Researcher], you probably know from the university. No? But that was actually someone from the university – he's a professor at [University A] – where we brought him in at [Company D]. I mean, that's a really specific example of that there is also some collaboration, you know?

Yes.

But I think that... No, I can't really say whether it was ours or his initiative. I think it was ours, when we brought him in back then.

25:25

Sure. Now, you don't work that much with UX anymore, but do you generally feel any sense of community with other UX workers in Denmark? And in general?

That gets back to what I said about Twitter, you know, that there are some there who kind of follow each other, right? I actually don't know about LinkedIn, but I'm sure there are some groups and stuff on there. So it's probably more that it's used on social media and stuff.

25:55

But you don't, like, attend UX conferences and gatherings?

No. Not the way it is today, anyway, no.

No. But you have participated in some knowledge sharing and exchange of experiences?

Yes. Well, I actually think that those groups or the ones that I follow, well, it's a bit more of a give-and-take there, so if you have had some sort of positive experience with something or other, a new system, something or other that you have made on your own site that works well, then there's some knowledge sharing among those, I follow. I mean, that is what you mainly get out of social media as well, it's about giving and taking, right? So it's primarily there I get the inspiration, and also where I share it myself if I have anything.

26:50

Well, through your work with User Experience, how would you say that the general skill level is?

I mean, do you feel that there are some that aren't really up to snuff?

Well, I mean, where I see the biggest danger, that is that it all has to be in the organization.

There should always be a mix in that kind of project group, that need to get a new website – or whatever it is – up and running. It should ideally contain somebody from the various functions of the organization, so there isn't too much focus on IT and the technical side of the website, and that it also doesn't end up in some gibberish, with regards to marketing, right? There should be someone involved from all the various branches of the organization.

27:45

Is it the case that you have trained others in doing UX?

Sure. Well, at the places where I have been, like, the project manager, who's responsible for the website, we have probably had someone else that have been the editors of the website. And then I have been in charge of developing those guidelines for texts and use of language, and so on.

D.2.4 Additional comments

28:15

Yeah. Well, that was actually the questions that we have. So we would just like to hear if there are any other topics or something regarding this, that you would like to expand on?

I don't know... No, I actually think that my points have come across quite okay. I don't really what more there is to say. But in any case, some of the stuff about the users, they want be listened to. Or, be heard, you know? So damn it, listen to them, right? Even if we all, myself included I think, have good gut instinct, it is after all the users that know the sum total. Let's end it there.

That was a nice finishing sentiment. Well, thanks a lot.

D.2.5 Notes

- Total time: 29:04
- Recorded at Participant's office on the 8th of May, between 10 and 11 o'clock.
- Sigfred and Stig present.
- Translated from Danish.

D.3 Interview P2

George

Participant 2 (P2)

Timecode

D.3.1 Questions – Domain

00:03 *All right, first set of questions will be about understanding and defining the UX. So, could you briefly describe your education background and work history?*

I have a background in engineering psychology, and then I have a PhD in information system with focus on agile UX and empowerment of [teach]. And I was, I think like engineering psychology, I was finished in 2011, and the PhD I finished that in 2015. I think at the end of the year, yeah.

00:48 *Alright*

It was an industrial PhD, so I actually worked as a UX designer at a major company in [City A] called [Company A], so that was where I also conducted the PhD study.

01:00 *Okay*

And I was enrolled in the [unintelligible] school in [City B]. And then I had a brief encounter with [Company B] for, like, not a year, but almost a year, where I worked in the IT department. And now I work as a senior usability lead at [Company C], and also I'm teaching at [University A]. They have a professional Master course, or professional graphic course called "UX and Agile", such as [unintelligible].

01:32 *So, you are both a practitioner and a researcher at the same time?*

Not a researcher anymore, I have been. So now I'm in the industry completely.

01:40 *Okay*

But of course working with it, it depends... because we have, like, huge discussions around, "Okay, should we call the things we in the industry for UX research, [unintelligible]?" So we actually have a research department here at [Company C] that conduct research, but some of the work I'm doing is looking into a more research-y area of UX. But it is also still, like, handling all our usability and UX activities at [Company C].

02:06 *Okay, great. The next question should be then, did your education prepare you for the work with user experience?*

Yeah, especially like the Master's – engineering psychology, that was exactly like, that [facilitated actually becoming] a UX designer in the end. I will say, we had some issues with them not having enough knowledge around the different tools, we can use and utilize as a UX designer, and also we were... Like, I was the first year to graduate that education, so everything was brand new for the university as well, and for us, so we didn't have anything to lean on. Like, we didn't have previous projects and so on to look into, so we were like discovering everything for the first time – also, like, all of us as individuals, but also, like, for the education as well. So we were, like, setting the standard for that education. So I think in general yes – especially from the psychology point of view, and also from the experimental design point of view. But I can also see that we had some issues, and sometimes, we also need to be able to [use standardized] methods, and we have a bit of lacking in that because we thought we invented all of the stuff ourselves, and then afterwards when I, like, started to become a practitioner in this area, I can see that the some of it is just like – okay, this is just like a

standardized method that we used, [you can just analyze it] [unintelligible]. I can say like – but I think, like, the whole, like, group work we had at [University B] has helped me a lot. I have a lot stakeholder management in my current job, so the whole, like, being able to interact within a group, being able to interact within a company, is quite beneficial. And also there is something from the PhD, like the [overview] stuff, and being very secure in the field you work, and also the whole, like, stress level, being a PhD student in a company – that helps me a lot now. So there is a lot of beneficial things and then there is like these minor stuff, the tooling and the, like, standardized work and so on, [that I have discovered myself, right?]

04:20 *Alright, did you select yourself the field of user experience, or was it...?*

My title, sorry?

04:30 *Uhm, yeah. When you started your education and afterwards, did you decide to pursue user experience yourself?*

Yeah, it was coincidence. I actually started studying math at the university for a year, and then it was not me, I missed the whole interaction with people. So I just, like, “Okay, what should I do?”, and I was actually, like, contemplating of studying psychology, and I was just like, “Nah, I’m not a psychology person”. So it was just, like, very suitable when we had engineering psychology coming out, because you had the things from engineering and you had the life side from psychology as well. So the match between those two, I think that was quite – [mitch-match] – between those two, so it worked quite great for me as a person. So, and it was actually first when I was finished with my Master thesis, and so I’m the... I figured out I was UX designer. I’d never heard it before, we were just like, “Okay, which type of job can I actually apply for?”, we were just like, “We actually don’t know”. So it was actually at that point we figured out the whole, like, “Yes!”, like the whole, all of us graduating, that we were actually UX designers. So that was a bit like peculiar, but yeah.

05:40 *That’s interesting*

And here at [Company C], it was very important for me to be ... I’m not working as UX designer, because I’m not executing. So I’m much more in the whole strategy and framing, stakeholder management, that side of it. And then also a bit of, of course around the whole, like, testing stuff. But i’m not designing stuff, and that’s why I’m not a UX designer – I’m a UX lead. So we have UX designer as well that have more hands-on than I have.

08:17 *Alright, well our questions are based on user experience so I’ll continue with them. Hopefully you have some thoughts on it. And more precisely, how can you describe user experience – what does user experience mean to you?*

We work a lot with user experience, as some sort of cherry on the top, right? So it’s much more like the feeling around the whole experience, [it gives itself], right? So when we talk about usability, that’s much more, like, “Okay, does it work? Does it match to the different acceptance criteria you have?”, and it’s quite easy to measure. When it come so UX, then it’s much more like, how to put it, much more into the qualitative side of things, where when you measure usability there is more of the quantitative – that’s time, that’s errors, things like that. And when it come to UX, then it’s much more, okay, the feelings and the attitudes and so on.

So that’s how we distinguish. And at [Company C], we distinguish quite a lot, because we work with three levels. We work with ... eh what is the word ... we have the basics, where it’s just like humans, where it’s just like human...

07:38 *The experience itself?*

Yeah, much more human factors actually, I think. So when we hire participants, that can be

everybody, that can be people from the street, that can be customers, that can be everybody. And then we have the next level where, which is usability, and that's where we actually want to test, like, in the right segment. So for instance if we're testing with people in a certain age group and that's important, or if we are testing man vs female so that's important. And then we have the UX of top, and that's where we actually test with the real end users. So that's how we distinguish it. And I think that's quite also how I see it, like, we have human factor and then we have usability, and then we have the UX.

08:24 *Okay. In this term I would like to ask you a few questions that would factor what are the important things in a product to provide a good user experience. So, what factors would you say have the biggest influence on whether a product feels good?*

Eh, like, control. Like, the feeling of control – that's so important. The comfortableness and control, that's the key issues when we talk about, and I talk about UX.

08:50 *Mm-hmm. Alright.*

There is, like, a lot of things going into that of course but, like, in general, that's the real thing. Because you can ... people try out a lot of stuff, and it can be fast and it can be slow, it can be whatever – but if they don't feel in control, then it's a bad user experience. And if they are not comfortable with how it works, then they get uncomfortable, and then you have the opposite of good, a great user experience. So that's how we operate, like, when we... And of course, there are a lot of other aspect to it, but that's, like, the key issue.

09:29 *Okay, well, which factors do you think will enhance the appeal of a product in this case? Sorry?*

09:38 *Which factor will enhance the appeal of a product?*

The appeal, that's much more like from, like, [from...]-[Partly unintelligible; she talks from the perspective of the company's way of working]. But in our terms that would be like industrial design. If you have the proper eye appeal when you look at it, and then when you start using it and operating it, and then you can have the user experience of actually using it. So we have like the whole industrial design and then the UI and then in the end the UX of all of it. So the appeal – it depends on the system, right? Because, if you have an app, that's something else. They don't have industrial design, they need to plan some other issues. But from a physical product point of view, that's what we talk about. And I know that you come from much more web-based and website point of view, and they are so [unintelligible]-[the effects] of it that's the appeal. But if it is not useful then you don't have a great user experience, even though it can be as beautiful as, you know. But it's like this give and take.

10:49 *Mm-hmm. So for the next is just how important... what is important in making a product usable? Besides the things that you already mentioned.*

Yeah, but usable, like, you need to take into consideration the context, always.

11:10 *Yes.*

So, so, if you have the proper context to the product, then you are, like, a bit along the way, and then of course it should be, like, simplicity is also always a key when it comes to these types of things. Because if it's easy to use, then that learnability curve is not that steep. That's also a great thing.

11:26 *Great.*

So yeah.

D.3.2 Questions – Practice

11:31 *For the next set of questions – they are more oriented towards working and learning about UX. So, how much of your work is related to user experience, as you already mentioned some of it?*

Yeah, in general we have a lot of stuff going on, so I've been working first in concepts, and then I've been working in software for, like, 7 or 8 months. And then I've just moved back now to UX department instead. So right now everything, almost everything that I'm doing is connected to usability and UX [at some point]. But of course like under that there is, as I said before, a lot of stakeholder management, and everything like that, where I use almost all of my time. Getting that up to speed and talking with the teams and being aware that, okay, this is happening right now, and [lining] what is going on as well, both when it comes to processes and tools. But also how our product sounds like and how we operate them, different gestures we use in the interface and so on. But that in general, I'm much more, like, aligning and then somebody else is doing it, but the overall umbrella is usability and UX from my point of view.

12:49 *What kind of methods, and techniques do you use when you approach any new product?*

Eh, so right now we are actually, like, [in the company], we are starting to benchmark a lot. So we have a lot of expert reviews, a lot of inspections of competitive products. Then we have a lot of tests – we would like to set up much much testing than we do, so we have set up some unmoderated tests, actually performed as online, and we have user tests, like think-aloud protocols, we have A/B testing, we have contextual inquiry, uh .. we have a bit of card sorting in some of our [unintelligible] projects, as well. Uhm, what more do we have... we have general interviews, both like semi-structured and just, like, a lot of questionnaires...

13:50 *So the standard.*

Yeah, all the standard stuff. But of course, like [setting the setting where] we're working, so we are not... some of it we are working just like straight from the shelf, from the book, and some of it we, we modify a lot. During my PhD, I modified some different usability methods to be used in an Agile setting, so that's also that something we take into consideration when we chose methods right now. That it's something that we need to be able to apply quite quickly in the settings, because we are working agile, and that's very important for us to [always follow that rhythm] in this type of work.

14:20 *Yeah*

Uhm.. Of course, like, we modify where we can, for instance when we made contextual inquiry, we don't do full analysis with any [of the diagrams and so on] – much more like simple stuff, because we also know that, okay, we don't have, like, endless resources to use as well. So it's very much prioritized what we do, in general, and also when it come to findings, it's very prioritized as well.

14:49 *Alright. When designing or evaluating a product, how do you incorporate the user experience? And since you also use Agile, I guess it's in the beginning of the process, you bring it?*

No.. we actually try... We have a dream of [having an approach like that]... So of course we have some sort of [unintelligible: sprint zero?] in the beginning, also because we are working – we have concept guys here as well – so we have some like, somebody comes in with some ideas and sometimes it's the designer coming in with the ideas, sometimes it's something, we have an insights team as well looking into emerging trends and statistics, analytics and so on. So we have some ideas of, "Okay, we're going to work in this area now". So for instance that could be an outdoor speaker, right?

15:35 *Mm-hmm*

Okay. Then we start making some concepts around that, “Okay, what should we, how should be able to perform, how should the sound quality be, how could the industrial design be?” and so on and so on. And then at some point we bring in a designer who can actually, like, finalize it. We have some business designers, we have a close collaboration with. And then, like, we have a dream that.. Right now, UX is not aboard in that process and that is completely wrong, in our opinion. Of course UX should be part of it from the beginning. We have done it, like... Before we have something physical – we are working in the physical field, right? – so before we have something physical, we actually bring in the UX designer now, but that’s actually quite new. So they are in the loop when we start to discuss the physical design of it. And physical, that’s both the physical, but also the UI of it of course as well. And then the UX designer actually follows the products, and then when we start the more, like, developing, we have a stage kit model, like all the companies, which is very waterfall. Then the UX designer actually goes in together with the product and development team and work and are there to [unintelligible] the development team, and work closely together with the developers in order to make sure that the vision – the UX and design vision, we have for the product – are met in the end.

16:59 *Yeah, alright.*

So we have, like, a bit weird thing compared to others and, but it is not matured enough yet. We have some issues around that as well, of course. But we’re taking the first steps, and especially the whole thing with having the UX designer embedded in the development teams is a very huge success.

17:16 *Yeah, That’s great. How closely do you follow new developments and trends in the field of UX?*

I would say, like, from personal point of view, not that much because we have a lot of low hanging fruit we are trying to grab here.

17:32 *Yeah.*

Not as much as I would like to..

17:37 *Alright.*

But of course, a bit – and also, like, we have a more [unintelligible] going on. But that’s like more things that are in the market we are looking at, right?

17:55 *Alright, but when designing or evaluating UX of a product, do you consult literature?*

Mmm.. No. I’m just thinking if we’ve done that, like... We do it to that extent that of course, like, we have some exploration projects coming along, where it’s like a complete new field, where we know that some universities are working within the same area. There of course we look into what they are doing, so a bit of paper, like academic papers and so on – From that side of it, but from more like the design side of it .. no. But from more like the technical side and also like the whole [unintelligible] ... Actually, to some extent of the interactions we are looking into it when it’s exploration. And again in our context, exploration projects are something where we, when we trying to figure out if this is an area we actually need to go into. So that’s, like, prior to all of the other stuff I talked about. But then we use... and also because, we have a research department here and we have close collaboration with universities as well, and we have researchers coming here who want to meet .. We have lot of insights in that world as well when it comes to new stuff.

D.3.3 Questions – Community

19:09 *Yeah, Okay. Well the last section of the interview is gonna discuss the interaction and the togetherness across the UX field. How much do you collaborate with UX professionals in the private sector?*

All the time, because I work here. (laughs)

19:33 *Yeah*

We really work a lot like, as I said, we have just been gathered in a UX department now. So we actually, like – but we have two locations, we have one in [City A] and [City B], but we are in one department in [Company C], we work very close together. And if we turn it the other way around, I'm working closely together with the university as well, because I have a background in a university and we have the research department here. So it's not like formalized how I do it, but I have a lot of connections and a lot of resources I can draw on when it comes to that as well. And also because I'm teaching at the [University A], so I have people I can call. It's like, "Okay, how do you actually do this? What are the normal procedures?", and so on. And also because I've given a lot of talks around Agile UX in the past, so I have quite a good network in other industries as well, and also, like, the other places I work. So there is a lot of collaboration from inside [Company C] and also outside. And that's very, very important.

20:44 *Alright. How much do you think that the UX professionals in the universities and private sectors in general collaborate and interact with each other?*

I'm not sure that that much is going on, actually. And again, I'm a special case, because I [have a foot in both groups]. But I think there is something and also, like... from [Company C], there is a tradition for doing some work. But again, it's more like we have a strong research track and then a strong R&D track, and the links between those tracks are not that great, actually.

Sometimes we, like, ask how do we actually handle stuff coming from the research part of the company – and normally we don't so, it's quite weird. It's very weird, actually. And I could imagine in other companies, like, if you don't have a research department, then academia is quite far away. And also because they live in a ideal world, right. And that's also when it comes to the methods and so on, that most of the methods are developed within academia and that's doesn't suit the real world, because the real world has a much faster turnaround time and a much faster development time as well. So we don't have time – like, of course sometimes you do it in the beginning, but usually we don't have time to go out and make these extensive studies around, like, how people live and how they live with our products, and so on and so on. Because we can't have 50 people in, because we don't have the resources and the general time for it. And we don't have the resources to go out and, like, get contextual inquiry stuff as well, where you go out and follow people for a few days, if that's the case, and then a have huge analysis phase afterwards. So in my opinion I think academia should collaborate more with industry also, in order to actually make the methods and processes much more suitable to be used in real life, because they live in an ideal world – and that's not how the world looks like.

22:55 *Great. Actually this answers a lot of our questions and thank you for that. But also I have a couple of more. As a UX professional do you feel any sense of community with other UX professionals here in Denmark?*

Yeah, I do. Very, very much. It's just like, it's double-sided, right? Because normally I say UX designers, we are very much primadonnas in general (laughs). That's one side of it, right, but the other side of it – I think, also because I have the background I have and I've supervised a lot of people during my [PhD and such]. So, a lot of people also just call – or, like you guys, just ask

or send me a mail and say “Is it possible to talk?”, and of course I would like to talk and I would like to teach the stuff, I know or discuss stuff. I know and so on. So I think, like, we have quite a good collaboration going on, like, between us. And also because we have a lot of events going on, and a lot of companies who have these, like, morning talks, and small conferences and so on. And I think people are quite good at actually attending as well and also being able... Because it's new field, so I think, like, we also need to find a way on how to do it, as well. And we can see that people, or companies are facing the same problems all over, even though, like, we are in the consumer electronic field, right? But that's the same, we face the same problems as I did when I worked at [Company A] and when I worked at [Company B], so there is something, like... If we can stand together in a way and actually mature [unintelligible], I think, like, a lot of people would want to do that as well.

24:45 *Yeah. Well, what are your impressions of the general level of skill and knowledge in the UX field with other practitioners?*

I think we have huge issue with the terminology in general, also when we talk about UX and usability and so on. Because I can see now everything is, like... When I started out everything was about usability, and then it changed to UX, and now we are going much more towards customer experience as well. But in general, a lot of it is the same, and then there is a difference. So I think like, the UX term is a bit washed out, as we see now. And it's also, like, a bit of a... I have a bit of a problem with it, because I think it's a bit of a buzzword. I would like to be more, like saying “This is actually, when we say UX, this is the area we are talking about”, and that's not around. That's around the user, that's not around the customer in my opinion, because then you need to talk about customer experience.

25:43 *Yeah.*

But there is, like, a bit of a .. like, not a disagreement but I think some time we need to be more clear when we use the different words and terminologies.

25:57 *Yeah, very insightful.*

Great

D.3.4 Additional Comments

26:00 *Well before finishing our interview is there anything related to the topics we have discusses that you would like to elaborate further on?*

No..

[Talk about what we study]

I think it's quite interesting, like, it's a very interesting topic, of course. And the whole – like, how we're working, and the collaboration – it's a good question. Because it's very important that we're [unintelligible]. Normally we have this whole discussion also, because I'm working in the Agile field as well, because we discuss the whole idea of having a standardized way of talking about UX. Exactly as we have in the Agile world, where they sat together in, like, 2001 in [Athen], and said, like, “Agile, that means this and this and this. And we have these four key values, and then we have these 12 principles, we are following. Then we call that Agile”, right? Sometimes, like, we have a lot of discussions around – especially in the academia – where we think, like, “Maybe we should do the same in the UX field?” – being able to say, “Okay, UX is actually this”. Because there is a lot of, you know, “then there is this area, and this area, and this area? And is that actually UX? Nah, but it's called UX” – and then just have this shared idea, shared vision of what UX actually is. That would be awesome. And then again, like, we always

end up saying that we're way too, like, primadonnas to actually agree. And I guess I actually believe that's right as well. So we try to have the best of it.

Yeah. Alright. Thanks for very much.

D.3.5 Notes

- Total time: 28:30
- Recorded over the phone on May 8th at 14 o'clock
- Sigfred, Stig and George present.

D.4 Interview P3

George

- Stig

Participant 3 (P3)

Timecode

D.4.1 Questions – Domain

00:00 *So, the recording is starting, we can begin with the first part of the questions. Which is about understanding and defining the UX, what do you understand about UX and the whole user experience field. Could you briefly describe your educational background and work history?*

Yeah, sure. I have a Master's degree in computer science. I did my thesis in information services, information systems rather. And it was mostly an academic piece of work. I tried to use a research methodology in real life for development. Yeah, straight out of university I got a job as front end developer at a rather large [unintelligible] company, who had just laid off all of their UX'ers. So there was kind of a hole there, which I fell into. I'd done a lot of the front end stuff at the university in our projects, and well, I sort of had both an interest and a flair for it. So after year and a half or so, I was more of a UX'er than a front end [developer, and I've been working with that] since then. After working there for 3 or 4 years, I got fed up with some of the sort of heavy processes – we'd just been acquired by a large British company. And they had a lot of rules that you had to follow and well, sort of internal politics that just sort of got in the way of it, so..

