

Master Thesis

Communicating the UNESCO World Heritage Site of the Unique Par Force Hunting Landscape in Jægersborg Dyrehave

- A Technological Augmented Gamified Experience Design



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Abstract

There is a rising tendency of the use of gamification and of travellers being always mobile and connected, which results in service providers finding new ways of interaction with the consumers. The tourism industry lacks behind on this matter. Gamification can provide strategic tools for tourism development and enhance positive effects of tourism and reducing damaging impacts on a destination in a playful, fun and educational way. Nevertheless, no scholars have been researching gamification as a tool to conserve and protect the natural environment, which can be a tourist attraction in itself. Some scholars have, however, researched the use of gamification in a cultural world heritage context, but the scholars were more focused on virtual- and augmented reality than gamification itself. A research gap has therefore been acknowledged within tourism research. Filling this gap is important since gamification and gamified experience designs can be used for cultural/natural enrichment at the destination, while still conserving and protecting it. This thesis will research how nature-based digital augmented experiences, with the underlying concept of gamification, can via a smartphone application communicate a World Heritage Site. The case is Jægersborg Dyrehave, including Jægersborg Hegn, as a part of the unique par force hunting landscape in North Sealand. To answer the problem formulation there will be looked at what a smartphone application prototype should contain and interpret to the visitors, and how a prototype's gamified experience design should be constructed within the case study. To fully answer all research questions a literature review of the concept of nature-based tourism, technological augmented experience design and gamification are explored. An exploratory research design with a social constructivist approach and abductive reasoning will be present within the methodological research approach. The qualitative design process, which comprises of semi-structured in-depth interviews, will be the approach for the collection of data. The data collected resulted in an extensive analysis, where the game design context, incl. the themes of conservation & protection, rules & regulations together with interpretation, a way of communicating a cultural World Heritage Site in a natural setting, were addressed. Here, the status quo,

difficulties concerning the stakeholders' communication of the Outstanding Universal Value of the World Heritage Site, the stakeholders' attitudes towards the technological augmented interpretation in a natural setting and the complete narrative, where content requirements incl. synergy and narrative design suggestions, were addressed; thereby answering the research question of what a smartphone application prototype should contain and interpret to the visitors. In the discussion game design possibilities for communicating the unique par force hunting landscape of Jægersborg Dyrehave incl. Jægersborg Hegn are discussed on the basis of the analysis (i.e. the game design context). In the discussion the non-consumptive use of the natural setting is facilitated including assessing the technological options and barriers within the game design context. The interpretation of narratives and the intangible Outstanding Universal Value of the site are discussed, where spots and narratives of different levels are being reflected upon. The discussion of technological innovations in a natural setting follows, where beacons are addressed and assessed on the basis of the stakeholder's attitudes towards technological innovations in nature. A discussion comes afterwards where a synergy of narratives within the World Heritage Site (i.e. the royal hunting park, Jægersborg Dyrehave incl. Jægersborg Hegn and the forests Store Dyrehave and Gribskov) is discussed. Here, it is suggested that divided narratives should be communicated individually but be interconnected to comprise of a complete narrative. The overall solution on how to construct an engaging gamified experience design via a smartphone application is suggested including the use of the game core drives, accomplishment, ownership, unpredictability, social influence, and meaning, where extrinsic and intrinsic motivations are mixed to keep the tourists playing the game till the end and thereby learning about the Outstanding Universal Value of the site. The game mechanics within the core drives are suggested to include points and physical rewards, avatar/character selection, puzzle games, geometry games, videos, visual reenactments, digital tour guides, sharing, bragging, choices, and narratives; thereby answering the research question on how a prototype's gamified experience design should be constructed.

Preface & Acknowledgement

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List of Abbreviations

JD = Jægersborg Dyrehave

JH = Jægersborg Hegn

LTM = Lyngby-Taarbæk Municipality

OUV = Outstanding Universal Value

RM = Rudersdal Municipality

SEM = Strategic Experiential Module

TAGED = Technological Augmented Gamified Experience Design

TI = Technological Innovation

UNESCO = United Nations Educational, Scientific and Cultural Organization

WHL = World Heritage List

WHS = World Heritage Site

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1. Introduction

Gamification can be seen throughout the world, but it is first within the last decade that popularity has arising concerning the concept. Today, a positive revolution of technology is seen (Nunes & Mayer, 2014), since tourists are more mobile and new demands keep emerging. Mobile technological innovations, such as smartphones, where gamification can be implemented, make tourists free of space constraints; not to mention time constraints in today's busy competitive working environment. Additionally, there is a rising tendency of travellers being always connected, which results in service providers finding new ways of interaction with the consumers/customers (Nunes & Mayer, 2014). However, the tourism industry lacks behind on this matter. Gamification can provide strategic tools for tourism development and enhance positive effects of tourism and reducing damaging impacts on a destination in a playful, fun and educational way (Negrusa et al., 2015). What is interesting is that no scholars have been researching gamification as a tool to conserve and protect the natural environment, which can be a tourist attraction in itself. Some scholars have, however, researched the use of gamification in a cultural world heritage context. The scholars however were more focused on virtual- and augmented reality than gamification itself (Ferdinand et al., n.d.). A gap has therefore been acknowledged within tourism research.

1.2 Problem Formulation and Research Questions

The research is important since gamification and gamified experience design can be used for cultural/natural enrichment at the destination, while still conserving and protecting it (Negrusa et al., 2015). Therefore the following problem formulation with its underpinning research questions (RQs) have been developed to satisfy the gap within tourism research:

1.2.1 Problem formulation

How can nature-based digital augmented experiences, with the underlying concept of gamification, communicate the unique par force hunting landscape of the UNESCO World Heritage Site in Jægersborg Dyrehave via a smartphone application?

1.2.2 Underpinning Research Questions

RQ1: What should a smartphone application prototype contain and interpret to the visitors?

RQ2: How should the prototype's gamified experience design be constructed?

1.3 Structure of the thesis

Firstly, a case description within this introduction will follow. Secondly, this thesis will try to fill the gap presented above with a literature review of the concept of nature-based tourism and technological augmented experience design, where an extensive review of gamification with its drivers and mechanics are explored. Thirdly, a methodology section will occur, where an exploratory research design incl. a social constructivist approach and abductive reasoning will be presented. Here, the qualitative design process will be explained together with the data collection process incl. semi-structured in-depth interviews and interviewee representation. Additionally, limitations have been applied, which are explained as well. Fourthly, an analysis will follow addressing findings and structuring the data. Fifthly, a discussion will follow, where the data is being critically discussed ending with a proposition on how to answer the problem formulation and RQs. Lastly, the conclusion will be addressed.