02:19 *Was that your first introduction into user experience?*

Well... My first introduction into user experience was some of the classes we had.

02:29 *Alright. So your education prepared you for the field of user experience?*

Yes, but not as much as, say... your education does. (laughs) It was 2 or 3 classes during the courses, you know, of the education.

02:48 *Alright. And how did you end up working with user experience?*

As I said, I have always done this sort of front end stuff and that's been [unintelligible].. So given that the entire usability department just left, and sort of someone had to pick up the ball...

03:08 *Well, would you briefly describe the term user experience and what it actually means to you, in your daily job or from your education?*

Sure. I think the term user experience is a huge umbrella. I think it's like saying programming, what does that mean – is it, you know, databases or front end or whatever. Same thing goes for user experience. There is information architecture, there's sort of like UI in the sense of how do we do things and how do we make it optimal to interact with. And then there is the whole [unintelligible] thing of making it look good. All that stuff, so um .. we actually tried in our company to not use the term user experience except sort of as a good way to get some hits on our website (laughs). We call ourselves usability engineers instead, to sort of narrow the scope of expertization when talking to people – they have a better idea of what we are doing, because it sound a bit more like, okay, they are trying to make things more user friendly. In terms of, you know, practical usability, and not so much the experience part – not that we don't work that all, but it is just a matter of sort of steering our customers towards, you know...

04:40 *More practical?*

Yeah, exactly. And an awful lot – I find that people will just like, with a graphics background, drawing buttons, also call themselves UX'ers. And so it's sort of too wide a description to really inform anything.

05:05 *Do you have some factors in mind that will help boost the UX for instance on websites?*

Yeah, well, I think it's... like I said, we focus more on the usability side of things, so when I work on a website I mostly ensure that the information shown is necessary, and not outside of what is necessary, that's sort of the key part of that, in a sense. To cut the content down until we have a focused piece of content for each page, and then naturally making sure that the menus and so on work as expected and are organized as expected.

06:02 *So no information overload.*

Yeah, exactly. Often, I find that customers tend to – if they know something, they feel like it should be on their website. It's sort of an ongoing task, keeping them from adding extra stuff. Making sure that, you know, constantly saying, you are not the user. So don't make the website for you, make it for your users.

06:31 *So those are the things you do to make a website feel good to your customers?*

Yeah, well, to make it feel good for my customer's users.

06:40 *Yes.*

Yeah, exactly (laughs). And then if I need some help with sort of the graphical aspect of it, it needs a bit jazzing up, I'll talk to some of my...

07:02 *Graphic people?*

Yeah, exactly. Not within our company but, you know, that we have in our professional network.

07:09 *So they are the responsible ones for dealing with the appeal of websites and how it should look?*

Yeah. You know I, I can get a lot of pointers to what we should do but I can't really draw anything, (laughs) do all that practical, graphical design.

07:31 *Also on the frontend and the backend.*

Yeah, it's mostly, yeah, this sort of layer right below, the graphical details.

07:41 *Do you know any factor that make that more appealing to users? Except the ones you already mentioned.*

Yeah, well like I said, looks helps a lot I mean. And it's almost commonly known that if you have a positive relationship to whatever website or app or whatever you are using, you're willing to forgive some of the usability flaws. So looks play a big role and you have all, sort of, usability heuristics that you [unintelligible], to make sure that the actual usability is there and ignoring how it actually looks. And then of course, what's the information architecture like and yeah. Do we follow, like, conventions – that sort of thing.

08:43 *Do you follow any particular heuristic or set of guidelines?*

Yeah, well, I like the sort of really old Nielsen ones.

Of course, industry standard.

Exactly (laughs). And also, as I said sort of... As far as I recall at least, recognition is sort of one of the ones that makes it [unintelligible] Reuse in terms of what are other people doing. Not as in following trends, but as in – okay so, people are used to the shopping cart being on the right corner, let's go with that instead of trying something new.

09:30 *Of course. Okay. What do you say it's the most important thing in having a website usable or user friendly? Of course, you mentioned for instance keeping the same structure as already established websites.*

I think most of all, the absolutely most important thing is knowing what you are making. As in, what is the point of having a website. What are we trying to do with it. Too often people just want a website and (laughs)..

Without knowing

So, exactly. Unless you know what you are doing with that website, everything else is gonna be a lot worse, because at this point you're just working in all sorts of directions. So I'll say, understanding the foundation that you are building on.

D.4.2 Questions – Practice

10:32 *Alright, the next set of questions should be about working and learning about user experience. You said that you don't actually practice it that much and you're more into usability, but still – how much of your work is related to user experience?*

Yeah. Well, I'd say I practice it a lot, I just try to sell my customers that we are doing something else to get them to go into the right mindset. There's sort of .. I just said that user experience is a huge umbrella, but if you look at the [unintelligible] definitions of usability, they have one point of user experience. So it's kind of turned around, and that's how we see it. The experience part should be part of the usability, not the other way around – at least for us because that's sort of where we're coming from. So we work with user experience a lot, we just have sort of another view on how to prioritize it compared to this sort of HCI like usability.

11:51 *Right. So how closely do you follow any new developments in those fields that you already mentioned?*

Quite closely. We have a UX network here in [City A], where we sort of keep each other updated on what is going on. And of course, something like... the more pop type UX..

Blogs?

Yeah, that sort of thing. Just to sort of stay on top of what is going on. I don't use Apple products at all, but it's good to know what is going on there, for example.

12:38 *When designing something or somebody else is from your team or contacts, do you know if they use any sort of literature on the subject they are working on? As a sort of research beforehand?*

Yeah, well at least if you are asking about what I do, or what my customers do.

Not your customers. But people who do, for instance, design of the user experience.

Yeah. Well, we've got couple of books on the shelf, that we sometimes look at. There's a sort of "General principles of design" book that's good, a big white one. And then mostly it's .. when you have been in the field for a while, you sort of know that you know stuff, you just don't remember the exact wording. So usually, I just google [unintelligible] sort of research paper summary that I know has a lot. Mostly a lot of [unintelligible], they have a lot of accessible stuff that's phrased in a way that you can actually share it with customers to sort of hammer home a point.

Narrow and straight to the point. Understandable...

Exactly. So we don't use a lot of like, provisional academic papers or any of those things.

D.4.3 Questions – Community

14:19 *Alright. The final set of questions is about interaction and the sense of togetherness across the UX field. You already said that you follow some groups. How much do you collaborate with other UX or usability practitioners?*

Well, in our little company right now we are just two people. So naturally we work together a lot. And we got this network as well, where we sort of do a little sparring round if we need some help with a particular problem. [unintelligible]. And it sort of goes, you know, both ways – people from, that have UX positions in regular companies – not as consultants, also just sometimes it's a bit of advice in there, instead them hiring us to do it.. It's just a matter of, you know, 15 minutes... We just share.

15:23 *Do you also collaborate with the university persons, academics?*

No, not presently. Normally, our assignments are either too small or too narrowly focused to be any real to use to university researchers. So it's, uh, okay, so we are going to optimize the menu of this website for example, and they have a really narrow button, but it's... And that side of design, you can't really make any [unintelligible].

Yeah, of course.

And the same goes if you're, uh, are consulting for 2 or 3 weeks with a company on a specific project, it's get a bit weird if we were to drag some researchers with us as well. So, uh...

16:28 *Alright. Do you also attend some conferences in the topics discussed?*

Um, yeah. We are going to UX LX next week, and in our network we've discussed the possibility of creating a little UX festival or something here in [City A]. But right now it's just UX LX.

17:03 *Alright. From working with user experience, what are your impressions of the general level of skill and knowledge required to operate and work with it?*

I think to be a good usability engineer or information architect, you need to have a good, broad amount of knowledge in your field of expertise. That said, since design is one of those fields where everyone has an opinion, it's seems that a lot of people get by learning very little (laughs). In a sort of classical training sort of way, you can sort of piece together a relatively okay resume just by copying, if you have a flair of copying the right bits.

Okay. For them it's mostly practical ..

Exactly... so yeah, we see some of those that are sort of a self-taught. But the good UX'ers I've met have some sort of education, university degree. Not necessarily focused only on design but sort of .. both myself, for instance, working in computer science, I have better understanding of how to talk to database developers. Because I took a course once. (Laughs) And where as, you know, people that have only studied design tend to end up a bit more isolated from the developers, being sort of an outside person, giving commands to the developers instead of being part of the team or sort of, like... That's a bit exaggerated but yeah...

- If I could quickly jump back and talk about the researcher and working with university. Do you see that there might be any effects that there is this possibility for collaboration, even though there are those small projects? ... Especially if you think about new knowledge and such.

Yeah. In terms of using it for extending my own knowledge, getting a bit of insights of what's upcoming within user experience or whatever – I could see a definite gain there for me, but .. often people working in universities haven't had a real job. Real job in .. (laughs)

20:29 *Practical?*

Yeah, practical, actually designing things outside of an environment where you have an obscene amount of time to do one task. So, that sort of lack of awareness about how the world outside academia works tends to turn me off the idea of working with the university. No doubt there are clever PhD students and so on, but some of the old timers who've been with the university for 20 years – they know a lot about theory, but I wouldn't let them near my design.

21:25

- So what are you saying is, that to some extent researchers might have to make a bit more effort to actually show that they are interested in working with the practical side of it? Or is it more a matter of them being, just that it's not possible in a way to work with some of the theories or ideas?

I think the way the academic world works is measured by publications, and it's really hard to do publications of purely practical... or purely practical in nature. It just becomes really difficult for people to get actual experience. Unless you are working with large companies doing, like, [unintelligible], observational stuff – like “UX practices in large companies”, be a part of that team and then sort of serve for a half a year, tweak some things and see how that works. That sort of thing can help a person get a better knowledge of the practical world. But for most UX researchers, purely doing papers and sort of [unintelligible], I think it's very difficult.

- How much access would you say you have to these research papers, [just... Could you learn something from them?]

Yeah, um.. It's, well it's always just a matter of whether or not you want to buy access to the article, depending on where they're published. But I think, uh, some papers tend to be very narrow in their purpose – as they should be – but actually getting something from one research paper is really hard, you often need to read ten of them to get the big picture. So, while it's not a problem to get access, it's more of a question of not wanting to invest the time, to buy it..

- [unintelligible] papers?

Yeah, naturally, I prefer sort of someone else to do all that work and then writing, you know, an article about it outlining everything (laughs).

- Just a quick question: when in the process would you normally – [I know you don't mainly work work with UX, but when in the process would you say UX tends to be in the process]?

Right from the beginning, and to an extent – well, especially using UX design, all the way through. There is a huge amount of projects that fail because the requirement specifications are wrong. Or because you assume that the requirement specifications for a project are final. So if you have an UX'er on hand for that sort of work, I find it easier to persuade people to, uh, not lock down the requirement specifications, so to say – so to be aware that something evolves or, you know. [It's an element of] an Agile project's handling as well, so developing [unintelligible]. Because a lot of people still want – especially in larger companies, they want requirement specifications – or at least working with smaller web clients, they still want “okay, so we are going to do these three tasks, and not so much the end product, but what are you doing to get to that end product”. Uhm... There was another part to that question there?

- [unintelligible]

Oh, yeah, probably [around the project]. And of course after everything is sort of done, you need some testing, some usability, user testing and all that stuff, which inevitably leads to more development and design. So I'd say throughout the project.

26:06 *Well that's the Agile right there.*

Um, yeah.

- And then lastly, do you feel that user experience receives a lot of attention? ... You already talked a bit about everyone likes the possible ... UX. But does it receives the attention it actually needs?

No, I don't think so, at least not here in Denmark, and especially not in this part of the country. I think sort of the Copenhagen based companies are better at prioritizing it, I guess they might be a bit more ready for the change, but it's weird talking about the change because UX has been at the end of [unintelligible]. But um... I find it generally, it's one of first things that people cut because it's not, um, it's not essential in the sense – that you can have an engineer build a website without a UX'er, and you'll have a bad website, but if you just hire UX'er, you'll have a design document. But I think there is a – that's really a fallacy, because if you... We often use the analogy of building a house. If you just hire a carpenter to do that, you'll just get a wooden house with windows in the wrong wrong places, no back door, and so on. But if you hire an architect to do some drawings first, you'll actually get a good house. And very few people build ambitious buildings without hiring an architect – a lot of people try building ambitious products or websites without hiring UX'ers. [unintelligible]

28:20 *And [unintelligible], they can provide them with UX without having any knowledge. Do we have anything else?*

- [No I think that covers it].

D.4.4 Additional Comments

Alright. Before finishing our interview, is there anything else you'd like to add to the already mentioned things?

Um... yeah, there is a tendency in the practical world... when you asked about does it get enough attention – lot of companies try creating, like, part UX jobs. So you are part UX, part team lead – or part UX, part frontend developer. And that really just doesn't work. In our experience, you need one, around one UX'er for at each 5 developers to get, you know, a really great product. So when... the kind of company that decides to have half of UX'er is often a lot more than 5 people. So that's sort of something that we've been trying to raise awareness about, is not having a half UX'er – it's a lot also like hamsters, you shouldn't just get one, because it would get lonely, you should get two. (Laughs) And often when you get to the point where you're ready to hire a UX'er, you would be able to afford two, so in the benefit of hiring two is more than double of having one.

30:15 *Alright. Thank you for this interview.*

D.4.5 Notes

- Total time: 30:18

- Recorded at interviewee's office on May 9th at 10 o'clock
- Stig and George present.
- Due to a microphone mix-up, audio was recorded at a low quality, leading to some intelligibility issues and. Guesses and omitted parts are indicated.

D.5 Interview P4

Stig

Participant 4 (P4)

Timecode

D.5.1 Questions – Domain

01:11

I will start out by asking, if you could please just briefly explain your educational background and possible work history?

Yes. So I have both a Master and PhD in Library and Information Science, and so I did my Master thesis about information retrieval. So our Master thesis was completely without users, only about how to optimize search which was... So, at the Royal School of Library and Information Science, where I studied, we had also a great emphasis on users and user behavior and search and so on. So actually when me and my study partner, we did our Master thesis, we were like "Oh why have we ended up doing this Master thesis completely a very system focused Master thesis?". But we were you know already at our ninth semester, we were starting in this topic and we wanted to work more in this topic and that was why we ended up doing this very interesting piece of work, but very much I think different from what I have done otherwise. And then I got a PhD position – a three year period PhD position – where I worked on digitization of cultural heritage. So my case study was at a museum, so it was very much about how online museum visitors interact with digitized cultural heritage. Yes... and then I worked at the Royal School of Library and Information Science for another two years, and in the meantime I moved to Jutland. And there are also a small branch of the Royal School, but it was kind of small, and I wanted... And then I got the opportunity to apply for position here at [University A], and I have now been here for five years. First as assistant and now associate professor, and yes. So while I have been here at [University A], I have worked mostly with qualitative methods and I teach at the Master in Information Studies. Yes, and also at the Danish language Master module on *Oplevelsesdesign*, which can be translated to experience design.

04:11

So you have never worked with user experience in the private sector?

No, I haven't.

04:15

You talked a little about how it came to happen, but how in regards to user experience, how did you get to work with it? Was it just something that just happened?

Well I think I was asked to... first, I was asked to teach as an external lecturer at [University A]. They had this part-time Master education, where people from industry come here to do a part-time Master. And then when I was a full-time employee here, they have this *Oplevelsesdesign* Master program where also I was asked to teach, and I thought there was... So all this about interaction design, so I see my background very much in interaction design. And a big part of interaction design is related to user studies. And I've also worked a lot about teaching and doing studies about methods. So in the beginning, I was very much focused on, ok which method should we apply, when we want to study users and interact with users, and

also do workshops with users, and then I think I just got more and more became involved with this experience design community.

05:41

So today is your dominant field user experience design, or would you say it is more rather of a...? Interaction design, yeah, mix between interaction design, user studies – interaction design and experience design, yes.

06:00

Could you maybe briefly try to describe what user experience means to you? Off the top of your head? I know it is not an easy question.

No. it's not. Actually it is a quite difficult question, because if you start reading the literature there's a lot of different definitions on – and you also said, had this abbreviation UX. So I have had this question – especially when I teach on this part-time Master module, because it's people from industry coming in, and they see this in Danish – no actually, that is labeled with the English title called user experience design. And many of, yeah – I'll keep this track and then... I almost forgot your question, but some of the participants, they have a much more... In their job they focus on usability, and they expect that they're going to learn more about usability. But they also on the other hand, they do know that they are now at the faculty of Humanities, so it's not like we, they are being asked to do programming or stuff like that. So they they are also really interested in this more philosophical or theoretical approach to understanding what is theory, or no what is an experience. So if I should define what is UX or user experience – was that or experience design?

07:44

User Experience Design.

User experience design. Yes okay. So for me it's about interaction with digital technologies. And it is the acknowledgement that when we study user experience design, it is more than just focusing on functionalities. So we start understanding the interaction by focusing on what is the aim of this project – whether that be a website or an app or installation or whatever it is. So we – I really like, have you read Hassenzahl?

Yes.

So his distinction between be-goals and do-goals and motor-goals, and he emphasizes very much that when you study user experience design, we start with understanding what is the be-goal. And I find that really helpful because, because... So, we have a lot of systems surrounding us that, where it's not really relevant to talk about be-goals. So we have, like, here at university, we have systems that do calculation about our teaching, about our wages and so on. And many of them, they don't have a be-goal. But when we talk about experience, use experience design and the system that it applies to, then there are some – it's another kind of systems that we talk about, or apps that we talk about, so there's some be-goal behind. And this be-goal is really critical to understand and to analyze, because only when we have focused and understood this be-goal, then we can afterwards say "Okay, in order to support this be-goal, which functionalities should then this system have?"

09:50

Okay, good. I would like to move a little bit more into user experience and ask about for example, what factors do you find important when you're working with a product or website or something like that, to provide good user experience? You talked a little bit about it here, but if you were to name some factors that you would say...

Well, so maybe I will ask you... I will return to Hassenzahl, because the factors that are important in order to obtain a good user experience is really much depending on what is the be-goal. So if the be-goal is to entertain, then there are certain lines of factors that are relevant. If the be-goal is to make people connected – that is the be-goal of many apps, to connect people – then you need to tailor the functionalities that can support being connected. So I think it very much different regarding to the be-goal.

11:09

So different from problem to problem?

Yes.

11:12

Would you say it is the same, for example, if you want to make a website that feel good or to enhance the appeal? Would you say it is different from website to website, or would you say there is a thing that you would say this is important for the feel or this is important for the appeal? Is it still depending on...?

Yes yes yes. So that's the other... Okay, we can refer to Hassenzahl once more, because one of his other – and also if you have read, what is it called, this layered, oh I forgot it. So, it says that if you want to have a good user experience, then it's just necessary to also have that the usability is good. So the website needs to be easy to use, easy to understand, easy to navigate and so on. So if the usability of a website fails, then there's no way that you will have achieved a good user experience. So on that, user experience builds on a good usability. But also – I don't know if that was also what you had in mind, because what a lot of what has been written about user experience design also has this element of aesthetics – that aesthetics is important.

D.5.2 Questions – Practice

12:49

Now I would like to move on to a little bit about user experience in a practical way, working with it. How much of your work today would you say is related to user experience?

So, my work is teaching and research, and I would say about fifty percent of my teaching and supervision relates to user experience design. So the other half of my workload is related to research, and I would say that currently I'm engaged in three different research projects and one of them is related to user experience design. But that is actually user experience design more in the physical – so that is about interaction in a science center in Copenhagen. So we study how do people, how do visitors at the science center, how do they interact with the exhibitions. And yes, there are elements of IT in this exhibition, but we have also learned that in order to understand how visitors interact in this exhibition, then we have to understand how they interact with the whole exhibition and not just the IT elements.

14:15

So you already talked a little bit about Hassenzahl in regards to theory, are there any specific other theories, methods that you, or approaches that you prefer to use, when working with user experience?

Well... So you ask me if I can point you to some theoretical...?

14:35

Yes if there is something you prefer to use? So something you would say this is a must have, of course it depends on the project itself, but are there some things that you tend to lean towards?

Yes, well, maybe also McCarthy and Wright – their work. And then... so in order – I think some of them... I mean, several people and papers have pointed to how slippery the notion of experience is, but somehow we cannot avoid trying to understand the concept of experience. And if you start reading different theories or theoretical positions on this term, then, yes... I think I... So, in order to understand what is experience, I have read Dewey.

Yeah. That's a lot.

Yeah... (laughs) Well, not everything he's written, but some of what he has written. Yes, and then also I find that in Dewey's work that experience – so what constitutes a good experience can be really difficult to pinpoint. So, also a Danish book called *Oplevelsesdesign* by Christian Jantzen is another very interesting book. Yeah.

16:25

When you're working with user experience, how do you decide what aspects to focus on, for example – what is important for you when you're doing a project or research, when working with user experience?

So, good question... So, I have – I supervise quite a lot of students, who work on different projects. And then I had this one main research project, which is very much about experience design, but the digital aspect is quite – it's only one smaller part I would say. So therefore I'm not sure how relevant it is to your work. But because we have this cooperation with the science center, they are also – so, it's a dialogue what we should focus on in this study. And then actually – so, when we started this study at the science center, we focused a lot about what happened when people interacted with the screens. So in this specific exhibition, there were eight exhibits and at each exhibit, there were one or two screens – at least one screen – where researchers could interact. But we quickly found out that, yes, we could do some redesign of the screen itself, also both the content and how it was presented, but we had to understand the whole context of this museum visit. And actually when we came to the second phase of redesigning some of the elements, we also understood that it was not enough just to redesign the content that was presented on the screens, but we also had to do some changes in some of the physical. Yes. So that was one part. I don't know if you want some reflection on my students?

18:36

That's fine, I think. So let's say for example, you're starting a new study or research – how do you normally approach, when it comes to UX, how do you approach it?

I'm not sure that I can say what I normally do, because I haven't done that many research projects on UX.

18:57

Okay. So, a little bit different question, but how do you follow new trends and tendencies, within the field of user experience?

I do a lot of reading. So when I prepare teaching. I do quite a lot reading – and also to my supervision and reading of students work. They are quite good at doing searching for literature, and also they, my students, they do semester projects within very different domains. So the three Master theses, I'm supervising right now, is within three different domains – one in news media online, and the second one about stress handling, coping with stress, and the third is about in museum domain or museum context. And of course I know very well the literature in the museum context, but both in the digital media domain and also about stress coping, is domains that I have not personally worked with, so a lot of the literature that my students dig

forward is also new to me.

D.5.3 Questions – Community

20:06

Okay then I will like to move on to an aspect of community, when it comes to user experience.

How much have you collaborated with UX professional from the private sector? If any?

I will say, not very much. So you can say that the science museum – it's not a public museum, so they actually a private, or a non-profit maybe organization I'm not sure, but they are not so publicly supported. And then I hope this part-time Master program, where all our students, or most of them, are from private sector and some from public sector – but actually that is a really nice opportunity to see what, they are many project managers, or software developers in different private companies.

21:05

Okay, so in your experience, how much do you think generally that UX professionals from the private sector and university work together? Is it a lot, or is it not that much?

Not that much.

21:05

Would you say it would make sense if they were to collaborate? Why don't you think there is more collaboration between them?

So you are talking about university, private sector cooperation?

21:50

Yes.

So, we can cooperate in two different ways, or two main, so we can cooperate about the educational side – and I think actually we have a very strong cooperation, because all our students at *Oplevelsesdesign*, we have a strong collaboration when we have case partners. So all our students, almost all our students have case partners, both on the 7th and 8th semesters. And the private companies come to present cases that our students can work with, so I think in the aspect we have quite a lot and quite well-established collaboration with private companies. And then on the research side, it's more difficult, because if you want to collaborate with researchers – I mean, my research, or our research is mainly driven by a research agenda. And, I mean, the private sector companies, they have a completely other focus. So I would say that in that respect, it can be difficult to collaborate. Also because there is a lot about money involved. So who should pay who?

23:27

Exactly. From your work, or from your experience, have you maybe seen or thought of areas where you have seen a potential for collaboration between companies in the private sector and university? You already mentioned education as being a successful one. Have you seen any other potential collaboration?

Yes – me and my colleague were contacted by a private company, maybe two years ago, where they had this issue were they wanted us to help, “How can we visualize some specific datasets?”. In their mind, it was related to user experience design, and in our mind – I mean, we were just so, we had several meetings, and both partners thought, “Okay, this might be relevant and interesting, and we could collaborate on this”, but in the end, we didn't collaborate, because – there was both something about the timing, and the topic, yeah, it was just...

24:35

So maybe it was a matter of actually being better at speaking the same language with each other?
Yeah maybe, maybe, yes. And also sometimes about the time scheduling. So, I'm involved in an EU project, not related to experience design, but related to open data. And it is an Erasmus project, and therefore we have this collaboration between both private and public companies, and also two university partners. And I just know from – we were invited to Brussels, and we had to discuss with 200 people, how can we strengthen the collaboration between private companies and university partners. And it was just – sometimes at universities, we are quite slow. Because we have these semesters, typically two, some countries have three semesters per year. All our scheduling is about our semester planning, so we know we have some fixed tasks that we need to do, we have a lot of teaching in this and this. So we are not very flexible, and our time planning is... “Okay, we can start on this project in May, maybe, or in August”, and the companies are, like, “Okay. We want to start next week”. So instead of this semester planning, they – “No, no, no, we need to do weekly planning”. And we were, like, “That is not going to happen”. Because our main focus is teaching. And we have these strict semester planning issues we need to adapt to.

26:19

I know you already touched upon the subject of education already a couple of times, but with this problem with some of this collaboration between private sector and university, when it comes to UX, how do you feel this affects the development of new knowledge? About user experience, for example in the private sector? If they don't have access to the same research as here at university?
Well, I think... I think actually my feeling is – that also from these part-time students that we have – is that people or employees from the private sector working with UX, they are quite good at reading – maybe not research articles, but then white papers and other written reports on UX – so I think they are quite up to date. What they might be lacking is the more theoretical understanding that we emphasize here at the department, because we are the faculty of Humanities. And when they then come to the university, to do additional training, then I think they are really interested in it – most of them. They think it is maybe tough reading, but they are interested. So I think they are quite good. But maybe the most important issues is that at the moment, this concept of UX – within the last five years – the concept of UX has become very popular. So, both from university we have a lot of departments and studies that says, “We work with UX” – okay. And in the private sector, many companies says, “We do UX”. And if I read the positions, open new positions at different software companies for instance – then when I read, okay what do you want a person to, what are the requirements if you want to apply for a position, working with UX? Then it is a bit different, especially students that we teach at *Oplevelsesdesign*. So I think there is this – you could call it the battle of the concept of UX. And I don't think that we can end up with just one definition. I mean, you can find several papers that discuss the concept of UX, but never-the-less then... So, if you go to a job interview, or if we... So, this part time Master module starts again in September, so right now we are doing the advertisement – so the way we describe, “Okay what are you going to learn here” – through this module it is really important that you are very specific. You cannot just say, “Okay, we work with UX”, because people's understanding of what that is, is very, very different. So last time we had this module – I think it is very successful this part-time Master module, and almost all of the students complete, which is very good. But last time we had this one, a man that I supervised – he had a background in mathematics, and he was just, he just – halfway through this module he was just, “So different from what I have expected it to be, so it

is not that, it is just too different from what I have expected, so I am going to quit". Yeah.

30:42

So would you say that to some extent that, for example, practitioners make enough effort, when it comes to collaboration, and to working with UX and all these aspects of collaboration?

So if both sides do enough?

30:59

Mostly practitioners, would you say so? Because we already talked a bit about university.

I don't know. Because if they have a sound company, if they can make money from what they do, and I think they hire a lot of people that either are fresh from university or have a background. So, yeah.

31:30

Okay. As a UX professional, I would imagine that you feel some kind of sense of community with other UX professionals, for example in university context – but what about, do you attend conferences, gatherings and such for other UX professionals?

Well, I am not even sure if I would call myself a UX professional, or a UX academic with focus on UX. So I think I see myself more with a background in interaction design, and to me user experience design is one aspect of interaction design.

32:16

Okay. Are you in regular contact with UX professionals in the private sector?

Only when they are my students.

32:32

From working with user experience, like with your time working with interaction design, working with people from the private company side, how has your experience been with their level of understanding, when it comes to UX? You have already talked a little bit your teaching, but what is your general understanding of what their actual skill and knowledge are within the field of UX, when you've worked with them?

I think it differs quite a lot. So, it depends very much about, which company we talk about, and also it relates to how they define – what approach they have to UX. So some of the larger companies, they have a specific section just for UX designers, so I would say they're – from what I can see, if there have been students or if I have had internship students at these big companies, they are very good.

33:54

Okay, you have never experienced, like, colleagues or peers that you have avoided working with because they have had the proper understanding of UX? It's a little bit rough, but...

So avoided collaborating with some in the private sector? Well, as I just said, most my collaboration is with students, so of course I collaborate.

D.5.4 Additional Comments

34:31

Do you have any further comments or questions about what I asked about, do you have anything you would like to elaborate upon here in the end?

No, I don't think so. But I think a main task is to try to understand the different perspectives on UX, and also how technical this is.

That's what we're trying to do. Alright, then we're done. Thank you.

D.5.5 Notes

- Total time: 34:00
- Recorded at participant's office on May 9th, 14:30
- Stig and George present

D.6 Interview P5

Stig

Participant 5 (P5)

Timecode

D.6.1 Questions – Domain

Okay so, we've already mentioned a little bit about it, but could you briefly describe your educational background and possible work history?

Yeah, sure. So, I have a cross-disciplinary background. So I originally did my Master's, well, my Bachelor's in Humanistic Informatics back in the day. Um, and with my Master's in what was called "Humanistisk Datalogi", with one of the years at Sociology. So sort of an exception to spending one of the years after Master's in "Humanistisk Datalogi" at Sociology, me and a couple of fellows students – rather than – the alternative was to go "i praktik", and I thought I didn't join the university to be a "praktikant" – an intern in some company. Uhm, so that was, that was good. And then I worked as a research assistant for a year, before I was offered PhD scholarship in Computer Science. So I shifted faculty from Humanities to Technical Science, so I'm not – and I did my PhD in, uh, Human-Computer Interaction in Computer Science. And then I worked for, uh, 10 years for, as an academic and also research leader in Sydney, where I had a User Experience group. Uh, and came back here and then I did my doctoral, uh, "doktorafhandling" – higher doctorate degree in Natural Sciences.

1:35

Okay, uh, and as I understand, you never worked in the private sector?

No. The closest – well, yeah, I had one summer job at [Company A], where I realized that I was never going to work in a company like that. They were simply way too focused on just "do this task", with no questioning really of why, and I want to define what I want to work with. When I was research leader in Australia, that was not at university, that was a government-funded research institution. So, no teaching. But not private sector.

Yeah, okay.

I'm working with a lot of companies, but from the government side.

2:20

Yeah, of course. So what would you say is your dominant field of research right now?

Human-Computer Interaction.

Yeah, okay.

Slash interaction design. Which is basically just applied Human-Computer Interaction.

And how much of this is focused on User Experience, would you say?

It's all focused on User Experience, because to me – and I'm guessing we will be talking about this – User Experience is effects that you create through the stuff that I do.

2:45

Yeah. Because my next upcoming question is could you briefly just try to explain what the term User Experience means to you?

Absolutely.

Just like, off the top of your head.

3:09

Yeah. First of all, I think there's a lot of confusion about what User Experience means. So that was one of the things that triggered me to say "yes, I'd like to do this interview", apart from the fact that I tell my students to go and do interviews, and do what you're doing and I think that's great, so I think I will always, also wanted to contribute to that. But to me, User Experience – and this is the way I teach it and explain it to our students on Computer Science, Software Engineering and Interaction Design, and so on – is the effects that we create with an interaction design. So we have an education in Interaction Design. We teach them how to do interaction design, and what they do with that is that they of course create a design, but that design then creates a user experience. So I don't believe in design of user experience. I can live with the term, but it's actually not what you're doing, really. Maybe some people are, outside our field, designing user experience when they're designing, like, a theme park or something. But to me, the user experience is the experience of using an interactive system, uh, that's computerized and someone has designed those interactions to create a certain experience.

4:10

Okay. Then, for the next couple of questions, I would like to dig a little bit more into user experience and some of the possible factors you might find in there. So, first off, uh – what factors would you say influence, has the biggest influence of whether it feels good to use – again, with not only user experience, but you talk about the [topic of interaction design]?

So, so I would usually use – and borrow, that's in one of the text books – that's got, like, two circles. Like, an inner circle and an outer circle. And I think it's from Yvonne Roger's Interaction Design book, one of those issues. And I like that one because it sort of contrasts usability with user experience, and I think that's relevant because they're two types of effects that you are, that you're creating with your Interaction Design to – if you've got usability as some core issues like 'easy to learn', 'fast to use', 'effective to use' – very objectively measurable qualities of an interaction design, then the outer ring would then be the user experience qualities, which would be more like 'playful', 'fun to use', 'aesthetically pleasing' – the, what used to be called subjective factors of usability. They sort of grew out of that and became their own thing, and I think that's great, because I think that's actually where a lot of the competition today in interactive systems is. It's all has, it all has to have usability. It's like, if the code doesn't compile, you're not done. You don't – what, we do get some software systems that crash, but if it doesn't have usability, you're just not done with the basic level. Then you can start talking about user experience on top of that.

Okay.

So it's the – they used to be called the softer kind of components, but I actually don't think they're necessarily soft, because they can be quite hard to achieve and quite hard to measure as well. But they are, um yeah – the factors that are more related to a subjective feeling, I guess of your, of using the system.

Yeah. You mentioned aesthetics – what factors would you for example qualify as being the most important when you talk about appeal of UX?

What I think that – then you really, and for all of these, you really need to consider the context of the system that you are designing, and the users of that. And aesthetics is – (laughs) you're digging into probably one of the most subjective parts of those, but I would say for me personally, uhm, the visual aesthetics is very very important. Then there's the physical aesthetics of – many of these interactive systems that we design have a physical form factor like the beautiful speaker you have here in front of you. That, that's, a part of the user experience of

using that would be its aesthetics. And then it would be – so [the best view would really be to talk much about the visual design], but if it had a screen you would – or maybe an app that comes with it – you would also talk about that visual design. And then of course, I think that there is some aesthetics in the interaction itself – and that’s probably underexplored – to describe how an interaction can have an aesthetic quality and not just a functional quality, like being fast or being easy to remember or supportive of not making errors and so on, but actually be an aesthetically pleasing interaction.

7:40

Okay, so we’ve already talked about some of the factors. Are there other factors that you prioritize when working with user experience?

I think – I’ve just mentioned them as examples. They wouldn’t even be like, like a top list.

Okay, well, what would be –

In terms of the experience? It’s difficult for me to say, because I’m an educator in this. So I don’t really – I can’t say that this factor is simply better than the others, because they’re not – it always depends on the context.

Yeah.

So I couldn’t even – if we talk about usability – say “well, it’s most important that it’s fast or that compared to being correct”, because that would depend completely on the design that you’re making.

So you could maybe say that the most important factor might be the case itself that you’re working with?

No, the most important factor – the case just sets the frame for then considering the known usability or user experience factors. And I would simply sit down with the list from the definition from the book. I don’t remember all of them – there’s quite a few. Uh, one that we’ve added to the list I worked on, added to the list, is coolness. So I had a PhD student working on the concept of ‘cool’ – so what makes – that’s certainly a user experience, it’s not a usability factor, it’s a user experience factor. So what makes an interaction design cool? What makes your microphone cool? I think that could be, I think it’s pretty cool. But that’s highly subjective – it depends on the user, it depends on the context. It might not be so cool if you’re trying to record a band, or it might not be so cool if you’re doing something, recording something in a very very serious context, because it’s sort of a bit playful and fun looking and stuff.

D.6.2 Questions – Practice

9:45

Yeah. Okay. I will move on to a couple questions about ways of working with and learning about UX. So first off – how much of your work would you say today is related to user experience, because earlier you worked a lot with HCI and interaction design – but how much is user experience of that?

It’s all user experience, because the user experience is effect. So if you – but if you think, okay, let’s really be (laughs) not academic about it, uhm. So the word that focuses – so my work in that – my research or my teaching or if any of it? I don’t teach, I don’t have a course on user experience. We have a course on user experience on our education, just like we have a course on visual design and, of course, on usability and all of that. So I don’t teach user experience, but I could – it’s just, someone else’s teaching it. In my research, I don’t know – apart from saying, if I’m not allowed to say that it’s all of it, to some degree – so, then directly it’s probably

20% that's focused on that. And that would be the work that we are doing, and have been doing, on the concept of cool. But that's very, really focused on user experience and not usability. I don't do research in usability. I don't think usability is something that needs research. It's something we need to be able to do. The research has all been done. I think there's a lot more room to do research on user experience, if you were to contrast these two – which would be more about being more precise on those concepts, working out if there are other dimensions of user experience that's important for interactive designs, and then working out how to focus design for that, or evaluate those components. So 'coolness', as an example, that's how we basically did that – trying to work out, how can we measure the coolness, compare the coolness of products using these measurements. We developed a questionnaire that was a further development of some of the user experience questionnaire – Hassenzahl and those kind of people – to include dimensions that would have, questions that would be directed at exploring the user experience quality, the 'coolness' user experience qualities. And then be able to design for it eventually.

12:30

*Interesting. **So are there any, sort of, particular techniques, methods, approaches that you prefer to use when working with user experience? Already mentioned a bit of Hassenzahl and such...*

Hmm. Yes there are quite a few, I think. So the question is – I'm not a big fan of questionnaires. But I can see in terms of measuring something, if you want to measure it with a lot of people, it can be a very good approach – also for usability and other things. That, it's very nice. But we would use observations and interviews quite a lot, because it is something that's probably still harder to measure than if something is fast to use. Fast to use – very easy to measure – give the user a task, time them – right? – compare. Um... So it's the methods in that ethnography inspired camp. We've also used cultural probes quite a bit, even back in the day. So when [unintelligible] came out with that technique, it was sort of very open for, yeah, we could use this to study stuff that's hard to talk about. And we've used that in a few studies, trying to also operationalize it so that we would get a bit of focus, and not just postcards about everything back. Uhm, so yeah, observations, interviews, cultural probes.

Okay. Are there any methods, you would actually like to use, that you are not using now?

In terms of the user experiences?

Anything where you're thinking "I would like to..."

"I would like to try that one"? No, not really.

14:20

Uhm, how do you decide what aspects of user experience to focus on?

Well, so that goes back to what we talked about before about the context. So it's a matter of – and we do this in all user-centered design, alright – so you study the domain, the people who you expect are going to use this. So this is within the context of, okay, we're designing some kind of interactive system that needs to be used. So I wouldn't – I would probably – a part of it would probably be analytical in the sense that – uh, we could, if the three of us was designing that, I think we would be able to sit down with the list of all the possible user experience factors, and [sort of] decide upfront which ones are probably not important, and then make a short list to start with. Um, if you're making a game, then there are certain aspects of enjoyment, and some of these things come out of basically the struggle with evaluating the quality of a computer game from traditional usability concepts. So some of these would relate

very much to these games and entertainment kind of systems – so that one sort of give you one short list. But if it's not those kind of systems, then it wouldn't be those.

15:45

Okay. [Usually sitting down and doing that prioritization], would that be how you would approach a study or a new project or...?

Well, they're not what I, this thing about – which factors do we think could be important, and then you as a starting point – when you go out and start understanding the context – then you already would have a pair of glasses on that you can sort of look at the world through. But of course they'll be open for maybe you missed something completely.

Yeah.

So it's about trying to understand there what are the success criteria for this design that you are – in terms of user experience. In parallel with that, I would also do it for usability, because I wouldn't just leave that out and say “this is a user experience type project”, it will always have that both. And I would need to do the same exercise in terms of the usability concepts, and then sometimes they're actually in conflict with each other. So that's a very well-known thing within usability, that if you make something very effective to use it, might not be so easy to use as a first time user. So you gotta try and work out, is this like an expert system or... And you would have to do the same kind of uh, exercise with user experience.

17:00

Yeah. A little bit on a different topic, how closely do you follow new developments and trends in user experience?

So, what kinds of developments? All? (laughs)

Yeah, in general...

Is there a methodological, theoretical, design-oriented developments...

Yeah, but, like, more generally. Like...

[Jargon model]. Not a lot.

Okay.

Because I don't think, that's not – that's probably not for me as a researcher, an academic to – there's a lot of talk amongst practitioners and many of them get the foundational definitions completely wrong, and just sit – and I don't, I'm not a part of that discussion, I don't get anything out of it. The only thing I would get out of it was to try and correct them, because a lot of what I've seen and what I hear a lot is that user experience as a term is just used for usability – it's just a cooler concept, it's like “Yeah, it used to be usability but now it's user experience. But we're talking about same thing”. We're certainly not talking about the same thing. They're two related but very easily separable all concepts, and in my world you don't mix these things. That, in my world the whole idea is to split things up so that you can talk about this cup as being different than this remote control. Then, yeah. So I don't find that discourse very useful for me, but when I see it popping up in whatever media that has these layman's discussions on that. What I am interested in is new developments in methods. Uhm, I am very interested new designs that can create new kinds of user experiences, using new technologies, new combination of technologies and so on. And I also follow the researchers that are trying to define the field more closer. So one of the people in here in Denmark that's actually done some structured work with user experience as a concept is Kasper Hornbæk, who's a good colleague at Copenhagen University. So, he used to do this with new – when user, when usability was also a concept that [was really undefined], he was one of the guys who sort of cut it out and said,

“this is what it’s all about”. And I liked the work he’s done on user experience and [stuff similar to that].

19:30

So you could say he’s one, an expert that you have, in quotation, that you have “followed” so to say?

No, it’s not like an expert I follow, it’s more a colleague within my own field that, whose work I respect, that I read. I don’t sit around, I’m not a big follower on stuff. I don’t follow people just because they are, yeah, seen. Yeah, I’m not, I don’t do that. I follow, I’m interested in topics.

20:15

Yeah, that’s understandable. Um, so on the topic of “topic”, what kind of, could you, like broadly or briefly describe what user experience literature you then use, when you talk about topics and literature.

Well, so to me that literature is very much research papers. So, research papers are good because they are brief, to the point, and new, where textbooks are more, well, the stuff that we then work out ourselves, that crystallizes into what we can use in teaching. So in teaching, on the method side, well, one of the text books that I’ve used a lot is Bill Buxton’s Sketching User Experiences. But that’s because it actually combines the sketching approach, which we also teach, then with achieving just that – that user experience – through sketching and interaction design. Um, I tend to steer a little bit away from literature that uses, where you get the feeling that the label user experience is just glued on there because it’s like the popular term. So the literature I focus much more on is stuff where interaction design is the central concept. Because that’s for me, that’s where I can do something, and then I know I will achieve a user experience. It’s, uhm... yeah.