1.4 Case Description

The 4th of July 2016 it was decided by the World Heritage Committee, that the par force hunting landscape in North Sealand should be enlisted in the prestigious World Heritage List (WHL) of United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites (WHSs) (Slots- of Kulturministeriet, 2016). The World Heritage Site (WHS) comprises of two hunting forests, Store Dyrhave and Gribskov, together with the royal hunting park, Jægersborg Dyrehave (JD) incl. Jægersborg Hegn (JH). The WHS is a designed landscape where the Danish kings together with their court could practice par force hunting. Par force hunting can be describes as:

“(...) an extravagant derivative of the ancient chase, in which mounted hunters with hounds ran down one single animal, preferably a male red deer or wild boar. (...) chasing the greatest stags till the bitter end in a valorous duel between man and beast.” (Baagøe et al., 2014, p. 138)

1.4.1 Uniqueness

Between the 17th till late 18th century, the king, an absolute monarch of Denmark, transformed the landscape to show his absolute power. In the forests and park the hunting lanes and roads were constructed with right angles (i.e. orthogonal) as a grid pattern, stone posts with numbers, fences and a hunting lodge; the Hermitage. The WHS demonstrates and visualizes the Baroque landscape constructed in forested areas (UNESCO World Heritage Centre, 2016). The areas have been much larger as it can be seen today. The UNESCO World Heritage Centre chose the components, Store Dyrehave, Gribskov, JD and Jægersborg Hegn since they are encompassing “*a completeness of attributes illustrating the development of the Baroque par force hunting landscape as an emblematic and functional*

spatial entity" (UNESCO World Heritage Centre, 2016). The construction of the par force hunting landscape was inspired by French and German design. The central-star grid system with its orthogonal pattern symbolizes the absolute monarch's role in society and his control over nature (UNESCO World Heritage Centre, 2016). The Outstanding Universal Value (OUV) of the site: "(...) lies in the spatial organisation of the hunting forests, hunting roads, buildings, emblematic markers, numbered stone posts, stone fences, and numerical road names conveying an understanding of the practical application of the design as a means of orientation" (UNESCO World Heritage Centre, 2016). The inspirations from French and German landscape design were modified to the Danish terrain and the monarch's desires. Not only did the king wanted to practice par force hunting, but also the landscape development had a symbolic significance to his rule. The WHS illustrates hunting grounds with the application of European landscape design in a time where scientific thinking was encompassed in monarchical absolute ambitions (UNESCO World Heritage Centre, 2016). Even though there has been happening a reforestation at the WHS, the numbered stones, fences, markers and the hunting roads shows a spatial plan, focusing on nature and practical demands of the king. Some components of the forests and park have suffered under development, which have damaged visual and functional integrity. Nevertheless, the WHS is not neglected and is not suffering under development as of now. Likewise, urbanization is under control (UNESCO World Heritage Site, 2016).

The WHS is mostly owned by municipalities and the state and is protected by various acts and enactments, municipal plans, local plans and regional agreements. The management of the forest and the park is the natural agency, Naturstyrelsen's, responsibility. A steering committee including represents from museums, municipalities and state agencies grants protection and management of the WHS, where cooperation and coordination between institutions is evident. Knowledge gained by visitors should focus on the OUV and be based on a comprehensive strategy (UNESCO World Heritage Centre, 2016).

It says in the application that JH was separated from JD in 1832 due to silvicultural purposes. JD was always a Deer Park and managed as such (Baagøe et al., 2014). The history of JD and JH started in 1685, where a new hunting road system was planned and designed. The system was irregular and, where the forest was denser, an open system with squares. Some tracks may never have been constructed according to historical documents. Nevertheless, some tracks remain, which is enough to show that the hunting system was very diverse compared to the forests, Store Dyrehave and Gribskov, further north. Two more recent roads are now creating an illusion of the spatial plan, which was centered at the castle/hunting lodge, the Hermitage. Remains of the original roads have been approved as sufficient to provide an understanding of the original system (Baagøe et al., 2014). The Hermitage came later and is not seen as authentic to the park, but the location of the Hermitage in the park is, however, authentic. The location is seen as important to historical development of landscape design in the period of the design and planning processes (Baagøe et al., 2014). The attributes of JD and JH: *"(...) allow for an understanding of this hunting park's history and role in the par force hunting landscape of North Zealand in the 17-18th centuries"* (Baagøe et al., 2014, p. 130).

1.4.2 Case focus and limitations

The case study will only focus on JD incl. JH, since the whole WHS, also incl. Store Dyrehave and Gribskov, will be a too comprehensive study due to the limitations of this thesis. Nevertheless, when studying the case it has come to my attention that the two hunting forests (Store Dyrehave and Gribskov) together with the royal hunting park (JD and JH) comprise linkages of understanding the whole WHS. Therefore, the case study will take account in JD and JH but will not neglect the interconnectivity to the other two hunting forests. JD and JH are in this case seen as one entity, since they are perceived as such in nomination document for the inclusion in the WHL (Baagøe et al., 2014), and was as one Deer Park under the period of par force hunting (Voss, interview, 15th of April, 2015). Unless otherwise stated, only JD will be mentioned, since it historically includes JH.

The inclusion on the WHL gives some responsibilities of management, conservation, protection and communication of the WHS (World Heritage Convention, 2015). The cooperation to fulfill these objectives can be seen as a very complex matter, since there are many stakeholders involved; six municipalities, two governmental institutions (Naturstyrelsen and Slots- og Kulturstyrelsen), as well as Dansk Jagt- og Skovbrugsmuseum (Mortensen, interview, 18th of March, 2016). The six municipalities comprises of Allerød Municipality, Fredensborg Municipality, Gentofte Municipality, Hillerød Municipality, Lyngby-Taarbæk Municipality and Rudersdal Municipality (Baagøe et al., 2014, p. 5). Also, the degree of interest of all stakeholders varies (Voss, interview, 15th of April, 2016), which can make coordination and cooperation complicated. Since JD is within Lyngby-Taarbæk Municipality (LTM) and JH within Rudersdal Municipality (RM), these two municipalities have been the only governmental institutions contacted due to the case limitations. Nevertheless, a synergy needs to be found between JD, JH, Store Dyrehave and Gribskov when communicating the WHS (Aagård, interview, 11th of March, 2016).

2. Literature Review

2.1 The Concept of Nature-Based Tourism

Priskin's (2001) definition of nature-based tourism, which he embraces through the Western Australian Tourism Commission and Department of Conservation and Land Management (1997) is as follows: "(...) *tourism that features nature (...)*" (p. 638). Priskin (2001) acknowledges, though, that the definition is vague. Valentine (1992) defines the term in a quite broad manner as well but gets more into depth: "*nature-based tourism is primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature*" (p. 108). Laarman & Gregersen (1996), however, go a little further than Valentine (1992): "[Nature-based tourism] *refers to travel motivated totally or in part by interests in the natural history of a place, where visits combine education, recreation and often adventure*" (p. 247). Note that Laarman & Gregersen (1996) pins recreation under nature-based tourism. I do not want to go back to the before discussed terminology of outdoor recreation and -tourism, but it is important to note that some scholars, such as the latter mentioned, sees recreation as an important part of nature-based tourism. The same goes to Kaae (2010), who sees nature-based tourism on an equal theoretical level as forest recreation.

Kuenzi & McNeely (2008) have been writing a chapter of nature-based tourism. Here they, through Olson et al. (2001), WWF (2001) and Christ et al. (2003) try to define nature-based tourism as:

“The fastest growing element of tourism is ‘nature-based’ tourism, often involving excursions to national parks and wilderness areas, to developing countries where a large portion of the world’s biodiversity is concentrated (...). It may also include an ‘adventure tourism’ element that may carry physical risks.” (Kuenzi & McNeely, 2008, p. 155)

One thing to keep in mind regarding the above definition is the use of the adverb, often, which indicates that the definition is not sufficient, since the question then arises what nature-based tourism is, if it is not within the coherence of often involving excursions. Likewise, Kuenzi & McNeely (2008) limit the definition to be profound only in developing countries. Furthermore, biodiversity is, in the above definition, seen as only present in developing countries, which is not the case in reality if we look at the Danish nature with a wide diversity of flora and fauna. Nevertheless, despite Kuenzi & McNeely’s (2008) effort to define nature-based tourism they turn the complexity and confusion of the concept, as we as well have examined above. They point out:

“However, from a terminological point of view, such a focus presents some challenges. The tourism literature has a profusion of terms conveying similar and partly overlapping meanings, all of which in some way relate to nature-based tourism as defined for this case study while differing in terms of emphasis or underlying philosophy.” (Kuenzi & McNeely, 2008, p. 157)

As a result they list definitions of nature-based tourism and related terms such as ecotourism, adventure tourism, sustainable tourism and even wildlife tourism. See table 1 below:

Term	Definition
Tourism	'the sum of government and private sector activities that shape and serve the needs and manage the consequences of holiday, business and other travel' (Pierce et al. 1998, cited in Higginbottom 2004: 2)
Nature-based tourism	'the segment in the tourism market in which people travel with the primary purpose of visiting a natural destination' (March 2003 Symposium 'Tiger in the Forest: Sustainable Nature-Based Tourism in Southeast Asia')
Nature tourism	'travel to unspoiled places to experience and enjoy nature' (Honey 2002, cited in Christ et al. 2003)
Ecotourism	<ul style="list-style-type: none"> • 'traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas' (Ceballos-Lascurain 1987, cited in Blamey 2003) • 'responsible travel to natural areas that conserves the environment and sustains the well-being of local people' (Honey 2002, cited in Christ et al. 2003)
Wildlife tourism	'based on encounters with non-domesticated (non-human) animals ... in either the animals' natural environment or in captivity. It includes activities historically classified as "non-consumptive" ... as well as those that involve killing or capturing animals ...' (Higginbottom 2004: 2)
Adventure tourism	'nature tourism with a kick – nature tourism with a degree of risk taking and physical endurance' (Honey 2002, cited in Christ et al. 2003)
Sustainable tourism	'seeks to minimize the negative footprint of tourism developments and at the same time contribute to conservation and community development in the areas being developed' (Christ et al. 2003)
Tourists	people who 'travel to and stay in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited' (UNWTO 1995)

Table 1: Listed Definitions of Nature-Based Tourism and Related Terms. Source: Kuenzi & McNeely (2008, p. 158)

In the above listing (i.e. table 1) of the diversified activities I can find some common keywords that gives me a hint on goal, context, philosophy and mobility of nature-based tourism. The keywords are found as follows under the four terms listed in table 2 below:

Cultural	Impact	Experience	Nature
Cultural manifestations	Unspoiled places	Experience and joy	Natural destinations
	Relatively undisturbed	Enjoying	Nature
	Uncontaminated natural areas	Kick	Natural areas x 2
	Non-consumptive	Risk-taking	Wild plants and animals
	Minimalize negative footprint of tourism development	Physical endurance	Natural environment
	Contribute to conservation		Nature tourism x 2
			Animals
			Encounter with non-domesticated animals

Table 2: Keywords Found in Table 1. Source: Thesis Author

What we see is that impact and nature are mentioned the most in the definitions gained through the table of Kuenzi & McNeely (2008). Mixing the definitions based on the amounts of keywords in each term I can conclude that the goal (or i.e. philosophy) of nature-based tourism is to inflict as little negative impact as possible in the uncontaminated natural environment foreign to the tourist, while still having a good experience; may it be with or without a flora and fauna encounter. If an encounter is taking place the negative impact should be as minimal as possible. Nature-based tourism still is lacking a sufficient and thorough definition, though. As Kuenzi & McNeely (2008) point out: *“Clearly, not every form of nature-based tourism qualifies as ‘eco’ or ‘sustainable”* (p. 157). But through the

above listing we can see that there are similarities of the scholars' perceptions of nature-based tourism.

I now go one year back to Bell et al. (2007), who defines nature-based tourism through Silvennoinen & Tyrväinen, 2001) as:

"(...) a term that covers activities that people enjoy while on holiday and which focus on engagement with nature and usually includes an overnight stay (...). Typically this means travelling to and staying overnight in locations close to or in national parks, forests, lakes, the sea or the countryside and participating in activities using these settings and compatible with their natural qualities." (p. 6)

The above definition can be an excellent departure for further answering the respective research question and sub-question (see Introduction), since Bell et al. (2007) keeps the verb, activities, open for phenomena, practices, processes and development within the academic literature. Thereby the definition is open for more broadly processing in connection to other literature comprising of e.g. innovation, technology, gamification and augmented experiences. This is important since nature-based tourism "*is an evolving and changing phenomenon reflecting the general trends in society and globalization processes*" (Kaae, 2010, p. 175). Thereby, meaning that nature-based tourism is ever changing and needs to be open for further revising. Furthermore, Kaae (2010) tries to pinpoint the activities of nature-based tourism. Such activities:

"(...) include a range of traditional activities now pursued for leisure (e.g. hunting, fishing, horse riding) and a constantly emerging range of new recreational activities combining current leisure trends with technological innovations (e.g. kite wing, mountain biking or blowkarting)." (Kaae, 2010, p. 175)

Kaae (2010) hereby claims the validity of technological augmentation within nature-based tourism. However, there is no outline of the natural setting, where the activities are taking place. What I am trying to say is that the above definition is quite open for criticism, since gaps are present. Nature-based tourism is therefore, for now, defined through Bell et al. (2007) and Kaae (2010) as a wide variety of activities, where I in this thesis focus on the Technological Innovations (TI) incorporating with these activities.