Umm, what–

But that there are several books, but there’s not like a central book on user experience that I think that’s really great, because I don’t think that’s where the great leadership is.

Um. So what about literature from, like, what to call it, the other side – so from a practitioner’s perspective. Like blogs and such... none of that?

I don’t use that. It doesn’t count as literature for me. It’s not reviewed or anything, it’s someone’s opinion. I could stretch myself to using Wikipedia, but that’s just to, if there’s a definition that I’m not completely sharp on, then I can look that up there, but I wouldn’t use it at any point as a reference.

Okay, so–

I don’t care what some practitioner thinks that he has to say on his blog about user experience. It’s just not important.

Okay, interesting.

It’s fine for students to look it up and be – they’re probably gonna be much more part of that than me, but it doesn’t give me anything. Apart from sometimes frustrations. So...

D.6.3 Questions – Community

22:55

Okay. I will move a little bit on to talk a little about community.

Mmhm.

The thing about interaction but in the UX field, and you already talked a little bit about Kasper Hornbæk, but how much would you say collaborate with UX professionals – both from the private and the public sector?

First of all, I don't think there's UX field, from my point of view. But that's, yeah, people who define themselves as UX'ers. So in research it will be HCI researchers who look at user experience, as a part of the HCI, uh, work. The people I work with in that are more, are people who like myself are interested in using knowledge about human-computer interaction and interaction design, to create user experience. So I would say, most of my collaboration would be with people who – none of the people I work with would say they're not interested in user experience, it's what we're all interested in facilitating. In practice, I – this is – unfortunately not a lot of industry in Denmark, and certainly not in Northern Jutland, that's working even with the interaction design, even less with user experience. Um, so we don't have much collaboration there. But that's because they're not there. If there were more companies that had, like, defined user experience or user interaction design departments, we would be working with them. Because they are the people we want to – that's where we want our candidates to go and work. And that's where we could have impact. And I would I would love to also, in those departments, that the language they use is more precise and it's not just all about that everything's user experience. I would love them all to know, just as a starting point, that you got usability and user experience – and they're both important – but this is how they relate, these are the concepts that relate to these concepts, and these are methods that you use for one and for the other. That would be fantastic. That's just not a lot of these companies, unfortunately. Uh, also the ones we do collaborate with is typically developers who also know, happen to know a little bit about it, interface design, so they become the user experience expert. And some of them have to sort of label themselves, I feel, as user experience experts, because that's what the companies think that they understand. While what they really are doing is sometimes usability engineering. Of course, it's also, it's just a matter of using the concept, of course, in layman's use of the words "user experience". Everything is a user experience of an interaction design, but it's just not what that topic actually describes if you want to be precise. So in layman's term, if I talk to my grandmother – it's assumed she speaks well English – and I say "user experience" and "usability", she would probably understand "åh ja, brugeroplevelse, ja – I get that. Usability, ah, maybe not so much." But as a professionals (laughs) we should be able to separate between the two.

Uh, yeah. So would you say it would make sense to collaborate between, from the university to...?

Absolutely. Absolutely. That's one of the main reasons we are here, it's to create, we create knowledge and we have impact on the world. We have that through use of our knowledge, which is very often mainly through our students who go out and use in industry or practice what they've learned here. But it could also be more directly that we work with a company on a research term, so... And we did that a bit with the "coolness" work, where we worked with a local app developer at the time to, uh... Who were interested in making their apps "cool". That was great, because we learned a lot about – we learned a lot about the reality of the things, of the projects they were really faced with, and they learned a lot from us by simply – we gave them methods and conceptual tools and so on to work with.

27:25

Yeah. Excellent. You already talked about there's a lack of UX – maybe a little bit up in Northern

Jutland. Do you see any other potential areas that are not really being realized in regards to user experience and interaction and such between university and practitioners?

So it's very broad question. I think the lack is on interaction design, it's not on user experience. I think it will be – the lack is that any, that all IT – or a product that has some kind of IT in it – design companies, they need and should have at least one interaction designer hired. That interaction designer should be someone who can both work with users, but also work with technology. It should not – and this is my own, I know you're from the humanities, I'm from the humanities as well, so I can say, yeah – it should not be someone who can't program. It should be someone who can also actually implement the interaction design in whatever product – which is something I felt was lacking in my education, which was why I shifted over to the technical science, to teach myself those kind of skills. And when we educate – the interaction designers, we educate, they also learn how to program quite a bit. I think that's really important. So you, it's – it is an area where you need to have those broad competences and not just know about – that's what I was taught at Humanities, “Yeah yeah you're gonna be a project leaders, so you're just gonna need to know that there are someone who can program, there's someone over here, but you don't need to be able to do anything”. I think that's completely wrong – you need to be able to actually do it yourself, to both do something – you're not gonna end up doing the whole program, but you should at least be able to program the interface part and know, and actually know how it's done for real. All the way to being able to go out and talk to and understand users. But the core competence, as I see it, is interaction design. That's, that's where the field is – building on the field of human-computer interaction. User experience, that's just a dimension in that. It's an important dimension, but uh it's no more important – it's as important –equally important as learning user-centered design as a methodology, and as learning about usability, as learning about programming in user interface. That's the way we've also structured it in our education.

30:15

Yeah. Interesting. Uh, you already talked about there's a lack of cooperation, to some extent, here in Northern Jutland. How do you think that affect the development of new knowledge–?

A lack of?

Collaboration.

Collaboration.

–Affect the development of new knowledge?

Well, I'm not sure there's a lack of collaboration – there's a lack of collaborators. And I think that that defines the project, the problem in a different way. Because if there was just a lack of collaborations and you had the collaborators, then you could do something to build a bridge between them. But because there are not – we don't have a lot of companies who have these, who prioritize these needs so high that they have a number of people, uh, as part of their department working on that – then that's not really, well, then you obviously can't collaborate. So what is needed is the step before that. I'm pretty sure that the collaboration part would – we wouldn't get a situation in North Jutland where we had a thriving IT industry who were also focusing on interaction design and creating user experiences, and having no collaboration with Aalborg Universitet. I don't think that would happen.

31:30

Yeah. Interesting. Um, as a IT professional or a researcher, do you feel there's some kind of community when it comes to user experience within Denmark?

We have the SIG CHI DK organization. Um, I think that's very active in the Copenhagen area. It would be fantastic to have a similar kind of thing up here. I think it's also relatively active just, if you just go to Aarhus. Um, I think those, Aarhus and Copenhagen are ahead of Aalborg and of Jutland in terms of industry doing this kind of stuff, and then the collaboration with the local university that comes with that. And I see that as a – that's something that I would really like to do something about, and I also hope to be able to do something about it indirectly through new students coming out, working in this area. But we need – it's steps that needs to happen. We need to have a hundred interaction designers or HCI people from the humanities from here, or whatever, who wants to stay in Northern Jutland – who go out and get jobs in industry and start dragging those, pulling those companies in that direction, so that's prioritized. So you sort of grow the, uh, a balanced kind of situation where you both have the university, who's interested in this in terms of research and education, and the local industry, who's interested in using it. Then you can start talk – but of course, the networking between the things that's already happening is very important to just get that started. But it's very difficult.

33:10

Do you attend any, like, conferences like these or similar?

Conferences?

Conferences in general, like, especially for User Experience or...?

I go to the HCI conferences. I don't go – and they, yeah, so the human-computer interaction conference two weeks ago in Montreal. Um, I go to Mobile HCI – I go to all of those kind of conferences. But they're research oriented. And we also, when we've done these conferences, it's always been difficult to maintain a relevance for industry. Because they easily become very academic, and that's all, "Yeah, we need to publish papers and research". And sometimes the research questions become very small – "Yeah, okay, we combined, you know, should it be green or should it be blue – or maybe sometimes it should be green, sometimes it should be blue, it depends...". When you're in industry, my impression is they just go "Look, that's not the problem. Can you please address some of our problems?" And that's, yeah. So I know – I don't know what if – so that's... In Australia – I worked in Australia for some years – there's a strong user experience conference, that's practitioner run, where the focus is much more on more practical challenges that industry's facing. And they are the attempt – but they tend to not be so interesting from a researcher point of view, because they tend to likewise be trivial or not something that we could publish out of. So there is a conflict there with what is that we're trying to produce.

Yeah.

But I don't think it's unresolvable. It's just...

35:00

Yeah, okay. Would you say you regularly exchange knowledge, experience regarding UX with other fields than you own? Cause I know you do teaching, of course, but that's mainly within the academic side of HCI.

So, well, that depends on what other [theories that act as another field]. Because yes, then I do. Because we have – for me, if it's HCI or it's Interaction Design, it doesn't matter if I'm talking really to a psychologist or a sociologist or a computer scientist or some from, someone from other fields – communication studies and so on. Um, and we have HCI user experience groupings across the faculties at our university. And we certainly have something, stuff in common – and yes, we exchange ideas.

Well, do you do teaching regarding the private sector?

I have done in the past, but not so much in the last couple of years, because I've been focusing on our own education.

Yeah, okay...

Well, that's actually not completely true. We do do regular through IT West, the Interaction Design and Usability course – that is for people who are practitioners, who needs to be up-qualified within – that runs roughly once every year/one and a half year. We get students in who are working in the industry, so we actually do that regularly.

36:20

Uh, so from working with, like, user experience and similar — uh, what is your, like, impression of general level of skills in knowledge when it comes to the private sector?

It's too low, absolutely. That's why we invented the education in interaction design. Uhm, it seems to be – there seems to be too much of the guy who can program, who can also make a user interface. Well, then he becomes our expert, and and they're not necessarily experts. That's why, unless they come to us and need to – and they say, "Well, I've got this job, I need to – I'm a software engineer, and now I'm head of the user experience team. Can you please teach me what it is?" Yeah.

Okay.

But that's not just user, it's interaction design skills, its usability skills, it's all the skills within that. That's why we made the new education – because there's simply those, there's those people missing. It was the same thing I saw in Australia. I was trying desperately to hire people who could – I think there's a lot of people out there who can draw an interface. I don't think they're the ones, the industry needs. Going back to where this kind of education should – I'm not, I don't want to dis what competences people get – like myself and yourself – from the humanities on this. But to really fit what the industry needs, I need to boldly say: there's a strong need for construction skills, programming skills, as well, uh, in that. I think I lost my thread there. Um yes, so the motivation for the education was basically, we had – it was very difficult for me to find – it started in Australian context – someone who could both design and build user interfaces. I advertised for user interface developers and people could, like, an interaction design programmer. I just couldn't find a person with that skill set and it was my experience when I came back – so this is some 10 years ago – that it was the same kind of skill that their companies were needing in here in Denmark. So I said "Alright, if they don't exist, we got to educate, to create them ourselves". So that that's the kind of profile that we aimed for within Interaction Design. And of course the discussion was there at the time, should this be called Interaction Design or User Experience. Because "aw yeah, User Experience is the hyped term" and stuff. I must be – I was very adamant that its "interaction design", because that's what you do to create a user experience. A User Experience education is – it's also, it doesn't really, it goes even further away from the technical focus than interaction design. It's even hard enough at the Natural Sciences to have the education that has the word design in it. "Could it be interaction construction?" No, it doesn't sell. It's not what the field is called. We also want to achieve girl – attract girls to come and study IT. You don't do that if you sell it as interface programmer.

39:50

Exactly. Would there be colleagues or peers that you would, like, avoid working with because of their – you consider their skill and work of poor quality? It's a bit of a–

(Laughs) You need a list of names here?

No...

Then we need to stop recording. And no, I actually don't have anyone that I would I avoid working with.

Okay. Yeah. But that pretty much wraps up our interview.

Why would I – it's an interesting question, what, why would I – what would be a reason, you would... What is your hypothesis on uh, what kind of what people I would avoid working with. I'm interested here.

Yeah, we can talk about that here after. Because I would like to finish up the interview. Just asking if you have any closing comments or similar to some of the questions, we've been talking about?

Well, I'm pondering the question of avoiding. Because I would like to give you a good answer there. It's a – it's a surprising question, so let me just think about it just for... Because there might be something there, that I'm... When I just say no, that might actually not be the correct answer.

Yeah.

Because it's just something that I hadn't really thought that much about. So let me just... Avoid... I think – so if you turn around and say, what are the factors that makes you, that facilitates that you want to work with someone, which then is a way of avoiding something else. So I would then use the word avoid. I would avoid working with someone where the foundational understandings of the relations between interaction design and user experience and usability and so on are completely opposite. Because then you would end up discussing this stuff all the time, rather than getting the job done. So – so I would not. And I would spend, I feel I would spend a lot of time trying to correct some kind of conceptual understanding or whatever. And that would not be fruitful. Having said that, I don't – I can work with industry calling user experience, uh, calling what I would say is usability user experience. That's fine – I can live with that. But it's that sort of – if there's not a foundational agreement on how the world is sort of set up, then I also think that the collaboration would not be fruitful. Uh, especially if it's about research – the research side. I think we could still collaborate on making great interaction designs that would create user experience, even if we don't completely agree on the terms. That's not... But it's very difficult to do research if you disagree on the foundation of it.

Yeah. Excellent.

Good.

D.6.4 Notes

- Total time: 42:50
- Recorded at interviewee's office on May 10th at 11 o'clock
- Stig and George present.

D.7 Interview P6

Stig

Participant 6 (P6)

Timecode

D.7.1 Questions – Domain

0:00

So first and foremost I would like you to just briefly describe your educational background and possible work history.

Yeah that's very fine. Yeah, so I am, I studied Computer Science at [University A], and then I've done a PhD immediately afterwards a [University A] and now – I have never had a real job but after my PhD, I became an assistant professor here, also at [University A], and been there since. And now I'm a professor in Human-Computer Interaction.

0:46

Okay. So am I right to say that you are working with user experience?

Yeah yeah, that's definitely one of the areas of work.

Yeah, exactly. And how did you end up working with user experience?

Uh yeah, so I think that's a good question. . . so I'm brought up in a tradition of human-computer interaction that has some attention to empirical data, and well, at that time we call it usability. But I was sort of educated in my master thesis, for instance, to actually obtain measures and try to quantify the things I was interested in at that stage. So my second academic paper as a PhD student was also about usability and how different aspects of usability interrelates, with [two other people]. At CHI [year] was that published. And then I think since that I have worked on usability in industry, with people in Aalborg among other things, and try to understand how usability evaluation methods was used in industry. And I've been continuous working on – and I mean I do mostly quantitative studies of human computer interaction, so in a way usability there is simply a discussion of dependent variables, like what can you actually measure and how can you quantify how people interact with the computers. And so I've already, always been interested in how you quantify that. And then I guess since early 2010-ish, I have done what you could call user experience. Maybe we'll get back to that, but I'm not so sure that those are very different. But in any case, I've worked also on thinking about how more sort of rich aspects of experience could be quantified and measured. So that's, I guess, what you call user experience, and I also to some extent talk about my own work now as user experience, compared to, like, usability. So I guess that's how I ended up, but it's not – it's mainly just an expression of the fact that I think that, like, it's almost capturing every quantifiable aspect of human interaction with computers is user experience or usability.

3:55

Yeah, okay. So since you would say you're human-computer interaction, how dominant would you say user experience is a part of that in your work?

Yeah, that's a good question, I am. . . Okay, it's a bit like, so for a carpenter, how dominant is a type of wood in his work. In one way it's a very weird question and difficult one to answer, because I think I definitely do work where user experience doesn't really matter. But in like 95 percent of what I do, I think some there's background awareness of the overall design goals of interface which I happen to think include experience, those considerations I include in them.

And as a researcher, many of the things I think about is how to have accurate and valid measures of what people do with computers – and of course that also includes some attention to user experience. So in that way, it's sort of very integrated in what I do, and also very important in what I do – but sort of the percentage, well ok, I said 95, that's probably true.

5:27

Yeah okay. So then I'll like to actually ask if you could maybe briefly try to describe what the term "user experience" means to you, as more generally – maybe a bit off the of your head?

Uh, yeah... so I think for me, user experience is sort of an umbrella term that covers all the aspects of quality of use of interactive systems that are not about the technical part of those systems, but about how they... how the side that face users work. So I guess that's a very broad one. But sort of all the aspects of those things that people care about is for me user experience, unless they are technical things like specs of systems or... well, response time is probably a borderline one, but I'm sure there's a – because that begins to have both a sort of an objective technical angle to response time, but also an experience angle. So maybe already there is actually sort of a user experience component of delays as well. But essentially all of those aspects for me is user experience.

7:30

Okay, brilliant. Then I'd like to ask a few more questions where I try to dig a bit more into what factors you think are important in user experience. So when you talk about a factor that makes it feel good, what would you say would that be – when it comes to user experience for a product or website or similar?

Yeah... I'm just parsing having your question. Uh, a factor that for people feels good – like, you want examples of those factors?

Yeah.

I think, what I think, you know... So how I think about it is probably that feel-good is an overall summary valuation of a lot of quite complex things that can happen in interaction. So potentially I would imagine that a lot of different features of interaction and interfaces could be related to, or contribute to those assessments. Like... I mean, I'm sure there's a lot of visual design components that could be about feeling good. I'm sure there's a lot of, uh... Sometimes Diefenbach and colleagues talk about interaction qualities, so it's stuff like smoothness versus ruggedness, or other aspects of a build of a user interface that's not directly about visual – but sort of what happens when you interact with things that could contribute to feel-good. And I'm also quite sure that the view that a user sees a benefit in a system will likely also correlate with assessments of whether using that system feels good. So in that way, it's bit, sort of, where feeling good is complicated, and being clear about the aspects that contribute to assessments of feeling good is a bit complicated, I think.

9:45

Yeah. Understandable. And that also counts for aspects such as appeal or ease of use, would you say? When it comes to thinking about factors like that with user experience.

Yeah, I think, I mean, feeling good – so I would probably map that to something like goodness, that you may know from Marc Hassenzahl's work. And that is by definition an overall assessment. Appeal is also similarly an overall assessment. I think for ease of use, it's easier to imagine slightly more specific answers, because there they actually begin to be... like, in some models of usability there's actual sort of soft dimensions of easy to use – like easy to learn, easy to remember and return to – that may or may not contribute overall goodness, overall appeal,

but like sort of can be differentiated on their own. But there would definitely also be something like the components that I associated with pragmatic quality, like logical, structured, understandable, whatever they have in that category. So I think it's possible there to be a little more specific.

11:05

Yeah okay. So in your work with user experience, what factors would you then say would be the most important, in your opinion?

Um, I don't think that's a... yeah, in one way... okay, so let me do two answers. So intuitively, I don't think that's a meaningful question, because I think user experience are a particular set of measures or dimensions that are important to experience, but which of those that are the most important things depends on a lot of considerations. But the people and the task and the [unintelligible: gear?] and so on surely must be involved to figure out which of those would be the most important ones. So I think it's a bit hard to – but no, I think it's not meaningful to answer that. But then of course I could answer it by talking about the measures that I seem to have used the most in the past bit of time. There, I'm mostly excited by needs satisfaction and in any kind of need theory. So it's particularly the work by Marc Hassenzahl, but also other people who try to use, for instance, self-determination theory and the needs in self-determination theory to articulate what user experience goals could be about. I like those quite a lot. I also think that it's quite interesting for user experience to use actual measures of effect from psychology, like feeling good or bad, because there's nice validated questionnaires for that, at least as a researcher. So of course, I doubt I would use them as a practitioner, but as a researcher, those are very desirable and interesting.

D.7.2 Questions – Practice

13:15

Yeah, okay. I'd like to move on to some questions now a bit more focused upon working and learning about UX. So first off, how much of your actual work right now is related to user experience, would you say?

Oh, I thought you already asked about that, with the background...

Yeah. But, like, right now at the moment?

You know, I don't... As I said, it's sort of a lot of it and then I probably only have, I don't know, out of 10-15 [unintelligible: projects?], maybe that's only two of those that are actually about user experience per se, as it's own academic topic. But I guess almost all of the others are actually related to that, so yeah, you can figure out the percentages.

Yeah, okay. So when you do this work with user experience, are there any particular techniques, methods or approaches, you prefer to use? Now, you already thought about that you prefer working with quantitative methods...

Yeah, so I mean, I've done both interviews studies about user experience, as well as online qualitative studies or crowd-sourced qualitative studies about user experience, as well as both in-lab and crowd-source quantitative studies of usability. So I don't, uh, so in that way I do a lot of things – I mostly do, I think, crowd-sourced studies that collect a combination of qualitative and quantitative data. But I do believe sort of in general that there's no right method or measures, so that all depends on the individual project and the needs there. So I don't think there's a sensible general answer to your question.

15:30

Yeah. That's good. Are there any methods that you would probably like to work with in the future, or have any general idea or concept that you're thinking about would be fun to try out when it comes to user experience?

Yeah, I have a couple – they're actually secret... (laughs)

Yeah, yeah, okay.

Well, I think I do want to make more large-scale interview studies. I think those are – I mean, I've done a lot of what we call critical incident studies, which is qualitative but typically online, where we ask about specific episodes of use that are sort of standing out in people's recollection of all the systems they use. But I think it would be nice to do some of that work also in interviews, because there's so much about the context and the specific instances of those situations that we don't learn in online studies. So I think that's something I really want to. And the other thing that I think makes sense to mention here is, there's very few longitudinal studies of user experience, and we have here in [City A] one researcher who works with sort of a living lab, where people have mobile phones and they agreed in exchange for being given mobile phones to answer a lot of questions over the time. And I really want to look at user experience over time with sort of experience sampling method or something like that. But where over time is actually like not a week but months or many months – to understand how these aspects of goodness, appeal, whatever plays out in real life over extended periods of time.

17:35

Very interesting. So when you're working with a project like this, how would you approach it? How would approach a new project when it comes to UX?

That's also very difficult answering. The general that happens in a lot of ways, I mean, I so it can be, yeah – I don't think that's different from what – like, because those are research projects – from what I do other cases. So I read the literature, I try to formulate the essence of some idea that would matter, and then I guess from there on its in many ways [*unintelligible*: chaos?] or can play out in quite different ways. But I guess that a number of the things I have been doing has been to use or import things that're already known from psychology about, for instance, the experience of meaning in interaction, and then use theories and findings from there to see if they apply to HCI. And if so, what we can sort of learn as specific for HCI, but actually based on something we already know.

18:55

Okay. So how closely would you say you follow new developments and trends within the field of User Experience Design?

Oh well, okay, so the field of User Experience Design?

Yeah.

I don't, like, I don't actually care much about practitioner work in user experience. I think that's just not interesting, because they're so far behind research that I don't care. But of course academically, I do... And then also, in one way I don't care about many of the practical problems that practitioners face, because I mean, I worked on this for usability evaluation methods and from there, I guess the lesson for me was that a lot of the practical problems of method adoption and use and so on, are just not very academically interesting. So it's about spreading knowledge in organizations and generating momentum and persuasion and all that, and I just don't care about that. So that's why I don't really follow practitioner development much, but at academic conferences I follow what is popular about user experience, and that's sort of my main source of input.

20:20

Awesome. Do you attend conferences like that, would you say?

Yeah, at least once a year. Yeah, it's probably once.

Do you have any influences when it comes to the user experience? Any particular people that you follow or?

Yeah, okay, so that's again in academic business?

Yeah.

Yeah, I like Marc Hassenzahl's work a lot, so I follow his things. I follow the work of Noam Tractinsky, who also have done things on usability in particular that I find really interesting. Then this former colleague of Marc Hassenzahl's, Sarah Diefenbach, whose work I like quite a lot as well. And there's some interesting work at University of Washington at the moment – Julie Kientz and others that are sort of a little different from European UX research, but quite interesting too. So I guess that's the people that I follow.

21:35

Yeah. And you already mentioned a bit about how you don't really find the perspective of practitioners that interesting. What about more literature from that practitioner-based side, like blogs and such – what are your opinion about that, that's used for user experience?

I don't, I would say – well, I mean that's not true, I guess I actually follow, but that's on Twitter so it's all about... I follow Steve Krug and Dan Schaffer and Alan Cooper, who is sort of more practitioner-oriented. But I think that's about it.

Okay. So you don't necessarily discard non-academic literature as so, but mainly it is focused on academic literature in your case?

Yes.

D.7.3 Questions – Community

22:35

Okay, that's good. Then I'd like to ask a little bit more about community, when it comes to the field of UX. So, we already talked a little bit about how you have been collaborating with practitioners or from other universities, like Aalborg University and such, but how much would you say you collaborate with UX professionals from for example the private sector?

It's limited these days. I talk with people and occasionally I try to get projects running with them, but right now it is an active list of zero projects. But I do run into people like that as censor, or occasionally at sort of Danish meets ups for people interested in user experience. But right now, nothing sort of concrete projects.

23:40

How do you feel about the general collaboration between UX professionals in the private at the University in Denmark? How the scene is right now?

That's a good question. I think – so in one way, like, one of my main research areas is user experience, and I guess it's been difficult to find points of agreement and mutual interest with many usability practitioners, or at least for the ones I can think of having tried with. So I guess I think somehow the problems that occupy me are quite different from the problems that occupy practitioners. And that of course makes collaboration sort of difficult. And I guess in one way I also – yes, I guess you can see it two ways – so, one is that the practitioners are just not interested in what happens at the university, and I guess the other way to view it would be that what we do is just not relevant. And I actually don't know which of those two it is. I mean,

“not interested” could be unaware or ignorant or whatever. And I don’t know which of those two are the case, but I mean, being a researcher sort of keeps you pretty occupied, so I also don’t spend a terrible lot of time on sort of going out and getting in touch with the industry, and see what what they might be able to use my research for – simply because I just don’t bother too much about that. And it would take a lot of time, so – not too overlapping, I guess?

25:40

Yeah. Are there any areas where you could maybe see a potential for collaboration when it comes to collaboration between private sector and university?

Yeah, I think that there’s very many. That’s also why I occasionally try it. I mean, so the whole business of quantifying experiences and being more clear about how individual experiences contribute to overall satisfaction, well-being and so on – I think that’s extremely important for a lot of businesses. And I actually think – I spent some time talking with a major Danish bank about this, and I don’t think they have any clue about what they’re missing. Simply because they cannot think straight about measures and don’t know, sort of, the theory about how you quantify and potentially think about and work with user experience. So I think they miss quite a lot, honestly. So those are very basic areas of it being one way way, where I think academics can actually do something and maybe also contribute.

27:05

Yeah. So, with these problems that you are talking about now, how do you see that affecting the development of new knowledge about user experience in the private field, when there’s this lack of collaboration – where they actually maybe don’t see how they can utilize the researchers?

Well yeah, I guess I think – well, maybe it all sounds a bit arrogant, but in one way I think that the industry misses knowledge about the newest approaches, misses sort of insights about more fundamental or basic ways of thinking about experience. And I think that just means that, well – so, one thing I do think it means is that somehow the depth of knowledge in user experience are not really followed in practice, and then user experience in practice to some extent becomes a lot about design, which is in way good, but it becomes a lot about sort of superficial aspects of design, I find, and that sort of stuff that’s deeply tied to strategic goals of organizations. And I think also it becomes too much sort of Google Analytics style of reasoning that way – “we have this input about, like, clicks and so on and then we try to use that as a quantitative way of reasoning about how our things work” – and I think that’s just, again, superficial.

28:45

Yeah, okay. So these problems, do you think it comes down to practitioners not making enough effort to do collaborations with universities or it’s just a matter of there being a, a gap between them?

You know, I think there’s many reasons... I mean, I don’t work too much on that either, so I guess we are simply focused on different things. And of course it requires some history of generating value for each other for those collaborations to happen. So I don’t want to point fingers – it’s probably a two-way thing.

But you say you’re in regular contact with UX professionals working at the private sector?

Not regularly, but I mean, I have friends that work there, I occasionally see at these Danish events that are about this. But not regularly, for sure, but occasionally.

29:55

Would that be with intent to exchange knowledge and experience regarding UX?

Yeah. Just, I mean, what's going on in their field, how much from the universities have transferred outside, are there actually new things emerging in practice that we don't know about or can make up problems for us or things like that.

Okay. I know you already touched a bit about it, you could maybe talk a little bit more about how your general, like, view of the level of skills and knowledge of practitioners are the private sector with user experience?

Yeah. Okay, so sometimes I'm a bit sad or I don't understand why some of the things I believe we know at the university doesn't make it to practitioners, but then on the other hand I see many many things where, like, prototyping, thinking about how you strategically settle on an organization's buy-into user experience – well, that's two examples that come to mind. I see those areas where they actually appear to be doing quite good work and sort of deal with struggles, so that's – I think it's again probably a balance or whatever.

31:40

But do you have an impression that some UX professionals in the private sector might not have a clear understanding what user experience actually means? You already touched a bit upon it as well definition-wise, but...

No, I'm sure that's the case, but that's what I mean – there's a famous survey by Effie Law and Vermeeren and others, who showed that that's actually the case by academics as well. So I don't – I wouldn't be too worried about that, but I do think that maybe there's some of what I consider the advances in the last, I don't know, five or ten years of UX that just might not have made it to industry.

32:25

Would you say that there are actually colleagues or peers of your own that you will avoid working with because you consider their skills within UX for being of poor quality? Without naming any names, of course.

No no no, because then I know it and can tell it, so that's not – I don't care about that. And I guess that's also why I tried to explain in the beginning that UX is sort of a background, a backdrop for me, and I think about that in all projects, so I don't think that's a drawback.

D.7.4 Additional Comments

32:55

Okay, interesting. Okay, that actually wraps up the question, I have. I would like to ask if you have any comments or questions here at the end that you like to elaborate upon – that we've talked about?

I'm just curious, so you are at Aalborg University, right?

Who is your supervisor?

Tanja Svarre. We are in the humanities, doing information architecture.

Ok ok, yeah. I know the name. No, I don't think I have other, sort of, things to add.

Okay that's great. So I would of course like to say very much thank you for taking your time to do this interview with us.

D.7.5 Notes

- Total time: 33:40
- Recorded over Skype on the May 11th at 12 o'clock
- Stig and George present.

D.8 Interview P7

Stig

Participant 7 (P7)

Timecode

D.8.1 Questions – Domain

00:03

Første spørgsmål, det går ud på om du kort kan beskrive din uddannelsesbaggrund og arbejdshistorie?

Ja, det kan jeg godt. Jeg er uddannet datamatiker, i 2002 må det blive efterhånden. Så jeg faktisk har en baggrund indenfor udvikling, kan man sige. Jeg har altid været interesseret i programmering og har altid arbejdet med programmering, faktisk. Så derfor tog jeg en uddannelse på [Skole A], som var – på det tidspunkt, hvis man tog den uddannelse, så var man “sikret arbejde”. Det var sådan ligesom det de sagde på det tidspunkt. Og jeg tog så den uddannelse fordi jeg var interesseret i det felt her, jeg var interesseret i programmering. Og det var så ligesom en vej ind til det her. Man kan sige igennem de seneste, ja, de seneste 10 år vil jeg tro eller sådan noget, har jeg haft udelukkende fokus på UX. Det vil sige jeg har altid arbejdet meget med UX, eller i hvert fald interface design og frontend programmering og sådan nogle ting, startede jeg ligesom med. Jeg har altid været mere interesseret i hvad brugeren så i den sidste ende, kan man sige, og hvordan brugeren interagerede med det interface som vi nu engang lavede. Og ikke så meget i, om det var den perfekte funktion som jeg skrev i koden, kan man sige. Så derfor bød jeg mig meget naturligt over i det felt og i dag har jeg udelukkende fokus på det. Så min baggrund er egentlig udvikler, men har så arbejdet med det her felt i rigtig mange år og har derved fået min erfaring derigennem.

01:40

Vil du sige din uddannelse har forberedt dig på at arbejde med UX?

Altså man kan sige, jeg ved ikke som sådan om uddannelsen gjorde det, uddannelsen var meget fokuseret på, hvad skal man sige, analyse og programmering, og de her ting, men ikke så meget brugervenlighed eller brugeroplevelse, kan man sige, generelt. På det tidspunkt var det ikke så “stort” – det var selvfølgelig stadigvæk noget man talte om, men mere sådan usability, kan man sige, talte man nok mere om på det tidspunkt end man talte om UX, user experience. Så jeg ved ikke om min uddannelse som sådan har forberedt mig på det, men min erfaring har selvfølgelig igennem mit arbejde har selvfølgelig forberedt mig på det og har gjort jeg er blevet en stærkere i det i dag. Jeg kan lige derudover tilføje at jeg har også en certificering inden for UX, som jeg har fået igennem Nielsen Norman Group. Jeg ved ikke om i kender Nielsen Norman Group?

02:45

Jo, jo

Ja, der har jeg fået en Master certificering igennem dem, ved at tage en masse af deres kurser for ligesom, kan man sige, at få et certifikat på at det er et felt som jeg ved noget om, kan man sige. Så det har jeg også fået, men det har jeg ligesom fået efterfølgende, i forbindelse med mit arbejde.

03:06

Vil du sige så at du selv har valgt at arbejde med UX, i sidste ende, eller er det måske noget som du er blevet styret i mod?

Jeg vil sige at jeg har været, jeg vil sige jeg selv har valgt det, kan man sige. Jeg kan høre en ambulance i baggrunden?

03:23

Ja, der er lidt i baggrunden der.

Det er i orden. Jamen, det vil jeg helt klart sige, jeg vil at jeg har arbejdet på et tidspunkt, jeg havde egentlig ansvaret for et front-end afdeling i her [Virksomhed A], der hvor jeg arbejder, hvor jeg sad som teamleder, og hvor jeg brugte en del tid på ledelsesaspektet af at drive et team, kan man sige. Men det var så rent front-end, og der kunne jeg mærke på et tidspunkt, at det var bare ikke den vej jeg ville gå og derfor var jeg selv med til at definere et nyt team som skulle arbejde udelukkende med user experience. Så jeg har helt klart selv været drivende i den retning og hele tiden været meget fortaler for at det var noget man skulle gøre mere i, i firmaet fordi jeg mente at det var vejen frem i forhold til at lave gode brugeroplevelser og lave bedre interfaces og bedre oplevelser generelt i de løsninger vi nu arbejder med, så jo jeg har helt klar selv været, ja, været med til...

04:27

Ja. Spændende. Kan du så, lidt kort, beskrive hvad du selv forstår ved begrebet user experience?

Uha, den hører jeg tit. (griner) Jamen altså, I har sikkert set den før når man går ud og googler user experience, "hvad er user experience", ikke – så får man tit sådan nogle, jeg synes tit jeg ser de her pyramider som beskriver, hvad skal man sige, den lagdeling som der er inden for UX. Jeg vil ikke sige at jeg selv bruger den beskrivelse præcis som den er der, men den har mange aspekter som jeg synes giver god mening, det her med at der er noget som skal være funktionelt, og det skal være brugbart – og det er måske sådan lidt mere i, når man rent faktisk sidder og arbejder med det, som er den nederste del af pyramiden, så vidt jeg husker. Og så den øverste del, der er sådan lidt mere subjektiv på en eller anden måde. Som er hvordan du oplever det produkt du nu sidder og arbejder med eller det produkt du sidder og kigger på eller det software du sidder og arbejder med, ikke. Og på en eller anden måde synes jeg måske at det beskriver meget godt sådan cirka hvad det handler om. Det handler meget om at lave en løsning. For os handler det om, vi laver e-handelsløsninger, for os handler det om at lave en løsning som ikke bare kun fungerer – altså hvor brugeren kan putte noget i en kurv og få købt en vare – men også at brugeren får en fed oplevelse, ved at gøre det. Også kan vi lave nogle små features, *here and there*, som på en eller anden måde gør at den løsning står lidt mere ud end i forhold til de andre løsninger. Er den rent faktisk interessant at arbejde med, er det noget man gerne vil vende tilbage til. Så det er ikke kun et spørgsmål om at lave en løsning, der virker, og som, hvad skal man sige, er brugervenlig, altså er nem at bruge, det er også et spørgsmål om at lave noget som man synes er interessant at bruge. Og som man kan vende tilbage til og måske dele med sine venner. Det kan man vel godt sige på en eller anden måde, sådan ganske kort, er hvad jeg definerer UX som. I har sikkert også set den her klassiske med en ketchupflaske, at man har den gamle ketchupflaske, ikke. Og det er ligesom designet af produktet, og så har man den nye ketchupflaske af plastik, som så er user experience. Det er sådan en meget, hvad skal man sige, det er sådan et billede på hvordan man kan beskrive det, i hvert fald når man taler med ... Jeg bruger den nogle gange faktisk fordi den er nem på en eller anden måde at få kunder som ikke nødvendigvis forstår hvad det er vi arbejder med, til at give et billede af hvad det er for noget. Jeg vil ikke sige det er sådan et korrekt billede af det, men det kan godt hjælpe

med at forklare over for nogen hvad det handler om. Det handler om at lave en god oplevelse, udover bare at får det til at fungere, på en eller anden måde, ikke.

07:17

Nu vil jeg gerne prøve at stille nogle spørgsmål som dykker lidt mere ind i det her med user experience. Specielt i forhold til nogle af dens faktorer, så at sige. Så først og fremmest, hvad vil du sige er den største indflydelse på, eller hvilken faktor er den største indflydelse på at et produkt eller hjemmeside føles godt at bruge?

Om det føles godt at bruge, jamen altså.. Det er jo måske svært sådan lige at sætte ord på, altså... For det første skal det selvfølgelig være en hjemmeside som svarer tilbage hurtigt, det er sådan en *key factor* på en eller anden måde. Det skal være, du skal få et svar hurtigt tilbage fra serveren, der skal være noget performance i det skal gøre at du føler det er interessant at være på, ellers hvis du er på en hjemmeside og du ikke får et svar hurtigt tilbage, jamen så kan du hurtigt forsvinde derfra, der sker en fejl, der er noget som ikke virker. Det synes jeg er en vigtig parameter, men også om det rent faktisk er funktionelt, det du sidder og kigger på, altså, virker det. Jamen altså, virker det, er der nogen fejl, virker det i den browser du sidder i, og sådan nogle ting – sådan noget synes jeg også er ret vigtigt. Ja, som jeg sagde før, er det brugbart, er det noget du kan tage videre, er det noget du føler du kan arbejde med, er det noget som er nemt at bruge. Er det noget som følger, hvad skal jeg sige, en *best practice* for hvordan andre gør, så du ikke skal genlære at bruge den hjemmeside, men at du hurtigt kan se at den – du hurtigt kan arbejde med den, at den er intuitiv, den er til at gå i kast med, på en eller anden måde.

09:04

Hvad med sådan en faktor som gør at, den er mere tiltalende at bruge, så at sige?

Ja, det er jo så mere i den subjektive del, på en eller anden måde. Helt klart er det også en parameter, og det er netop også noget af det vi prøver at spille på. Ikke at noget er vigtigere end noget andet, men man kan sige at hvis nogen af de ting som jeg nævnte før, i hvert fald ikke er på plads, hvis de ikke er på plads, så kan du lave rigtig mange ting, i det subjektive niveau, på en eller anden måde, som bare ikke har en effekt, hvis det er at hjemmesiden ikke svarer hurtigt nok tilbage, hvis den ikke rent faktisk føles funktionel, eller hvis du ikke rigtig føler at den er nem at bruge, sådan nogle ting. Det er sådan *the basics*, på en eller anden måde – hvis dét ikke er på plads, så de andre ting som er lidt mere subjektive, de bliver sværere at lægge ovenpå. Så men jo, når man først har *the basics* på plads, så er det helt klart også en parameter der er med til at gøre det mere interessant, ja.

10:01

Yes. Er der andre faktorer, som du mener er vigtige for user experience, som ikke lige er blevet nævnt her?

Det ved jeg ikke, altså... jeg synes vi har været godt omkring det. Altså, det er meget det der med om man synes det man sidder og kigger på at det giver mening. Altså, jeg synes selv at gode løsninger er sådan nogle som jeg kan tænke tilbage på og tænke "Det var sgu da smart lavet, det var sgu godt lavet, det var en god løsning, den deler jeg lige med mine venner". Altså, sådan nogle websider eller løsninger, der får én til at tænke det, dem synes jeg, de har ofte har løst det exceptionelt godt. Og det kan jo både være et fysisk produkt, men det kan også være en hjemmeside, som sagt. Så den der parameter, den der *icing on the cake* på en eller anden måde der lige skal til, det er det jeg tror der gør forskellen fra en god til en exceptionel løsning. Det er det vi prøver at stræbe efter, så vidt muligt, for vores kunder at komme op med. Så ja – den er

så bare svært sådan lige at ramme hver gang, ikke, fordi hvad er lige det for den kunde og den løsning

D.8.2 Questions – Practice

11:12

Okay, så bevæger vi os lige over i nogle spørgsmål som handler lidt mere om praksis, måden hvordan du arbejder og lærer om UX. Nu har du allerede fortalt lidt om din arbejdsbaggrund, med at du sidder og arbejder med det, men hvor meget af dit arbejde vil du sige egentlig handler om UX, i dag?

100 procent.

100 procent?

Stort set, ja. Altså, det er måske en sandhed med modifikationer, men man kan sige sådan at det er i hvert fald det der ligesom er... det er jo det, der er min titel, og det er det som jeg ligesom har fokus på overfor vores kunder. Så er der selvfølgelig noget projektledelse og nogle andre ting ind imellem også, som spiller ind, ikke, men sådan i det store hele så vil jeg sige at måske 95 procent, ikke. Fordi det er meget udførende, det er meget – også på sådan et konsulentniveau, ud og tale med kunderne og fortælle dem hvordan vi mener at tingene skal gøres, eller forklare dem hvordan vi synes de bør arbejde med den del her, eller hvilke ting vi bør introducere for at gøre løsningen bedre, alt sådan noget. Så jo, jeg vil sige 95 procent. Så er der noget projektledelse og andre småting hist og her, men det er der heldigvis også andre der tager sig af, så jeg ikke behøves at gøre så meget i det.

12:18

Er der nogle bestemte teknikker, metoder eller fremgangsmåder du foretrækker at bruge når du arbejder med UX?

Altså, det er igen, UX er et meget stort begreb... Men ja det er der, altså for eksempel, kan man sige, jeg rigtig godt kan lide at arbejde med bruger-testning, og som er en af de ting som jeg har haft meget mere fokus på de seneste par år, eller par år, seneste mange år efterhånden faktisk, fordi at jeg føler det er et værktøj der på en eller anden måde giver super meget tilbage og som er nemt at bruge overfor vores kunder i forhold til argumentering – “Hvorfor skal vi gøre det her?” – Det skal I gøre fordi jeres brugere har problemer med det, eller det skal I gøre fordi brugeren synes det er en fed feature og den skal vi fortsætte med at have. Og det er så nemt at vise via bruger-tests, hvor man simpelthen sætter sig ned og tester brugerne og filmer dem, og viser dem hvordan brugeren eventuelt *struggler* eller har en god oplevelse med en løsning. Så det er et værktøj som jeg især sætter stor pris på og som jeg synes virker rigtig godt og som kan lede til rigtig meget god UX. Hvis man virkelig tager det ind og arbejder med de ting som man får ud af en bruger-test. Bare for lige at tage en ting ud.

13:36

Er du på udkig efter nye metoder, så at siger, eller er du godt tilfreds med det du arbejder med nu?