Through the World Heritage Convention (2015) it is important to acknowledge that tourism activities' impact should be as minimal as possible:

“Legislative and regulatory measures at national and local levels should assure the protection of the property from social, economic and other pressures or changes that might negatively impact the Outstanding Universal Value, including the integrity and/or authenticity of the property.” (p. 20)

To accompany this protection (World Heritage Convention, 2015) within nature-based tourism (Bell et al., 2007) with the TI (Kaae, 2010), we look at Buckley (2011), who sees non-consumptive nature-based tourism as: “(...) *all activities based on watching animal or plants or enjoying scenery (...). Worldwide, this subsector relies largely on national parks, wilderness areas, and other public lands and oceans (...)*” (p. 399). Such an explanation has a gap, since there is no explanation of what non-consumptive is? Wilson & Tisdell (2001) tries to differentiate non-consumptive uses through Vaske et al. (1982), Bergstrom et al. (1990) and Pearce (1993): “*Nonconsumptive uses are distinctly different from activities that purposely seek to remove or destroy an organism (...) and do not involve non-use values (existence and bequest values) nor future use values or option values (...)*” (p. 280). I will not go further into such values but look at a framework developed by Duffus & Dearden (1990), where they quite precisely frame what encompasses non-consumptive use even though it is from a wildlife tourism perspective. Nevertheless, as shown above in table 1 by Kuenzi & McNeely (2008) wildlife tourism is a sub-definition of nature-based tourism. Therefore, the

framework is seen as valid when framing non-consumptive nature-based tourism and what it encompasses. Duffus & Dearden's (1990) framework can be seen below:

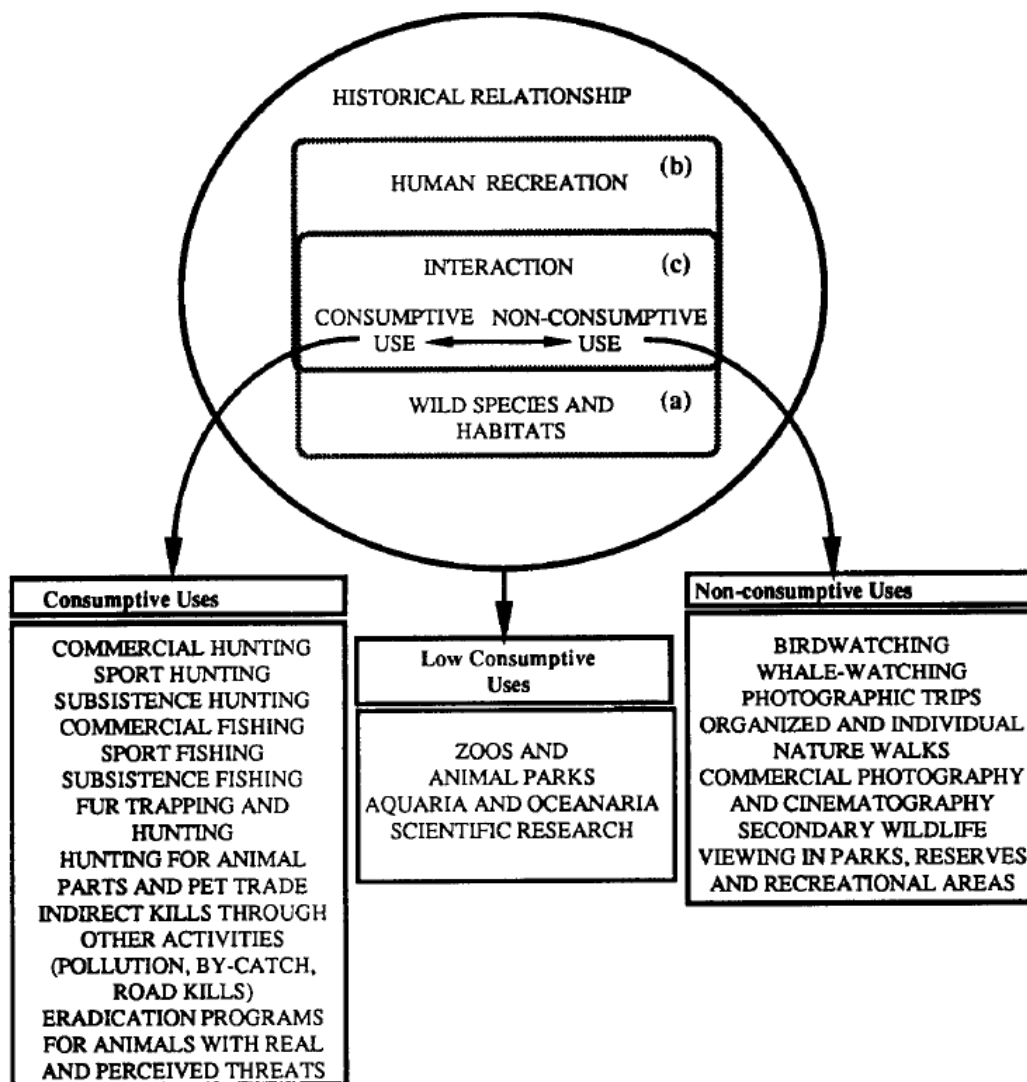


Figure 1: Non-Consumptive Use Interaction. Source: Duffus & Dearden (1990, p. 216)

As we can see in figure 1, non-consumptive uses of the natural environment includes individual nature walks and (secondary) wildlife viewing in parks, reserves and recreational areas. I here add the viewing of plants (i.e. flora), which Buckley (2011) defines

within the nature of non-consumptive nature based tourism.

Before I go any further let me sum up the pinpoints of nature-based tourism. Nature-based tourism is a concept, which covers activities that tourists enjoy, while they are on a holiday. Nature-based tourism focuses on the engagement with the nature including an overnight stay at a location near or within forests, lakes, national parks, the countryside or the sea. The activities undertaken are using the natural setting of the place and are compatible with the nature's (i.e. the place's) natural qualities (Bell et al., 2007). Activities within nature-based tourism are traditional ones pursued for leisure, but activities are constantly changing and emerging because of the combination with contemporary leisure trends and TI (Kaae, 2010). When nature-based tourism activities are processed in a protected area, rules and regulations adhere to minimal negative impact on the universal value of a site (World Heritage Convention, 2015). To accompany this fact, nature-based tourism activities and uses of the nature (Bell et al., 2007; Kaae, 2010) should be non-consumptive (Buckley, 2011) as noted by the World Heritage Convention (2015), which could encompass individual nature walks and flora and fauna viewing (Duffus & Dearden, 1990). Here technological augmentation comes into play, which continuously can accompany the conservation and minimize negative impacts. With a technological augmentation of the place, the tourists do not need, nor might they feel the need, to touch or pick up nature or in any other way subconsciously engage destructively to the site, where the precious natural resources (both flora and fauna) are located. How to accompany such a goal, I should first look into the literature of experience design, where technology will be implemented. But first: to visualize nature-based tourism the following framework has been developed:

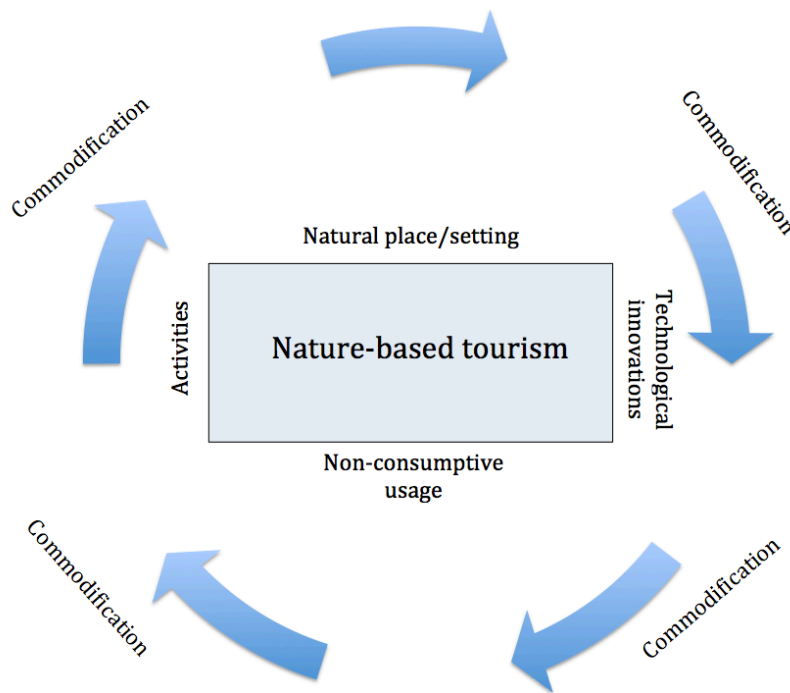


Figure 2: Components of nature-based tourism. Source: Thesis Author

The framework in figure 2 above is rather simple. Nature-based tourism comprises of the natural place/setting, where activities are undertaken empowered by TIs, so the activities have a non-consumptive use. Nature-based tourism is a commodification, which continuously can be customized to the specific needs and wants. As we will see later on, it will be a part of a bigger picture. The framework derives of the WHS ideology of conservation and protection (World Heritage Convention, 2015), which is being commoditized to activities through TIs.

2.2 Technological Augmented Gamified Experience Design

In this section I highlight the theoretical transformation of the experience economy, where I critically assess it. Thereafter, I take a look at experience design, the definitions, goals and characteristics of such and connect it with engagement, digital

augmentation (i.e. the process of making the experience greater through mediatization), interpretation and gamification.

2.2.1 The Experience Economy – Generation I, II and III

Pine & Gilmore (1998) can be seen as those two scholars who took experiences to the very next level, where they explain the goals and characteristics of experiences and how to design such. With a more mercantile view on the experience economy, they explain the emerging experience economy as: “(...) *a distinct economic offering, as different from services as services are from goods*” (p. 97). They see experiences as a higher entity of services and define them as: “(...) *not an amorphous construct; it is as real an offering as any service, good, or commodity*” (p. 98). Thereby meaning that experiences can be designed and not just happen to be.

Looking at their article (Pine & Gilmore, 1998) they have some definitions and an explanatory structure, but their article have absolutely no valid references and/or data collection. At first glance it all seem to be mixed up. The article has got some criticism. Aho (2001) explains his criticism quite well:

“Gilmore and Pine claim in their recent book (1998?) that sufficient areas of (human) experience are entertainment, education, escapism and easthetism. This definition clearly does not cover all relevant types of experiences in tourism; cure (getting healthier) and various types of personal achievements (e.g. activities resulting in self-saticfaction), for instance, are not covered.” (p. 33)

In the above quote Aho (2001) is searching for human interactions with the experience and how such experiences can transform the individual. Pine & Gilmore (1998) acknowledges this fact though through their thinking of experience in two dimensions: customer participation and absorption/immersion. Customer participation is set up as

passive participation and active participation. The former includes experiences, where the customer does not affect the experience; like an observer at an academic speech or symphony orchestra. Within the latter, active participation, the customer plays an important role in generating and creating the experience (Pine & Gilmore, 1998). As of the second dimension we see absorption and immersion. In this dimension the focus is on the connection (i.e. the environmental relationship), which bonds the customer/participant with the experience (Pine & Gilmore, 1998). They explain it with the following example:

“People viewing the Kentucky Derby from the grandstand can absorb the event taking place beneath and in front of them; meanwhile, people standing in the infield are immersed in the sights, sounds, and smells that surround them. Furiously scribbling notes while listening to a physics lecture is more absorbing than reading a textbook; seeing a film at the theater with an audience, large screen, and stereophonic sound is more immersing than watching the same film on video at home.” (Pine & Gilmore, 1998, p. 101 – 102)

So, experiencing at a distance leads to absorbing the experience, while being center of the experience leads to immersion. Here, it can be difficult to see the absolute difference between customer participation and absorption/immersion. So, therefore it can be argued that Aho (2001) is wrong. Various types of personal achievement (Aho, 2001) can actually be read between the lines of Pine & Gilmore (1998), but it is simply not clear enough. Pine & Gilmore (1998) also sets up a framework for the interrelation of their concepts (i.e. designing experiences) (see appendix 1). The sweet spot of the interrelation of the four realms of an experience (entertainment, education, escapism and aesthetics), which Aho (2001) also refers to, is the richest experience a customer can have in an active participatory, passive participatory, absorptive or immersive way. Pine and Gilmore (1999) published their book, *The Experience Economy – Work Is A Theatre & Every Business A Stage*, where they transcend from goods to services to experiences. Here, they go deeper into the landscape of economic experience design and try to guide through a to do list on how to design and manage experiences for economical profit. The book got a lot of criticism