Altså der er jo sikkert altid nye ting man kan gøre på en bedre måde, og jeg synes jeg føler sådan godt med, og prøver hele tiden at følge godt med hvis der kommer nye ting. Der er jo også rigtig meget inden for UX som er meget mere sådan psykologisk, ikke, altså hvor meget føler man ligesom at man kan have i hovedet ad gangen, for eksempel, i forhold til navigation og sådan nogle ting. Som jo hele tiden bliver udfordret, og der kommer hele tiden nye teknikker, og der kommer hele tiden nye ting, man kan kigge på der. Så det er jo et helt felt ved siden af også. Men jeg ved ikke om der er sådan nye teknikker som jeg savner, ikke lige nu. Det

kan jeg jo ikke sige før der kommer noget nyt, hvor jeg tænker, hvorfor har jeg aldrig haft det før, det er klart. Men det er ikke sådan at jeg lige tænker over nu at det står jeg lige og mangler. Jeg synes der er rigtig mange gode teknikker og måder man kan arbejde med det på, i forskellige henseender. Bruger-testing er for eksempel en af dem. Så jeg kan ikke lige komme på noget som jeg tænker, det står jeg lige og mangler, umiddelbart.

14:36

Når I så arbejder med user experience, på hvilket tidspunkt i din, eller jeres proces er det vel så mere, begynder I så at anvende UX?

Man kan sige, at det gør vi sådan set meget tidlig i forløbet, faktisk. Med nye kunder starter vi som regel med, hvad vi kalder en workshop. Vi sætter os ned sammen med kunden og så prøver vi at definere hvad er det helt præcis de gerne vil. Og i de fleste tilfælde, laver vi jo som sagt altså så e-handelsløsninger, altså webshops. Og så er det så meget på feature niveau – hvad vil de gerne gøre anderledes, end hvad andre kunder eksempelvis gør, eller vil de gerne holde konvention på nogle helt bestemte dele og skal det være meget *basic*, eller altså – hvor vi snakker sådan nogle ting igennem. Og det vil sige at der kommer vi meget hurtigt i gang med det, der plejer vi faktisk forholdsvis hurtigt at prøve at introducere kunden til at – hvis de har en hjemmeside i forvejen – at bruger-teste den website, for at finde ud af hvad er det egentlig... Hvis skal jo ikke lave noget om der virker på deres nuværende løsning. Så tester vi deres nuværende løsning – eller måske en konkurrents løsning – for at finde ud af hvad er godt og hvad er skidt, inden for det segment de måske arbejder indenfor. Også bruger vi de *findings* til at på en eller anden måde træffe nogle konklusioner til hvad vi så kan gøre bedre eller hvad vi mener vi kan gøre exceptionelt ved deres løsning. Så bruger-testing er igen noget, som vi starter oftest med. Så kigger vi også på sådan noget som personas, og hvad hedder det, målgrupper og segmenter og sådan noget. For vi skal jo finde ud af hvem er det vi skal ramme med den løsning her. Så arbejder vi meget med wireframing, også laver en eller anden form for skitse og mock-ups, hvordan denne løsning her kan se ud for kunden. Vi arbejder meget indenfor noget *best practice* i forhold til e-handel og der har allerede noget som vi starter fra, fordi at der er en masse ting som er lavet, som vi allerede ved fungerer godt indenfor e-handel. Og dem prøver vi ligesom at starte med udgangspunkt i. Med hvis det er sådan en ny ting som kunden gerne vil have, jamen, så skal vi jo lige være sikre på at det også fungerer. Så wireframing, mock-ups og sådan nogle ting starter vi med. Så efterfølgende laver vi design på løsningen. Så vi er med ligesom i hele starten af processen hvor vi definerer hvordan løsningen skal være, hvordan den skal se ud og hvordan den skal fungere. Hvordan brugeren skal interagere med den og hvordan det skal animeres og sådan nogle ting her. Og så går vores udviklere i gang med så at lave løsningen og implementere løsningen, hvor vi er så med på sidelinjen. For ligesom at verificere og tjekke at vi er på rette vej, i forhold til hvad vi har aftalt med kunden. Så man kan sige rigtig meget i starten, og så løbende under processen, hvor vi implementerer løsningen, og så også til sidst hvor vi tester og følger op på om det fungerer – og måske også lave nogle efterfølgende bruger-tests, for at se om det vi lavede rent faktisk fungerede.

17:25

Hvor tæt vil du sige du følger, sådan, udviklingen og nye tendenser indenfor user experience design?

Jeg prøver at følge det meget tæt, så godt som man nu kan når man også har en travlt hverdag, det er jo klart. Men altså jeg følger meget med i hvad blandt andet noget som de store spillere

skriver, Nielsen Norman Group, der er også nogen som hedder Baymard, som er sådan et stort, eller, især fordi de interesserer sig rigtig meget indenfor e-handel. Og de laver en del bruger-tests og finder rigtig mange resultater inden for det. Så lige på den del som er meget mit felt, det holder jeg meget øje med. Og så læser jeg også blogs, holder øje med nogle blogs, på den del. For ligesom at prøve at følge med. Også på LinkedIn prøver man jo også at følge med hvad folk lige skriver, dem man har sit i netværk. Så jeg prøver, men der sker noget hele tiden – det er jo sådan en stilling eller job hvor man jo hele tiden er under uddannelse på en eller anden måde. Der sker jo noget indenfor feltet hele tiden, så man er nødt til ligesom at følge med.

18:33

Når du så designer, evaluerer User Experience, bruger du så litteratur på emnet?

En gang til?

18:42

Når du designer eller evaluerer User Experience, bruger du så litteratur om emnet – nu tænker jeg mere på akademisk?

Ikke ret meget, det vil jeg sige. Der er jo nogle bøger som man engang imellem støder på, hvor man tænker, det der kunne jeg måske godt tænke mig at læse noget mere om. Blandt andet nu, som jeg nævnte tidligere, der er jo en del psykologi og så videre i det. Og der er jo nogle bøger, der er skrevet omkring det her. Jeg mener der er en bog som hedder Thinking Fast and Slow, for eksempel, som er meget omkring hvordan mennesker tænker og hvordan man kan bruge den viden inden for UX. Altså sådan nogen, så kommer der sådan nogle bøger en gang imellem som jeg tænker "Det kunne jeg da godt lige tænke mig at læse noget mere om". Så prøver jeg lige at læse noget om dét. Men ikke sådan ellers, jeg synes jeg prøver at følge med meget af hvad der sådan sker og hvad folk de skriver, og så tager det ind på den måde. Det er ikke sådan at jeg læser – jeg vil sige måske nogle rapporter som Nielsen Norman Group og sådan nogle, nogle gange laver prøver jeg sådan at kigge igennem. Fordi de er konkrete og meget, det er testet på nogle brugere, de har fået noget feedback fra nogle brugere, og det konkluderer de så på og laver nogle afhandlinger om. Og det synes jeg er interessant at læse, fordi det er meget aktuelt på en eller anden måde. Det er ikke sådan teoretisk, det her sådan, "Det her sagde brugerne, det så vi brugerne opleve – ergo, skal vi prøve at gøre sådan her". Så det er sådan til at tage og føle på, på en eller anden måde.

20:07

Okay. Hvad er så din generelle mening omkring litteraturen fra, for eksempel, den akademiske verden?

Jamen det ved jeg ikke, det kommer an på, hvad du mener mere specifikt så... Hvad tænker du, er der noget specielt?

20:20

Altså vil du for eksempel sige at du, vil du sige at du kan bruge den akademiske forskning og lignende, eller ville du sige det er for virkelighedsfjernt og så videre?

Nej, altså jeg vil sige at jeg kan godt bruge forskningen, men det er jo netop oftest mere sådan, når der laves sådan nogle... Altså, dem som jeg som sagt har mest kigget, jamen det er jo så fra sådan nogle større firmaer som har lavet den her forskning. Men det er meget baseret på, ja på bruger-testing og sådan nogle ting her, ikke. Jeg har på en eller anden måde, jeg har behov på en eller anden måde at det bliver lidt konkret, at det bliver sådan til at tage og føle på, på en eller anden måde, i forhold til det jeg laver. Hvis det bliver for abstrakt på en eller anden måde,

så bliver det sådan... Det er svært at forklare en kunde hvorfor vi skal gøre det her fordi at det måske teoretisk giver mening, men ikke rigtigt er sat i spil, i praksis. Der er vi sådan lidt, jeg vil ikke sige bange for, men vi vil i hvert fald sikre os at der måske er nogen der siger det samme, eller i hvert fald have sat det i søen først, inden vi sådan turde at springe ud i et eller andet som er helt nyt måske, ikke. Vi vil altså sådan set helst ikke være helt foran kanten, hvad det angår. Så jo, hvis det er noget forskning og noget research på en eller anden måde som har en bund i noget praksis, så synes jeg det giver mening, for mig i hvert fald. Jeg ved ikke om det var et svar.

D.8.3 Questions – Community

21:50

Jo, det var helt perfekt. Så går jeg lige over i nogle spørgsmål med fokus imod fællesskab og interaktioner, når det kommer til UX-feltet.

Ja.

Har du nogensinde lavet samarbejde med folk, der arbejder med UX fra universitetet – igennem dit arbejde?

Ikke sådan... Jeg ved ikke om du tænker på konsulentniveau?

Ja, for eksempel.

Nej, egentlig ikke rigtigt, det synes jeg ikke. Altså, vi har arbejdet sammen med mange eksterne samarbejdspartnere, som ligesom er indenfor det felt. Blandt andet arbejder vi lige nu sammen med en kendt e-handelseksperter, som jo også er UX'er, ikke? Men indenfor e-handel specifikt – hvordan man kan gøre en webshop super effektiv. Som en kunde har valgt at de gerne vil arbejde sammen med, så derfor arbejder vi selvfølgelig også sammen med vedkommende. Så på den måde ja, men ikke sådan hvor vedkommende, hvad skal man sige, "kom fra universitet". Men mere sådan nogle eksperter på en eller anden måde, nogle eksterne eksperter, som har deres egen virksomhed, eller et eller andet i den stil – det har vi.

Okay.

Jeg kan ikke lige komme i tanke om – så har vi selvfølgelig haft studerende, som ligesom er inde i en form for praktikperiode eller som måske bare har arbejdet deltid mens de studerede på universitetet indenfor det her felt. Det har vi også haft. Men ikke på den måde, som samarbejdspartnere ellers. Det kan jeg ikke lige komme i tanke om i hvert fald.

Okay. Sådan, ifølge din egen erfaring og mening, hvor meget samarbejde mener du så der er mellem den private sektor og så universitetet, når det kommer til UX?

Det er et godt spørgsmål. (griner) Altså, det har jeg svært ved lige at svare på. Min egen personlige erfaring er i hvert fald at jeg ikke selv lige på den måde har arbejdet så meget sammen med universiteter på den måde. Jeg kunne forestille mig hvis man sidder i en stilling, som er meget mere UX-research, så kunne det godt give mere mening at arbejde sammen med universiteterne, tænker jeg. Men min stilling er ikke som sådan UX-researcher – det er måske en del af min stilling, men det er mere sådan en lille del af min stilling, kan man sige. Jeg laver selvfølgelig noget research, men jeg kigger måske mere på hvad nogle andre har researchet, og bruger i mit arbejde. Jeg er ikke sådan, at jeg selv går ud og researcher et stort emne og sætter en stor rapport op – det er der andre, der gør. Jeg bruger de *findings* på en anden måde, og så arbejder jeg videre med dem. Men jeg tænker, som sagt, hvis man arbejder med en stilling, der sådan rent er UX-research, så kunne jeg forestille mig nogen måske ville have mere samarbejde med universiteterne. Men igen, det er gæt, det ved jeg ikke. Jeg arbejder jo ikke selv med det på den måde.

25:00

Når du arbejder med det praktisk, hvornår vil du så sige det giver mere mening for samarbejde? På hvilket tidspunkt vil det så give mening? Altså, hvis du nu ser det fra en mere praktisk vinkel. Jamen, det kommer an på hvad man føler ligesom at man får ud af det – hvad får jeg ud af det, hvordan kan jeg bruge det i mit arbejde? Jeg tænker det netop kunne være noget med research. Hvis man er i gang med en eller anden undersøgelse, som man er ved at skrive en PhD om, eller et eller andet, at den information jo kunne bruges af folk, der arbejder indenfor det her felt efterfølgende. Og hvis de så gerne vil inddrage folk, der arbejder med det til dagligt på en eller anden måde – måske ligesom jer, ikke? Altså, hvis der kommer en rapport på en eller anden måde som rent faktisk indeholder noget brugbart, man kan bruge overfor sine kunder og sige “Jamen, der er rent faktisk undersøgt noget her; der er spurgt de og de personer, og kigget på det og det område”, så ville jeg kunne bruge det som en form for argumentation, hvis jeg har et eller andet jeg skal argumentere overfor mine kunder, ikke? Så på den måde tænker jeg, jeg kunne bruge på en eller anden måde, ikke – lidt ligesom jeg ville bruge de her rapporter, som Nielsen Norman Group stiller til rådighed når de undersøger f.eks. hvor nemme er hjemmesider at bruge anno 2018 kontra hvad de var for ti år siden – og hvad er det for nogle ting, der gør det er nemmere at bruge hjemmesider i dag end det var tidligere. Altså, meget faktisk. Og det er jo en stor rapport, man kan tage og kigge i, og bruge de ting som der nu passer ind i ens egen verdensbillede, i forhold til hvordan man arbejder med sine egne kunder. Så på samme måde, hvis der var noget research inden for nogle felter, som jeg arbejder med, så ville jeg kunne bruge det på den måde.

26:50

Ja, okay. Så nu har vi snakket lidt om det her med at bruge research. Som praktiserende UX'er, vil du så sige at der er andre områder hvor du ser potentiale for samarbejde, som måske ikke bliver helt realiseret?

Hmm, det er et godt spørgsmål. Det ved jeg ikke lige umiddelbart. Altså, jeg kan ikke lige komme i tanke om... Jeg tænker meget det er research, men det ved jeg ikke om det måske bare er mig, der har en lidt anden... Jeg tænker nok, det er mest det område hvor det ville give mening for mig, i hvert fald, på en eller anden måde at bruge noget research i mit arbejde. *Men når der så ikke rigtig er det her helt store samarbejde – som det lyder til at der ikke rigtig er – hvor meget vil du så sige det har indflydelse på udviklingen af ny viden indenfor UX? Med at de praktiserende måske ikke laver vidensdeling med universitetet, og universitetet ikke laver vidensdeling med praktiserende på sådan samme måde?*

Jamen igen, der er jo mange store private firmaer, som specialiserer sig indenfor det felt her, og som lægger rigtig meget arbejde i at researche og dokumentere effekten af forskellige ting og sager indenfor UX. Og de er jo i hvert fald medspillere i forhold til at udvide feltet, på en eller anden måde, ikke? Og det er måske dér – som sagt er det også dér, jeg sådan kigger mest til. Igen, mit område er jo måske lidt specifikt, fordi jeg arbejder med e-handel, så det er jo sådan ét bestemt område indenfor hjemmesidedesign, hvis man kigger på det på den måde, ikke. Og det er jo selvfølgelig et lille felt i forhold til alt muligt software-design, hvor der jo er alle mulige andre faktorer, der også spiller ind. Så ja, jeg har en tendens til måske at kigge på noget, der er meget specifikt på mit område, fordi det er det jeg har brug for, ikke. Jeg ved ikke om det..?

28:55

Ja, okay, ja. Interessant. Vil du så vurdere at forskere f.eks. gør nok i forhold til vidensdeling når det kommer til UX?

[Spørgsmålet gentages]

Måske. (griner) Altså, igen så er jeg måske sådan lidt – jeg ved ikke om jeg vil sige “ikke målgruppen”, det er jeg jo nok på en eller anden måde. Men hvis jeg var lidt mere sådan research-minded og min stilling gik mere ud på det, så tror jeg at jeg ville have en anden tilgang til dét, men det er min opfattelse i hvert fald. Men jeg er mere sådan praktiserende, sådan udførerende, på en eller anden måde, på de løsninger vi har, på selve interfacet, på løsningen. Så igen passer jeg måske ikke helt ned i den rolle til det spørgsmål. *I don't know*. Men hvis jeg gjorde det, så kunne jeg da godt forestille mig det.

30:05

Ja, okay. Igennem dit arbejde med UX, vil du så sige at du har en følelse af fællesskab med andre, der arbejder med UX her i Danmark? Nu har du snakket lidt om LinkedIn osv., men vil du sige at der er et fællesskab?

Det vil jeg sige der er, ja. Altså, der findes forskellige grupper på LinkedIn og sådan noget, som jeg deltager i og hvor der bliver skrevet en del. Der foregår også forskellige events, som man kan deltage i. Jeg deltager ikke helt så meget i dem selv, men det er fordi at – jeg ved egentlig ikke helt hvorfor måske (griner), men i virkeligheden så er det måske også noget med at der mange der foregår i København, der er også nogle der foregår i Aarhus og sådan noget. Men jeg har ikke lige deltaget til nogen endnu. Jeg er blevet inviteret til en del, faktisk. Jeg har sparret med en del online, kan man sige – jeg snakker med rigtig mange om det. Nu snakker jeg med rigtig mange e-commerce-managere, som arbejder med e-handel. Og dem sparrer jeg selvfølgelig meget med, men jeg sparrer også med sådan andre UX'ere og konsulenter, som arbejder indenfor det. I forbindelse med at jeg jo arbejder med rigtig mange forskellige kunder – vi har mange forskellige kunder, og jeg er næsten involveret i dem allesammen. Og mange gange har de deres egne UX'ere siddende, som jeg selvfølgelig sparrer med om forskellige ting. Så jo, jeg synes der er sådan et godt *community*, og man har sådan lidt en... når man indenfor samme felt, og man snakker om de samme ting, jamen så er det nemt ligesom at videregive information når man...

Ja...

Når man ligesom er indenfor samme felt, og man ved hvad man snakker om, havde jeg nær sagt, ikke. Så er det sådan lidt, der kan godt opstå nogle rigtig interessante samtaler i hvert fald.

31:40

Hvad med sådan noget med konferencer, deltager du i det?

Ja, altså, jeg har i hvert fald deltaget i rigtig mange af de her Nielsen Norman Groups's konferencer, som både er – jeg vil sige, det er mere sådan nogle *training courses*, jeg har deltaget i. Det var lige før jeg deltog i en af de her nyeste konferencer, der var her for nyligt, faktisk. Men jeg nåede ikke lige at komme med til det. Så jeg har ikke deltaget i sådan konferencer, hvor det er mere sådan nogle *speakers*, der holder nogle taler om et eller andet. Jo, men ikke så meget inden for UX specifikt, i hvert fald. Endnu. Jeg er igen sådan meget, at hvis jeg deltager i noget, så – og det er jo sådan lidt utopisk måske at tro det – men jeg vil gerne være sikker på at jeg på en eller anden måde får noget ud af det, jeg kan bruge og kan give videre til mine medarbejdere, til mine kollegaer og sådan noget. Det er måske meget interessant nogle gange at høre en eller anden historie om hvordan man har løst en eller anden bestemt situation fra en anden kunde, altså fra et helt andet sted af. Men hvis jeg ikke føler at jeg på en eller anden sådan måde kan få noget praktisk ud af det, noget jeg ligesom kan tage videre til vores egne kunder, så vil jeg ikke sige at jeg har spildt min tid – men så vil jeg i hvert fald sige at

så kunne jeg måske have brugt tiden på noget andet. Så der er jeg meget kritisk hvad det angår. Så hvis der er en eller anden konference hvor jeg føler at der er nogle *speakers* med som jeg kan se har noget på hjertet, eller som jeg fra kender eller et eller andet, så er jeg meget interesseret i det. Hvis det mere er sådan lidt overordnet, så deltager jeg så som regel ikke, fordi jeg føler jeg på en eller anden måde kan få det samme information online eller ved at sparre min kollega eller andre kollegaer.

33:25

Okay. Så igennem dit arbejde med user experience, hvad er så dit indtryk af det generelle niveau af viden og kompetencer – altså, føler du at andre UX-professionelle har en klar forståelse af “user experience” egentlig taget betyder?

Delvist, vil jeg sige. Altså, min egen erfaring er jo at – som jeg sagde, er jeg jo ikke uddannet indenfor det felt. På det tidspunkt der var der ingen uddannelse indenfor det her. Man kunne godt få en uddannelse i HCI fra f.eks. DTU eller sådan noget, men det var sådan meget specifikt. Og på det tidspunkt var jeg ikke klar over at jeg var interesseret i det, kan man sige. Jeg var mere interesseret i at skabe en løsning for en kunde, eller arbejde med en løsning. Først senere fandt jeg ud af at det i virkeligheden var mere det her med hvad brugeren så og hvordan brugeren oplevede det, som jeg fandt interessant. Hvad var det spørgsmålet var igen?

Det var bare om du føler at det generelle niveau for UX-professionelle...

Ja. Jamen igen – det synes jeg sådan delvist. Altså, nogle gange når jeg kommer ud til nogle kunder, som har deres egen UX'er siddende, så kan man godt nogle gange sidde med lidt en fornemmelse af “Hvorfor er det den person sidder med den stilling? Og sidder personen måske på den stilling fordi vi mangler én med den titel?”-agtigt, og så har man lige fået den titel på også. Men at man ikke nødvendigvis er helt nede i feltet og nødvendigvis ved præcist hvordan man interagerer i det, i hvert fald. Så kan man også komme ud til en kunde, hvor der er nogen der ansat, hvor man bare tænker “Okay... de er eddermame skarpe, de der”. Så det er sådan lidt blandet. Der er nogen, der siger at de er rigtig gode indenfor det, men hvor man ikke rigtig føler i praksis at de måske er det, og så er der nogle, der virkelig er skarpe indenfor feltet. Bl.a. en af de samarbejdspartnere, vi arbejder sammen med lige nu, er virkelig en person, der er skarp indenfor det felt. Sådan nogle personer, dem vil man gerne arbejde sammen med, fordi de kan jo også inspirere én selv, og få én videre selv, ikke? Men det er sådan lidt blandet. Jeg vil sige – 50/50 procent af tilfældene, der føler jeg at det er personer, der rent faktisk ved noget om det, og andre gange der føler jeg, at det er sådan helt ved siden af. Det er måske lidt hårdt sat – ahh, 40/60, måske – til den gode side.

35:50

Har du nogensinde oplært folk i UX, hvor de måske ikke har været helt op til niveau?

Ja, det har jeg. Vi har haft nogle studerende inde, som var indenfor feltet, hvor jeg har været med til at lede dem og definere hvilke opgaver, de skulle lave, og hvordan de ligesom kunne arbejde med det indenfor vores felt, i hvert fald. Og så har jeg også været meget drivende i vores egen virksomhed om hvordan vi skulle arbejde med UX – så hvilke arbejdsområder, vi burde kigge på og hvilke teknikker, vi burde bruge, og sådan noget. Så på den måde har jeg været meget sådan ledende i hvordan vi gør det her ved os, i hvert fald. Ja, så helt klart, ja.

D.8.4 Additional Comments

36:30

Okay. Fantastisk. Det afslutter faktisk mit interview her nu. Det var de spørgsmål, jeg havde. Jeg vil lige høre her på falderebet om ved noget af det vi har diskuteret, om du har noget, du gerne vil uddybe der. Om du har nogle ekstra kommentarer?

Det ved jeg ikke. Igen, UX er jo et meget stort felt, og det er også det der med at hvis man får den titel i en virksomhed i dag, så kan det betyde rigtig mange ting. Jeg har mange kollegaer, som arbejder med en meget, meget lille del af UX. Hvor der er nogle, der er sådan meget mere brede, på en eller anden måde, og arbejder med mange dele af det – som f.eks. mig. Jeg sidder som den “eneste” UX’er her i vores virksomhed, og er dermed sådan meget omkring rigtig mange forskellige ting. Jeg arbejder med interaktionsdesign, jeg arbejder med kvantitative undersøgelser, og kvalitative undersøgelser, og målgrupper, personas, brugerscenarier – altså, alt hvad der ligesom er indenfor det felt her. Og det betyder at jeg bliver sådan meget generalist, på en eller anden måde. Og så er der nogle, som er meget, meget specifikke indenfor det her område, og kun arbejder med user research, eller kun arbejder med interaktionsdesign eller informationsarkitektur, eller... *you name it*. Og det er virkelig svært. Også at overbevise virksomheder om at de skal bruge tiden på det.

Ja.

Jeg ved ikke om det er noget, I kan bruge. Men det er virkelig sådan forskelligt i Danmark hvordan folk arbejder med det, og hvordan virksomheder arbejder med det. Det er i hvert fald min erfaring. Det er ikke sådan at man kommer ud i en it-virksomhed, og så er det bare *given* at de har ansat en UX’er. Jeg vil sige, det er mere nu end det var for ti år siden f.eks. Der var det virkelig sådan, “Nå, okay, er der også sådan én, der skal ind og bruge tid”. Det fik nærmest en negativ klang på en eller anden måde – “Det er bare endnu en, der skal bruge tid”. Hvor man ikke rigtig havde set at det er godt givet ud og at de timer rent faktisk vil blive sparet i den sidste ende, i udviklingen, hvis man rent faktisk tænker sig godt om inden man går i gang, ikke. Så der er rigtig mange ting, man kan snakke om. Jeg synes, det er lidt ved at vende i Danmark efterhånden – eller det er godt på vej lige nu, i hvert fald. Når man snakker med andre it-virksomheder, så er det et felt der bliver taget meget seriøst i dag. Men det har det ikke altid været.

Tak for at du ville bruge din tid på at snakke med os.

D.8.5 Notes

- Total time: 39:20
- Recorded over Skype on the May 14th at 10 o'clock
- Stig and George present.

D.9 Interview P7 (EN)

Stig

Participant 7 (P7)

Timecode

D.9.1 Questions – Domain

00:03

First questions, that is if you could briefly describe your educational background and work history?

Yeah, sure. I'm educated as a computer scientist, in 2002 I guess that is by now. So I actually have a background in development, you could say. I have always been interested in programming and has always worked with programming, actually. So therefore I got an education from [School A], which was – at that time, if you got that education, you were “guaranteed a job”. That was kind of what they said at the time. And so I chose that education because I was interested in this field, I was interested in programming. And that was kind of my way into this. You could say that in the last, well, the last ten years or so, I think, I have focused on UX exclusively. That means that I have always worked with UX, or at least interface design and frontend programming and stuff like that, which I started out with. I have always been more interested in what the user ended up seeing, you could say, and how the user interacted with the interface that we had made. And not so much in whether it was the perfect function, I wrote in the code, you could say. So for that reason, I naturally sought over into that field and today, I focus exclusively on it. So my background is actually developer, but then I've worked within this field for quite a lot of years and has gotten my experience through that.

01:40

Would you say that your education has prepared you to work with UX?

Well, I mean, I don't know if the education did it as such. The education was very focused on, how to say it, analysis and programming and these things, but there wasn't a lot of user friendliness or user experience, you could say, in general. At that time, it wasn't “big” – it was of course still something you talked about, but more in terms of usability, you could say, you talked more about at that time, I guess, than you talked about UX, user experience. So I don't know if my education as such has prepared me for it, but my experience from my work has of course prepared me for it, and I'm more capable in it today. I can just add to that that I also has a certification in UX, which I have gotten through Nielsen Norman Group. I don't know if you know Nielsen Norman Group?

02:45

Yeah, sure.

Yeah, I have gotten a Master certification through them, by taking a lot of their courses to, you know, get a certificate for that this is a field that I know a lot about, you could say. So I have that, but I have gotten afterwards, in connection with my work.

03:06

Would you say that you have chosen to work with UX yourself, or that perhaps it's something that you have been steered towards?

I would say that I have been, I would say that I have chosen it, you could say. I can hear an ambulance in the background?

03:23

Yeah, there's a little in the background there.

That's alright. Well, I would definitely say that, I worked at a time, I actually managed the front end division here at [Company A] where I work, where I was the team leader, and where I used a lot of time on the management aspect of leading a team, you could say. But that was just pure front end, and at some point I could feel that that just wasn't they, I wanted to go, and therefore I was part of defining a new team, who would work exclusively with user experience. So I have definitely been instrumental in that regard and consistently argued that that was something we should be doing more in the company, because I felt that it was the future in terms of making good user experiences and making better interfaces and better experiences in general in the solutions that we work with, so yeah, I have definitely, well, been a part of. . .

04:27

Yes. Interesting. Could you then, sort of briefly, describe what you yourself understand by the term user experience?

Oof, I hear that often. (laughs) Well, you know, you have probably seen it before, when you go to google user experience, "what is user experience", right – you often get these, I think I often see these pyramids that describe, how to say it, the layers that exist within UX. I wouldn't say that I use that description myself exactly as it is there, but it has a lot of aspects to it that I think make sense, this thing about something having to be functional, and it has to be usable – and that maybe be a bit more about, when you're actually working with it, which is the bottom part of the pyramid, as far as I recall. And then the top part, which is sort of a bit more subjective in a way. Which is how you experience the product that you are working on, or the product you are looking at, or the software you are working with, you know. And in a way, I think that maybe that describes quite well what it's sort of about. It's about making a solution. To us, it's about – we make e-commerce solutions, so for us it's about making a solution that's not just working – that is, where the user can put something in a cart and buy a product – but also that the user has a cool experience doing it. And we can make some small features, *here and there*, that in some way makes that solution stand out a bit more compared to the other solutions. Is it actually interesting to work with, is it something that you would like to return to? So it's not just a question of making a solution that works, and that, how to say it, is user friendly, that is, easy to use. It's also a question of making something that you think is interesting to use. And that you return to and maybe share with your friends. I guess you could say that, sort of briefly, is how I define UX. You have probably seen this classic with a ketchup bottle, that you have the old ketchup bottle, right? And that is sort of the design of the product, and then you have the new ketchup bottle made of plastic, which then is user experience. That's a sort of, how to say it, that's a sort of depiction of to describe it, at least when you talk to. . . I use it sometimes actually, because it's easy in a way to give customers, who don't necessarily understand what we're working with, a picture of what it is. I wouldn't say that it is, like, an accurate picture of it, but it can help a bit to explain what it's all about. It's about making a good experience, beyond just getting it to work, in some way, you know.

07:17

Now I'd like to ask some questions that dig a bit deeper into this thing, user experience.

Especially regarding some of its factors, so to speak. So first and foremost, what would you say has the biggest influence on, or what factors have the biggest influence on whether a product or website feels good to use?

Whether it feels good to use, well I mean. . . That's maybe a bit tough to put into words like that. . . Because of course, a website first of all has to respond quickly, that's a *key factor* in a way. It must be, you have to get a response quickly from the server, there has to be some performance in it. It should make you feel interested in being there, otherwise if you're on a website and it doesn't respond quickly, well, then you might leave quickly – an error occurs, something isn't working. I think that's an important parameter, but also whether it is actually functioning, what you're looking at, I mean, does it work. Well, you know, does it work, are there any errors, does it work in browser you use, and stuff like that – those things are also really important, I think. Yeah, and as I said before, is it usable, is it something you can take with you, is it something you feel that you can work with, is it something that is easy to use. Is it something that follows, you know, a *best practice* for how others do it, so you don't have to relearn to use that website, but you can see it quickly – you can work with it quickly, that it's intuitive, that it's approachable, in some way.

09:04

What about a factor that makes it more appealing to use, so to speak?

Yes, that's over in the subjective part, in away. Definitely also a parameter, and precisely that is also one of the things that we aim for. Not that something is more important than others, but that, you know, if some of the things that I mentioned before definitely aren't there, if they aren't there, then you can do a lot of things, on the subjective level, in a way, that just doesn't have an effect if the website is responding quickly enough, if it doesn't actually feel functional, or if you don't really feel that it's easy to use, stuff like that. That is sort of *the basics*, in a way – if that isn't there, then the other things that are a bit more subjective, they will be harder to put on top. So, but yeah, once you have *the basics* covered, then that's definitely also a parameter that helps making it more interesting, yeah.

10:01

Yes. Are there any other factors that you think are important for user experience, which haven't been mentioned here?

I don't know, I mean. . . I think we been pretty much all around it. I mean, it's very much about whether you think the thing you're looking at, whether it makes sense. That is, I think that good solutions are the ones that I can think back to and think "That was made in a damn clever way, and made in a damn good way, that was a good solution, I'm gonna share that with my friends". I mean, that kind of websites or solutions that make you think that, I think those, they have often solved it in an exceptionally good way. And of course, that could be both a physical product, but it could also be a website, as I said. So that parameter, that *icing on the cake* in a way, that it takes, I think that is what makes the difference from a good to an exceptional solution. That is what we try to strive for, whenever possible, for our customers to get to. So yeah – it is just so hard to reach every time, you know, because it depends on the customer and the solution.

D.9.2 Questions – Practice

11:12

*Okay, then we'll move on over to some questions that are more about practice, the way you work and learn about UX. Now, you've already talked a bit about your work background, that you are currently working with it, but** how much of your work would you say is actually about UX, today?*

100 percent.

100 percent?

Pretty much, yes. Well, that may be stretching the truth, but you can say it like this, it is definitely the thing that is... it is my title, and it is where my sort of overall focus lies with our customers. So of course there's some project management and some other stuff in between, that plays a part, but in general, I would say that it's maybe 95 percent, you know. Because it's very much practicing, it is very much – also in a consultant capacity, out there talking to customers and telling them how we think that things should be done, or explaining to them how we think they should work with this part here, or what things we should introduce to make the solution better, all that kind of stuff. So yeah, I would say 95 percent. Then there's some project management and other smaller things here and there, but luckily there are other people that are also handling that, so I don't need to do so much of that.

12:18

Are there any particular techniques, methods or approaches that you prefer to use when you work with UX?

Well, again, UX is a very broad term... But yes, there are, like for instance, you could say, I really like working with user testing, and that is one of the things that I've actually focused much more on in the last few years, or couple of years, many years by now, actually, because I feel that it is a tool that in some way provides an incredible amount and that is easy to use with our customers as argumentation – “Why should we do this?” – You should do it because your users are having problems with it, or you should do it because the user thinks it's a cool feature and we should continue having it. And that is so easy to show through user tests, where you simply sit down and test the users and film them, and show them how the users potentially *struggle* or get a good experience from a solution. So that's a tool that I value highly and which I think works really well and which can result in a lot of good UX. If you really take it to heart and work with the things that you get out of a user test. Just to highlight one thing.

13:36

Are you looking for new methods, so to speak, or are you fairly satisfied with the ones that you work with now?

Well, there are probably always new things that you can do in a better way, and I think I keep pretty up to date with it, and I'm always trying to keep up with if there's anything new. There's also a lot related to UX that is very psychological, you know, like how much you feel that you can keep in your head at a time, for instance, regarding navigation and those kinds of things. Which is of course always challenged, and new techniques become available all the time, and there are always new things to look out for there. So that's an entire field to itself as well. But I don't know if there are any techniques as such that I'm missing, not right now. Of course I can't say that before something new comes out, where I'm thinking “Why didn't I have that before”, obviously. But it's not like I think right now that there's anything in particular that I need. I think there are a lot of good techniques to ways to work with it, in various regards. User testing is for instance one of them. So I can't really think of anything that I feel I'm missing at the moment.

14:36

When you then work with user experience, when in your, or your team's process I guess it is, do you start to apply UX?

You could say that we do that, like, very early in the process, actually. With new customers, we

usually start out with what we call a workshop. We sit down with the customer and then we try to define what exactly it is that we would like to do. And in most cases, as I said, we make e-commerce solutions, that is, webshops. And then it's very much on a feature level – what would they like to do differently than what other customers for instance do, or would they like to stick to the convention in some parts and should it be very *basic*, or well – where we sort talk some things through. And that means that we get started with it very quickly, usually we actually try to rather quickly introduce the customer to – if they already have a website – to user testing that website, to find out what's actually... We shouldn't change anything that is working well in their current solution. So we test their current solution – or maybe a competitor's solution – to determine what's good and what's bad, in terms of whatever their target is. And then we use those *findings* to in some way draw some conclusions regarding what we can do better or what we think we can do exceptionally for their solution. So user testing is again something that we usually start out with. Then we also look at something like personas, and what's it called, target audiences and demographics and stuff like that. Because we have to find out who it is that we need to reach with this solution. Then we also do a lot of wireframing, and we do some sort of sketches or mock-ups of what this solution might look like for the customer. We work a lot within *best practice* regarding e-commerce and we already have some starting point there, because there are a lot of stuff that has already been made, that we already know works well within e-commerce. And we sort of try to use that as a starting point. But if it is something new, the customer wants, well, then we first have to make sure that it actually also works. So wireframing, mockups and things like that, are what we start out with. And then afterwards, we do the design for the solution. So we are sort of involved at the start of the process, where we define what the solution should be like, how it should look, and how it should work. How the user interacts with it and how it should be animated and things like that. And then our developers get to work building and implementing the solution, with us following along on the sideline, to sort of verify and make sure that we are on the right track, in terms of what we've agreed on with the customer. So you could say, quite a lot at the beginning, and continuously during the process, where we implement the solution, and then also at the end, where we test and check up on if it actually works – and maybe also do some follow-up user tests, to see if what we made actually works.

17:25

How closely would you say that you follow, like, the development and new trends in user experience design?

I try to follow it very closely, as good as you can when you have a busy working day, obviously. But I do follow a lot of what the big players write, Nielsen Norman Group, there's also one called Baymard, which is a big, or, especially because they are very interested in e-commerce. And they do a lot of user tests and find a whole lot of results regarding that. So within the part is really my field, I keep a close eye on it. And I also read blogs, keep up to date on some blogs, on that part. To sort of try to keep up to date. Also on LinkedIn, you also try to follow along with what people are writing, the people in your network. So I try, but there's something happening all the time – this is sort of a position or job where you are constantly getting educated, in a way. Something's happening in the field all the time, so you sort of have to keep up.

18:33

So, when you are designing, evaluating user experience, do you then you literature on the topic? Come again?

18:42

When you design or evaluate a user experience, do you use literature on the topic – I'm thinking mainly about academic?

Not that much, I would say. There are of course some books that you happen on once in a while, where you think, that thing there I'd like read some more about. For instance now, as I mentioned earlier, there is a lot of psychology et cetera in it. And there are some books that have been written about this. I think there is a book called Thinking Fast and Slow, for instance, which is very much about how people think and how you can apply that knowledge to UX. You know, like those. Then there are some books once in a while where I'm thinking "That's something that would like read a bit more about". Then I try to read something about that. But beyond that, not really – I think I try to keep up to date on a lot of what's happening and people are writing, and so take it in that way. It's not like I read – I will say, maybe some reports like Nielsen Norman Group and similar, sometimes I try to to have a look at that. Because they are tangible and very, they have been tested on some user, they have gotten some feedback from some users, and then they conclude from that and do some reports about it. And I think that's interesting to read, because it's very current in a way. It's not, like, theoretical, it's more like "This is what the users said, we saw the users experience this – ergo, we should try to do like this". So that's something that's very tangible, in a way.

20:07

Okay. So what is your general opinion about the literature from, for instance, the academic world?

Well, I don't know, that depends, what do you mean exactly here... What are you thinking or, is there anything in particular?

20:20

I mean, would you for instance say that, would you say that you can use the academic research and such, or would you say that it's too detached from reality and so on?

No, I mean, I will say that I can certainly use the research, but it's just that it's usually, when there something like... Well, the ones that, as I said, I've mostly looked at, well, that's from those kind of larger companies that do this research. But it's all very based in, well, on user testing and stuff like that, you know. I do in a way, I do in a way need it be a bit tangible, something that you can take and use, in a way, in relation to what I'm doing. If it's too abstract in a way, it becomes sort of... It's hard to explain to a customer why we should do this because it may make sense in theory, but it hasn't really been tried out, put into practice. In that way we are sort of, I wouldn't say scared, but we do want to make quite sure that there maybe somebody out there saying the same thing, or at least that it's been put to use first, before we sort of dare to jump into something or other that may be completely new, you know. We really prefer not to be on the bleeding edge in regards to that. So yeah, if there is some research that in some way has a foundation in something practical, then sure, I think it makes sense, to me at least. I don't know if that was an answer.

D.9.3 Questions – Community

21:50

Yeah, that was perfect. So now I'll be moving on to some questions focusing on community and interactions regarding the UX field.

Yes.

Have you ever collaborated with people who work with UX from the university – through your work?

Not really... I don't know if you're thinking in a consultant capacity?

Yeah, for instance.

No, not really, I don't think so. I mean, we have worked together with a lot of external collaborators that are, like, working in that field. Among others, we are right now working together with a noted e-commerce expert, who's also a UX'er, you know? But in terms of e-commerce specifically – how to make a web shop super efficient. Who a customer has decided that they wanted to work with, so therefore of course, we are working with the person. So in that sense, yes, but not in a way where the persons, you know, “came from the university”. But more kind of experts in some way, some external experts, with their own company, or something like that – we've done that.

Okay

I can't recall just now – we have of course had students, who are in a sort of internship period or who maybe just have had a part-time job while studying at the university within this field. We've also had that. But not in that way, as collaborators otherwise. Not that I can think of, anyway.

Okay. So, in your experience and opinion, how much collaboration do you think there is between the private sector and the university when it comes to UX?

That's a good question. (laughs) I mean, that's hard for me to answer. My own personal experience at least is that I myself haven't really worked with universities in that way. I could imagine that if you hold a position that is much more UX research oriented, then it would make more sense to collaborate with the universities, I figure. But my position is not as a UX researcher, as such – it may be part of my position, but it's more sort of a small part of my position, you might say. Of course, I do some research, but it may be more like something where I look at what somebody else has researched and use it in my work. It's not like I go out myself and research some big topic and make a big report on it – other people are doing that. I use the “findings” in another way, and then I build on top of them. I imagine, as I've said, that if you work in a position that is pure UX research, then I could picture that someone might work more closely with the universities. But then again, it's a guess, I don't know. After all, I don't work in that way, myself.

25:00

When you work with it practically, when would you say that it makes most sense to collaborate?

At what time would it make sense? That is, if you look at it from a practical angle.

Well, that depends on what you that you're getting out of it – what do I get out of it, how can I use it in my work? I imagine that could be something regarding research. If you're in the middle of a study of some sort that you're writing a PhD about, or something, then that information could be of use to people who work in this field afterwards. And if they would like to involve people who work with it every day in some way – maybe like you do, right? I mean, if it results in a report that in some way contains something's that's actually useful, that's something you can use with your customers and say “Well, this has actually been studied here; these people have been asked, and these topics have been examined”. Then I could use that as a form of argumentation if I have something that I need to argue to my customers, right? So in that way, I think, I could use it in some way, you know – a bit like I would use these reports that Nielsen Norman Group provides access to when the study eg. how easy to use websites are in

the year 2018 versus what they were ten years ago – and what exactly it is that makes it easier to use websites today than it was previously. You know, very factual. And that's a big report that you can browse through and use the things that turns out to fit with your own worldview, regarding how you work with your customers. So similarly, if there were some research in some fields that I work with, then I would be able to use it in that way.

26:50

Yes, okay. So, now we have talked a little about using research and such. As a practicing UX'er, would you say that there are other areas where you see a potential for collaboration, which maybe isn't fully being realized?

Hmm, that's a good question. I don't really know off the top of my head. I mean, I can't really think of... I imagine that it's research, but I don't know if it's just me that has a little different... I think that's the area where it makes the most sense to me, anyway, to somehow use some research in my work.