(Pine & Gilmore, 2011), where they in their updated version from 2011 in their preview, try to defend and explain the criticism (Pine & Gilmore, 2011). Critics have questioned their staging of experiences for only economical purposes, where Pine & Gilmore (2011) answer: “(...) we certainly recognizes noneconomic spheres of social and personal experience” (p. xix). Other criticism they take to heart is that they (Pine & Gilmore, 2011) only focus on the supply side of the experiences. To compensate for this they explain:

“Our primary goal has been to encourage the creation of new experiences. Therefore, we focus much more on the stager of the experiences, while recognizing that to a degree all experiences are co-created, as they happen inside the individual person in reaction to what is staged outside that person. That said, we agree that a supply side of new experiences indeed prompts many guests to want a more participatory role.” (Pine & Gilmore, 2011, p. xx)

The above quote empowers the criticism earlier mentioned through Aho (2001). I hereby agree with Aho, that Pine & Gilmore’s (2011) approach does not cover all experience. Pine & Gilmore (2011) has a rather instrumental approach, where one-size-fits-all receipts are being explained to develop ‘good’ experiences. It seems like that when there is a need to differentiate an experience from another, you have certain tools or parameters to adjust the experience/offering no matter the type (of the experience/offer), which will, in time, make all experience homogeneous. What is important to note to Pine & Gilmore’s (2011) quote is the transformation of the participant. A participatory role (i.e. co-creation) is seen as an important element of experiencing. Here, Pine & Gilmore (2011) stressed that transformation is the next step after the experience, where a transformation is taking place within the participant (see appendix 2). This could be a new perception of the world, liking a product, which the participant earlier disliked, new ways of seeing things, changing opinions etc. Pine & Gilmore (2011) stress though that transformations only can be guided and not delivered, extracted or made. But co-creation can guide the participant into transformation.

Although their book (Pine & Gilmore, 2011) is quite thorough and undeniably mercantile, I must not forget that the whole philosophy of the Experience Economy is to earn more profit and get higher customer satisfaction and loyalty (i.e. a way of competitive positioning), which should turn into a snowball effect concerning the affiliating of more customers/participants. Maybe the most experience economy perceptions lie on commercialization and business-orientation. Thereby, there may be some controversies regarding communicative design within museum, heritage sites, landscapes etc.

Pine & Gilmore (1998; 1999; 2011) had a great effect on theory, on policy makers and pragmatics. They, Pine & Gilmore (1998; 1999; 2011) have gotten criticism; especially the way they look at the customer as a laissez-faire individual. Pine & Gilmore' (2011) approach to the experience economy is perceived as generation 1. Acknowledging this criticism I turn to Boswijk et al. (2007), who has a quite different view on the Experience Economy. Boswijk et al. (2007) pinpoints, through Michale Wolf (1999), the Entertainment Economy, where, unlike Pine & Gilmore (1999), it is all about engaging the consumer. Boswijk et al. (2007) distances themselves from "*the logic of the system of social rules*" (p. 7) and express their support to the communicative self-direction, where two entities (the company and the consumer) communicate about what the consumer wants and not the other way around. This viewpoint can be connected to co-creation as mentioned previously through Pine & Gilmore (2011), who have followed up the criticism of not involving the consumer's engagement. Boswijk et al. (2007) mention it quite clearly: "*The experience of co-creating is the basis for a unique value proposition for each individual*" (p. 8). What is being co-created here is the customer's own perception and proposition of the experience. Here we see that Boswijk et al. (2007) separates the responsibility from the supplier to a shared responsibility between the customer and the supplier of the experience. Here we have the Experience Economy generation no. 2. Such a co-creation leads to further self-direction, where: "*(...) the individual creates and directs his own meaningful experience - without interference of suppliers (...)*" (p. 10). Self-direction can

therefore be seen as that the total responsibility is directed to consumer, who has autonomy and sovereignty to develop the experience, leaving the supplier to only supply the tools. Here we have the notion of Experience Economy generation no. 3. See figure 3 below concerning the shifting responsibility throughout the three experience economy generations:

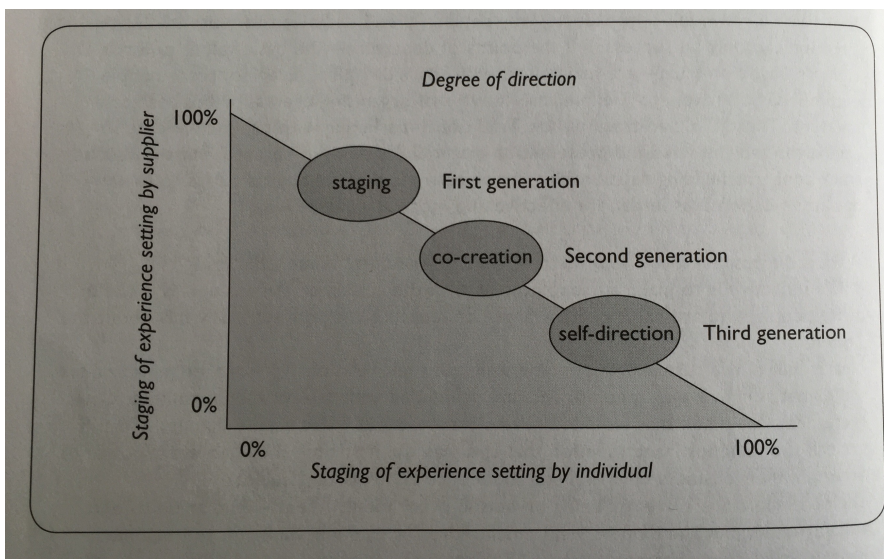


Figure 3: The shifting placement of responsibility in the three generations of the experience economy. Source: Boswijk et al. (2007, p. 10). Title of figure edited.

When viewing figure 3 above we see that the Experience Economy is set within three generations. Pine & Gilmore (1999; 2011) with their staging experiences are set as generation I. The notion of co-creation (Boswijk et al., 2007) is set as generation II. Lastly, as generation III, Boswijk et al. (2007) sets up the notion of self-direction (i.e. the consumer has total autonomy of the experience). It is this generation III, which will be focused on, since this generation's attention is laid on the individual and its sensory perceptions, emotions, meaningful experiences and the process of generating meaning. Boswijk et al. (2007) explain, through Snel (2004), that experiencing is:

“(…) a continuously interactive process of doing and undergoing , of action and reflection, of cause and effect, which has a meaning for the individual in more than one context of his life. A meaningful experience gives the individual a different outlook on the world and or himself.” (p. 24)

The above quote goes hand in hand with Pine & Gilmore's (2011) transformational process, where Pine & Gilmore (2011) are referring to engaging all five senses. They do it, however, in an instrumental way; as a to-do-list (Pine & Gilmore, 2011). Boswijk et al. (2007) sees the senses as an absolute necessity to experience meaningful experiences. They summarize the characteristics of meaningful experiences as: involving all the senses, heightening focus and concentration, altering the sense of time, emotionally touched, unique intrinsically valuable process of the person and contact with the environment by undergoing and doing things (Boswijk et al., 2007). According to Boswijk et al. (2007) meaningful experiences should be catalyzed by the above characteristics. A self-direction is taking place in the individual with his/her own responsibility of the meaningful experiences. The question is how it should function in practice. Here, Boswijk et al. (2007) lack a sufficient conclusion, which is manifested in their ending: “*TO BE CONTINUED*” (Boswijk et al., 2007, p. 202). However, going back to the quote above we see the terms, *action* and *reflection* (Boswijk et al., 2007). These two terms can be related to Schmitt's (1999) framework of Strategic Experience Modules (SEMs), which includes the sensory experiences as addressed by Boswijk et al. (2007). *Action* and *reflection* relates to the five SEMs, which I will review below.

2.2.2 Strategic Experiential Modules – Conceptualizing engagement

I now explore the sensory aspect of the above notion into more depth through the article of Schmitt (1999). The article is though approximately 8 years old, where both technology and social sciences have made much more research and discoveries after its publishing. Nevertheless, it will be used since Schmitt (1999) have some very

fundamental points of experience design, which cannot be neglected throughout time: senses and cognition. Also, as mentioned previously, his framework (Schmitt, 1999) goes well with Boswijk et al. (2007) and the sensory aspect of meaningful experiences as he states: “*What they want is products, communications, and marketing campaigns that dazzle their senses, touch their hearts, and stimulate their minds*” (p. 57). And to cope with such a statement is not simple. Schmitt (1999) sees the consumption of experiences as holistic; thereby meaning that the experience is important as a whole interdependently of the different elements/parts it encompasses. Also, Schmitt (1999) sets up five Strategic Experience Modules (SEMs), which encompass “*circumscribed functional domains of the mind and behavior*” (Schmitt, 1999). The five SEMs comprise of SENSE, THINK, FEEL, ACT and RELATE, which connects to Boswijk et al.’s (2007) terms, *action* and *reflection*. The SEM of SENSE appeals to the senses. The objective here is to create sensory experiences, which can be done through the senses of sound, touch, taste, smell and sight (Schmitt, 1999). Boswijk et al.’s (2007) term of *reflection* relates to Schmitt’s (1999) regarding that the individual need to reflect of what is being experiences and thereby acknowledges and processes the senses used. According to Schmitt (1999) the SEM of SENSE might be used for the purpose of differentiating products, motivate customers and add value to products through cognition. The ideal approach of the SEM, SENSE, is to appear new and fresh (Schmitt, 1999). Both Boswijk et al. (2007) and Schmitt (1999) have a quite normative approach. Their notions considers behavior; a universal way of experiencing. There is a need to keep in mind that experiences are highly subjective, meaning that where an individual are using all of his/hers senses and reflects on the experience another individual might be mentally occupied focusing on homework, relatives, friends etc. and thereby filters reflection and action subconsciously. When talking about Schmitt’s (1999) framework of experiential marketing, one must not forget that the Schmitt’s (1999) perception of the framework is that SEMs are framed for commercial purposes; just as Pine & Gilmore (2011). Nevertheless, the framework gives an explicit and detailed operationalization on of how communication can be developed within an experiential sphere to engage the consumer. This can also be seen in another SEM of Schmitt (1999). This SEM is *THINK*,

which is likewise related to cognitive (i.e. reflexive) self-directed processes explained by Boswijk et al., 2007 through Snel (2004), where reflections and cognitive processes should have space within the individual for the experience to be meaningful and self-directed. Why *THINK* relates is because the SEM:

“(...) appeals to the intellect with the objective of creating cognitive, problem-solving experiences that engage customers creatively. *THINK* appeals to target customers' convergent and divergent thinking through surprise, intrigue and provocation. *THINK* campaigns are common for new technology products. (...) *THINK* marketing has also been used in product design, retailing and in communications in many other industries.” (Schmitt, 1999, p. 61)

What is important to note in the above quote is the term of '*cognition*' within engagement, which is the whole outset of the approach that Boswijk et al. (2007) signifies. Here we find the relation between *action, reflection* (Boswijk et al., 2007) and *THINK* (i.e. cognitive processes) (Schmitt, 1999): engagement. To engage the individual needs to perform an action, while reflecting of the action performed, thereby self-directing. Considering Schmitt (1999) there is a need to address that there is rarely talk of one single type of SEM within experiential appeals (Schmitt, 1999). One must not forget that the other SEMs are within an experience as well. The five SEMs, SENSE, THINK, FEEL, ACT and RELATE can therefore be constructed together in an experience design. Schmitt (1999) argues that all five SEMs ideally should be incorporated in an experiential marketing campaign, which, as well, relates to the notion of Boswijk et al. (2007) and their characteristics of meaningful experiences, as mentioned in the previous section. *FEEL* can be related to *action* and *reflection*, *ACT* can be related to *action* and *RELATE* can be connected to *reflection*. Therefore, engagement should be understood as a mix of Boswijk et al.'s (2007) *action, reflection, self-direction* and Schmitt's (1999) five SEMs.