But since there isn't really that much collaboration – which it sounds like there isn't – how much would you then say that has influenced the development of new knowledge within UX? With the practitioners perhaps not doing knowledge sharing with the university, and the university not doing knowledge sharing with practitioners in the same way?

Well, again, there are many large private companies that are specialized in this field, and who put a lot of work into researching and documenting the effect of various stuff within UX. And they are of course partners in terms of expanding the field, in some way, you know? And maybe that's – as I said, that's where I, like, mostly look for it. Again, my area may be a bit specific because I work with e-commerce, so that's sort of one particular area within website design, if you look at it like that, you know. And of course, that's a small field in terms of all the software design stuff, where there are all sorts of other factors that come into play. So yes, I have a tendency to maybe look at something that is very specific to my area, because that's what I need, right? I don't know if that...?

28:55

Yeah, okay, sure. Interesting. Would you then say that researchers, for instance, are doing enough when it comes to knowledge sharing regarding UX?

[Question is repeated]

Maybe. [laughs] I mean, I may again be a little – I don't know if I would say “not the target audience”, cause I probably am that in some way. But if I were a little more, like, research minded and my position dealt more with it, then I think that I would have another approach to that, but that's my impression anyway. But I am more sort of a practitioner, like executing, in some way, the solutions that we have, in the interface itself, the solution. So again, I might not really fit into the role of that question. *I don't know*. But if I did, then sure, I could imagine that.

30:05

Yeah, okay. Through your work with UX, would you then say that you feel a sense of community with others working with UX here in Denmark? Now, you have spoken a bit about LinkedIn and so on, but would you say that there is a community?

I would say that there is, yes. I mean, there are various groups on LinkedIn and stuff like that, which I am a member of and where quite a lot is being written. There are also various events that you can participate in. I'm not participating that much in them myself, but that's because – I don't really know why, I guess [laughs], but it may actually mostly be because so much of it is in Copenhagen, there are also some in Aarhus and stuff like that. But I haven't participated in

any of them yet. I have been invited to quite a lot of them, actually. I have sparred with a lot of people online, you might say – I talk with quite a lot of people about it. Now, I talk to a lot of other e-commerce managers, who also work with e-trade. And of course, I often spar with those, but I also spar with other, like, UX'ers and consultants that work with it. Since, you know, I work with quite a lot different customers – we have a lot of different customers, and I am involved with almost all of them. And often, they have their own UX'ers in-house, who I of course spar with about various things. So yeah, I think that there's kind of a good *community*, and you have sort of a . . . when you work in the same field, and you talk about the same things, well, then it's easy to pass on information when you. . .

Sure. . .

When you are, like, in the same field, and you know what you're talking about, kind of, you know? So that's, like, some interesting conversations can come out of that, anyway.

31:40

What about something like conferences, do you participate in those?

Yes, well, I have definitely participated in a lot of these Nielsen Norman Groups conferences, which are both – I'd say it's more sort of *training courses* that I have participated in. I almost went to one of these newest conferences just recently, actually. But I didn't end up making it there. So I haven't participated in conferences like that, where it's more kind of *speakers* that give talks about something. Well, but it wasn't really regarding UX specifically, anyway. Yet. Again, I feel like, if I participate in something, then – and that may be a bit utopian to think like that – but I would like to be sure that I kind of get something out of it that I can use and pass on to my co-workers and so on. I'm sure it could be very interesting sometimes to hear some story about how somebody has solved a particular situation for another customer, like, from somewhere else entirely. But if I don't feel that I in some way get something practical out of it, something I can kind of bring along to our own customers, then I wouldn't say that I have wasted my time – but I would definitely say that I perhaps could have spent the time on something else. So in that sense, I'm quite critical regarding that. So if there's some kind of conference where I feel that there are some *speakers* that I can tell have something to say, or that I know from somewhere, then I'm very interested in that. If it's more sort of general, then I usually won't participate, because I feel that in some way, I could get that same information online or by sparring with some of my colleagues.

33:25

Okay. So through your work with user experience, what is your impression of the general level of knowledge and skills – that is, do you feel that other UX professionals have a clear understanding of what “user experience” actually means?

In part, I would say. I mean, my own experience is that – as I said, I'm not educated within the this field, of course. At that time, there was no education in this. You could get an education in HCI from eg. DTU or something like that, but that was sort of very specific. And at that time, I wasn't aware that this was something that I was interested in, you know. I was more interested in creating a solution for a customer, or work with a solution. Only later, I realized that it was actually more this stuff with what the user saw and how the user experienced it, that I found interesting. What was the question again?

Just if you feel that the general level for UX professionals. . .

Yes. Well again – I do think that in part. I mean, sometimes when I go out to some customers, who have their own UX'ers in-house, you can sometimes kind of get the feeling of “Why is it

this person that holds that position? And is the person maybe holding that position because we need someone with that title?"-ish, and you've gotten that title covered as well. But that they aren't necessarily really into the field and don't necessarily know quite how you interact in it, anyway. And then you can also come out to a customer, and somebody works there where you're just thinking "Alright. . . they know their damn stuff, those guys". So it's kind of mixed. There are some that say they are really good at it, but where you don't really get that feeling in practice, and then there are some that are some really know their stuff within the field. Including one of the collaborators that we are working with right now, who's really someone who knows their stuff within that field. People like that, those are the ones that you want to work with, because they can also inspire you, and push you forward, right? But it's kind of mixed. I would say – 50/50 percent of the cases, I feel that it's people who actually know something about it, and other times, I feel that it's way off. That may be a bit harshly put – ahh, 40/60, maybe – to the good side.

35:50

Have you ever trained someone in UX, because they maybe haven't been quite up to snuff?

Yes, I have. We had some students here, who were within the field, where I have taken part in leading them and defining which tasks, they should perform, and sort of how they could work with it in our field, anyway. And I have also been a leading force in our own company regarding how we were to work with UX – so which domains we should look at, and what techniques we should use, and that sort of stuff. So in that sense, I have been a driving force in how we do it here, anyway. Yeah, so definitely, yes.

D.9.4 Additional Comments

36:30

Okay. Excellent. That actually concludes my interview right now. Those were the questions that I had. Here at the last moment, I would just like to hear if there's anything about the things, we have discussed, that you would like to expand on? If you have any additional comments?

I don't know. Again, UX is a very broad field, and it's also that thing, that if you get that title in a company today, then that can mean a lot of things. I have many colleagues who work with a very, very small part of UX. Where there are some, who are sort of very broad, in some way, and work with many aspects of it – like, for instance, me. I'm here as the "only" UX'er in our company, and therefore I'm involved in a lot of different things. I work with interaction design, I work with quantitative studies, and qualitative studies, and focus groups, personas, user scenarios, in one way or another. And then there are some, who are very, very specialized in some area, and only work with user research, or only work with interaction design or information architecture, or. . . *you name it*. And that's really tough. Also to convince companies that they should spend time on it.

Sure.

I don't know if that's something, you can use. But it really differs a lot here in Denmark, how people work with it, and how companies work with it. At least, in my experience. It's not like, when you come to an IT company, that it's just a *given* that they've got a UX'er working there. I will say, it's more now than it was ten years ago, for instance. Back then it was really, like, "Oh, well, so that's also someone who has to come and spend time with it". It almost had a negative vibe to it, in some way – "That's just another person who has to spend time on it". Where you hadn't really seen that it is actually a good investment, and that those hours are actually saved

in the end, in the development, if you actually really think about it before you get started, you know. So there are a lot of different things to talk about. When you talk to other IT companies, it's a field that is taken very seriously today. But it hasn't always been like that.

Thanks for taking the time to talk to us today.

D.9.5 Notes

- Total time: 39:20
- Recorded over Skype on the May 14th at 10 o'clock
- Stig and George present.
- Translated from Danish

D.10 Interview P8

George

- Stig

Participant 8 (P8)

Timecode

D.10.1 Questions – Domain

00:00 *So, to begin with the questions, could you briefly describe your educational background and work history?*

Okay. My educational background is, I have a candidate degree, a Master's degrees in software engineering where I was specialized within HCI. I then did a PhD in HCI as well. And my work history is that I was a researcher at [University A] for a while after my Master's and again after my PhD. And I after that went on to the private sector working for [Company A], making apps...

00:57 *Excuse me. Could you repeat the last part? Because something cut out a bit.*

Okay, I worked at a small/medium [unintelligible] company, [unintelligible]. And then – I was there five years, and I went on, two and a half years ago, and started working in a large company. And I [unintelligible] department, making UX on, in terms of that.

01:34 *Alright, so did your education prepare you for working with user experience?*

I think to a large degree yes. When I did my Master's [unintelligible], so back then [unintelligible]

[Technical difficulties BEGIN]

02:07 *excuse me again, so sorry to interrupt for the second time, but for some reason all of a sudden it dips down so it gets very quiet and then it raises up again.*

Okay, I don't know why that...

- Should we try calling from my phone, and using its speakers instead?

Yeah, okay can we switch phones? Stig here is gonna call you instead of me.

Yeah...

Yeah, excuse us for this.

Okay, no worries.

We'll call you in a second.

[Phone is switched out]

03:26 *we can continue from where we left off.*

How did you end up working with user experience?

- It cut off

Hello?

- Hello?

There is no sound

Oh, is that better?

Ah, yeah

I accidentally muted, sorry about that.

- (laughs)

Okay. Back to the questions

[Technical difficulties END]

Yeah, I just wanted to finish off the question you had before. The education was largely focused on usability, and usability testing. Meaning that the active part of UX, where tests find problems, rather than a good design to begin with. I think that this has changed now, that is my impression. But that was the thing I was missing after my education was – one thing is finding problems in an existing interface, but how to actually create a good interface to begin with – that, I thought, was missing some focus, but then again, it was a software engineering degree, so... The HCI part was a lot less than what we [are seeing in] educations today. So to some degree it did prepare me, to some degree it did not.

05:06 *Mhm, alright. How did you end up working with user experience?*

Did you mean in my education or afterwards?

Afterwards.

Afterwards. Well, when I finished my Master's in 2003, industry had no idea what we could, like, do for them. They didn't even know that this discipline existed, much less were they ready to actually start getting people actual positions in their company to do that kind of work. So there was absolutely nothing to do in [unintelligible] usability in the industry when I finished my degree. Luckily, I [could stay in academia] as a researcher while the industry matured in the meantime. And then in 2011, yeah, beginning of 2011 it was finally beginning to [be] positions in the industry within UX, and the way I got into it was actually kind of funny. Because I applied for a job that wasn't up, so basically an unsolicited job application to a company that had never had a UX'ers, and I still got the job. So.. (laughs)

06:30 *Great.*

Yeah, and I created my own position there. I was there for 5 years and then when I'm done I actually [unintelligible].

Could you repeat where were you headed?

I was headhunted to different company.

Oh, okay. Great. So could you briefly try to describe what the term user experience means to you?

User experience in the broadest term means, every single point of contact the user has with a given company or organization. And that means that user experience is much broader than just interfaces. If we take for instance an airline, then the user experience of that airline is not limited to booking a trip on their website, it also means the cabin crew that they have in their plane – how is your experience with them. Their call center services when you book tickets, and luggage claim that you make afterwards when they've lost your luggage. All sort of interactions that you have with that company. That defines user experience, which is a much broader term than most people understand it as, because people tend to focus on the digital part of user experience, but that is only part of the journey that the user has** **[given company or organization].

07:58 *Alright but I would like to steer the conversation a bit about products and websites as a whole. And we'd like to ask you a few questions about what factors do you think are most important for a product to provide a good user experience?*

What patterns?

Factors

Oh, factors.. I'm not entirely sure I know what you are fishing for here, but I do understand the..

[Call ended]

...

[Call resumes]

So, I do understand that you want to focus on the digital part of user experience.

Yes

I'm not entirely sure I understand the question entirely.

09:15 *Alright, so what kind of factors do you feel have the biggest influence in the feel of a product?*

Factors. I'm not.. Yeah, define factor for me.

Uh, well, what kind of feature or what kind of presentation or anything that might affect how a product will feel in its development or when it's already ready?

I don't think there's any single factor that's more important than others. I think any single factor can ruin the user experience of a website. I mean, you can have the perfect website but if the performance is poor, then people are not gonna wait around 10 minutes for the site to load, and that would mess it up for you. But you can have great performance and then people are unable to finish their task, and then that will [ruin the user experience]. So it can be any single thing that can [ruin it] – I don't think any single factor is more important than others. It's when all of the factors come together correctly, that's when you have user experience. But any single one of them.

10:35 *Yeah all right, great. Do you think anything will enhance the appeal of a product or website?*

Yeah. But it's more on the abstract level because, users like to feel in control, they like to feel that they are good at what they are good at what they are in the middle of doing. Their job, or whatever it is that they are [doing]. And if you make them feel that way – that would make a big difference in the user experience, they have.

11:08 *Alright, and you already mentioned that no factor is bigger than other ones, so this answers another question of ours.*

The most critical factor you have is the one that you missed and that you messed up.

D.10.2 Questions – Practice

Alright. So onto the second part of our interview. Ways of working with user experience and learning about it. How much of your work is related to user experience?

All of it.

Great.

Well, I mean, I might have certain administrative work that you have at every workplace but apart for that, all of what I do, all of my job descriptions are about UX.

11:51 *And how do you usually work with user experience?*

That depends on what my current task is. I might have a task where I have to change the mindset in my organization towards including UX and be more user-centric. Then, I might be

working with teaching and disseminating knowledge. I might be in the middle of making an interface for a concrete product, and then I'm doing wireframes and testing. I might be in the middle of hiring people for our team, because some people have left. So it really depends on whatever it is that I'm currently focusing on. But all of it is revolving around UX.

12:34 *Alright, do you have any particular techniques or methods that you prefer to use instead of others?*

No. I mean, UX to me is a really large toolbox, and depending on the job at hand, you take the tools that are suitable for that job at hand. It's like a real toolbox, there are some tools in there that you use more than others, such as a screwdriver and hammer, and then there might be some really specialized tools that you don't use that often but when you do, you can't really use anything else. And it is the same with UX, you have so many methods, tools, and techniques, and some of them you use more frequently than others, others are perfect for some very specific tasks at hand. But some of the more frequent ones are of course usability testing, it's wireframing, it's interviews, it's questionnaires, that sort of thing. Those four are probably the most common ones.

13:36 *Yeah. When you start a new project or a new task, when do you.. When in the process do you introduce user experience?*

As soon as possible. As soon as possible. Preferably before the project gets off the ground. Because if a project has been introduced, that we want to make this particular new product, then before we even start making that product, I want to make sure that we are making the right thing. And that whatever we are trying to achieve with that product is actually something we will achieve with that product. Because otherwise, it's wasted time and wasted money.

14:16 *Yeah. How do you incorporate the user experience in the beginning of products or as soon as possible?*

Well one way of doing it is stakeholder management, and stakeholder interviews. And that means figuring out with business, what it is that they.. It's usually the business that pays for a project in most organizations. And they are willing to pay for the project, because they are trying to achieve something specific with that project. So I want to make sure I know what that is that they are trying to achieve. Then I want to start looking into how do we actually achieve that and is this particular product that they are proposing, is that right way of achieving it. The more effective way of achieving it. And I do so by interviewing users and doing user research, to figure out if that's actually what they need as well. And what [unintelligible] achieve what the business is there for. And I also interview the technical people to make sure that whatever we had of ideas that, that's actually feasible and doable from a technical point of view.

15:25 *Alright.*

So, um, you know, aligning all the stakeholders, making sure that this is the right thing to do. *Okay. Do you feel that user experience receives enough attention in a project or overall?*

Eh, usually never. (laughs) I've had very few project where it has received the right amount of attention. But it is still a discipline that a lot of people know very little about and therefore it doesn't have their attention and they are not aware of its importance for their success.

16:04 *How closely do you follow any developments and trends in the field of user experience design?*

I follow it fairly closely. I mean, just like any other field that you might be working in, you have to keep updated. And especially within IT, because there's new stuff happening all the time. That said, some of the core functions within UX haven't developed for decades because they are based on psychology and the cognitive abilities of the human mind, and the cognitive

abilities of the human mind change as slowly as evolution. So some of the things that were true 60s, 70s, and 80s are true today and still really good tools today. So I think within UX, the discipline that probably changes the most is visual design. Because that tends to have trends that – one minute you are supposed to do [skeumorphism] design, and the next minute you are supposed to do flat design, and then you chose something in between, [like] material design. So, that discipline changes quite a lot, but a lot of user research, a lot of the wireframing, the interaction design – that actually doesn't change as much.

17:20 *Yeah. What are your influences or do you follow any experts or do you pay any attention to somebody in particular?*

That comes in multiple chunks. I tend to follow quite a few of the thought leaders in the UX field on Twitter, on blogs, on LinkedIn. By occasion books, but books tend to be – in some cases are [unintelligible]. So if you want to be, you know, on the forefront so it has to be other means than books. And then my favorite way of actually having [unintelligible] in the UX field, is to attend and speak at conferences. So that give access to peers within the field, and I can discuss with them what is going on in their area and so on. Conferences definitely [unintelligible]

18:19 *Before moving to conferences, I would like to ask you do you use any literature – specifically academic literature on topic that you work on?*

When you say literature, do you mean books and white papers and stuff like that?

Yeah.

Yeah, not as much. Not as much, because it tends to have been underway for a long time. So the time when I will return to literature is if I have some rule-of-thumb, an interesting topic or an interesting angle on a topic in blog post or something like at. And then I want to read up more deeply on it, then I might look up a book or paper on that topic, but other than that I tend to follow it largely online.

D.10.3 Questions – Community

19:14 *Alright, so now we can move on to the community side of things that you started to discuss. How much do you collaborate with others UX professionals in..?*

As much as possible.

In university setting also?

Yeah, yeah.

Alright.

I'm fairly plugged into [University A]. I still keep in touch with my former colleagues from [University A]. I've had students, projects and places where I worked, I do guest speeches and guest lectures and stuff like that. So yeah, I keep tabs of universities also.

19:58 *Alright.*

Cause they are the ones who produce my future colleagues so [of course I want to keep tabs on what they do].

In your experience, how much do you think that UX professionals in the private sector and also the universities in general collaborate with each other?

I think I'm probably a bit of an exception there. My impression is that UX'ers in private sector don't necessarily collaborate as much with university [as I do]. [unintelligible]. Had I not been there for seven years as a [unintelligible], had I disappeared into the private sector directly after my candidate, then I don't think I would [be collaborating as much with the university as I do]. But that might be the wrong impression, but that's my impression.

20:52 *Why do you think that they don't collaborate as much?*

I don't think that they have any contact. I think that the networking part is missing. Private companies, they network an awful lot in between each other. UX [has various companies in the private sector doing online groups and joining up at conferences and stuff like that]. At university, they are rarely part of these groups and the conferences that people from university attend are scientific conferences rather than public. So we don't have an interface between the two sectors.

Okay.

Or very small interface.

21:35 *Do you think that affects the development of new knowledge in the field?*

I think so, yeah. And I think it goes both ways. I definitely think that the university might be tailored and directed too much towards [research to have much] collaboration with industry. And I think the industry is missing out on some of the most forefront knowledge from university, because they don't know it's there.

22:07

Earlier you said about attending conferences, how much do you think that helps the sense of community to develop in Denmark?

In Denmark, not so much, because we don't have that many UX conferences in Denmark. I attended UX Copenhagen in February, but other than that we don't really have that many. So it's more on an international level, I might elaborate.

Alright. From working in the field, what are your impression of the general skill and level of knowledge with other participants and fellow professionals?

I think that people who are truly UX'ers are very, very good at what they do. I also think that – I tend to joke about it, but it's only half a joke, I tend to joke about that UX should be a protected title. And the reason is that there is a lot of people out there who have found out that UX is really a [magic cheat], and if they just say that they are able to do UX, then all sorts of doors open – despite the fact that they're really not able to do UX, they might be graphic designers who just sort of heard what UX is about, and that can be sort of... So there's a lot of people out there who do not have the proper training and still claim they [are UX'ers] – especially graphical design [unintelligible].

23:46 *Excuse me, can you repeat that? It was very quiet.*

Yeah, especially graphical design agencies who have found out that there is an untapped market within UX, and that if they just do that they could potentially bring in a lot of new clients there if they claim to be able to do UX, on top of graphical design. And they really aren't, a lot of them. And I've experienced that first hand a couple of times where the company I've been working for have entered in collaboration with a graphical design agency who have been, you know, charging major money for the work that they've delivered, and then I could do a simple usability test and I could [rip] their design apart completely. The graphical design was beautiful, but the interaction design underneath was horrendous. That has happened quite a lot of times. So the ones who are truly trained, that have a proper education, they are really good – but a lot of people tend to take on the title without having the proper training. That's a real problem, because [unintelligible].

24:48 *Well in such cases, do you take it upon yourself to try to teach somebody about user experience?*

If they are interested, for sure, yes. But you can't teach somebody who is not willing to learn. Who is not interested. But if somebody is willing to learn, I mean, I have run user groups that met 5 times a year with external speakers on given topics, and anybody could join that page, join that user group and I would be happy to help them, and discuss any kind of UX topic with them. So people willing to learn, I am more than willing to help them.

D.10.4 Additional Comments

25:25 Alright, that great. (to Stig) Do you have anything else to add? Okay, before closing in, I would like to ask you if you have anything, you want to elaborate on anything that you've said in the topics that we have discussed?

No, not right off the top of my head, no. I think you've covered the questions quite well. *Alright. This then concludes our interview. Thank you very much for participating in it.*

D.10.5 Notes

- Total time: 26:20
- Recorded at over the phone on May 15th at 9:45 o'clock
- Stig and George present.
- Due to participant being on the move the phone quality was low and losing signal at times, this caused a couple of technical difficulties leading to some intelligibility issues.