2.2.3 Technology – Augmenting The Experience Through Gamification

Technology has evolved immensely throughout the last couple of decades and revolutionized the way nature-based tourism is experienced. Before TIs the experience got augmented through guides, nature councilors, billboards, maps and guidebooks. In time TIs became superior to nature guides, where the communication got self-directed. The problem is, though, that TIs has its way of making it difficult for the user to immerse in the experience within nature, since TIs may seem as a great contrast to nature; making a distance between the technological interface and the nature surrounding the user. Going back to Kaae (2010), who got mentioned under the section 'The Concept of Nature-Based Tourism', technology can be a tool to augment nature-based tourism. Reid et al. (2005) acknowledges this fact: *"Games, interactive media, soundscapes and experiences created by artists and designers can together add different virtual dimensions that augment the ambiance of physical places, both public and private space"* (p. 6). Such a view can already be seen at Marksburg in Germany, where a visit to a medieval castle (a UNESCO WHS) can be turned into a virtual game-experience (Ferdinand et al., n.d.). They note in the article considering Augmented Reality (AR): *"Combined with AR-technologies, the same concepts can be applied for mobile scenarios, especially for tourists at cultural sites"* (Ferdinand et al., n.d., p. 8). But the example brought forward by Ferdinand et al. (n.d.) seems quite obsolete because of the technological disadvantages, which technology had 10 years ago; as expressed in the intro to this section immersion in the experience could seem difficult do to the technological interface. At the time the research was made, the respondents/subjects held clumsy large technological pads and QR codes printed on basic paper (Ferdinand et al., n.d.). Priestnall et al. (2009) touch the mobile technology, which *"has been designed to enhance the tourist experience by providing location-specific information in the form of text, images, sounds and video (...)"* (p. 3). But a rather clumsy and uncomfortable way to do so (e.g. walking around with a large pad with a sensor monitored on it (Ferdinand et al., n.d.)) is doubtfully the case with today's advanced technology. Today we have smaller devices, such as smartphones with faster core processors, longer lasting batteries, sharper and

clearer screens, high graphics and so forth. Instead, I turn to Wang et al. (2012): *“Indeed, recent studies indicate that smartphones and their apps have the potential to assist travelers by providing easy access to information anytime and (almost) anywhere (...)”* (p. 371). Furthermore, Wang et al. (2012) states through Kramer et al. (2007) that the activities of travellers easily can be changed through the use of smartphones. Wang et al. (2012) does not come with an example though but looking at Kramer et al. (2007) we see that the change of the traveller is behavioral. These electronic tour guides: *“(...) allow their users to abandon or modify tours at any time”* (Kramer et al., 2007). So, technology has entered nature-based tourism and the way nature-based tourism is communicated. The behavior of the user, because of the use TIs, in the quote can be connected to self-direction, which was mentioned under the section ‘The Experience Economy – Generation I, II and III’. They (Wang et al., 2012) further note that technology heightens (i.e. enriches) the mediation in the context of tourism and, through Lagerkvist (2008), refer to the mediated gaze. Lagerkvist (2008) states regarding the mediated gaze:

“(...) pinpoints the visual aspect of travelling and experiencing places and spaces. Although the journey obviously involved the whole body and the spectrum of senses, as many scholars have rightly stressed (...), it can be argued that there is a primacy of the visual in sensing places (...)” (p. 351)

You can say that all tourism constructions are very visual and are getting manipulated, conditioned and directed to mediate a certain interpretation. E.g. guidebooks are staged with beautiful photographs but do not show the more gloomy side of a destination. Technology conditions a certain way of seeing/experiencing and has always been used as a tool to modifications, facilitations or manipulations. However, with more advance TIs and the daily use of them the human mind is getting more trained on how to use, perceive and evaluate it. This relates to the meaningful experiences by Boswijk et al. (2007) and Schmitt’s (1999) SEMs. Technology affects both the way of self-directing towards meaningful experiences and the SEMs; the way the user engages with the

experience. Lagerkvist (2008) also stresses the undeniable features of experiencing places with the whole body and all senses and signifies how mediation in experiences may be of vast importance. But to not get caught up in the technological advancement and its connection to the human mind and body, one need to take a step back and look at the technology with critical eyes. According to some critical scholars, tourism has evolved into 'periscope tourism' (Benyon et al., 2014) that has been so much technological mediated that you only have focus on a mobile device or a screen at the destination. As Benyon et al. (2014) states:

“Technology should aim to improve and not detract from the experience itself. Our focus is to design tourism systems to be as transparent as possible and avoid “periscope tourism” (when the visitor experiences the destination through the lens of a camera or the screen of a mobile device). In this view, any technology is a barrier, a mediating tool that can only reduce the level of presence felt in any mediated experience.” (p. 523-524)

Benyon et al. (2014) thereby sees technology not only as opportunities, but also as barriers. Periscope tourism has been considered a double-edged sword, where on the one side enhancing the experience and on the other side distancing the viewer from the context. Through periscope tourism the tourists may not be fully immersed in the place visited with his/hers whole body, senses and mind; thereby preventing the tourist to self-direct and engage (i.e. perform action, reflect, self-direction and take use of SEMs) fully in the experience losing the meaningfulness. Senses and the mind are then centered on the smartphone or tablet, and experiences in the real world may then be ignored or even neglected. TIs can improve the engagement but it also makes it difficult for the tourist to fully immerse in the experience. Neuhofer et al, (2014) acknowledges this fact through Stipanuk (1993) but they also see that “(...) *its integral part of many contemporary tourism experiences cannot be ignored*” (p. 342), while later on to state that the “(...) *more engagement tourists have with the technologies and platforms, the richer their physical*

experience can be" (p. 345). To counteract the potential results of periscope tourism, Benyon et al. (2014) have listed three points to develop better digital experiences for the tourist: to be more present when experiencing the destination. These are:

"1. Presence is related to the intentions of the user: the more the technology is able to anticipate the needs of the user, the higher will be the presence experienced; 2. Presence is related to action and action responses: the more the technology is able to transform the touristic experience in an active one, the higher will be the presence experienced; 3. Presence is the outcome of an intuitive process: in digital tourism technology should help to "make sense there" effortlessly." (Benyon et al., 2014, p. 528)

The above quote with its respective points helps me to understand how to avoid periscope tourism, and make the tourist more present in reality supported by technology and not fully immersed by it. Technology can therefore be a catalyst to engage the tourist more within the reality. Furthermore the quote augments the notion of Boswijk et al. (2007), since Boswijk et al.'s (2007) meaningful experiences are enhanced by the presence of their tourist attention to reality, which get empowered through technology and the mediatization of the reality. Likewise, Schmitt's (1999) five SEMs (i.e. SENSE, THINK, FEEL, ACT and RELATE) are moreover enhanced by the empowerment of technological mediatization, which can make the tourist focus on and trigger the SEMs. Benyon et al. (2014) states clearly, through Uriely (2005), that: "*Through the use of technology, the aim is to further improve the quality or extent of a tourist experience (...)*" (p. 522). Neuhofer et al. (2014) agree upon this statement. They explain that new types of activities within tourism can transform conventional experiences and result in new tourist experiences, which have not been seen before (Neuhofer et al., 2014). But since there is talk of technology, augmented reality, as mentioned previously through Ferdinand et al. (n.d.), mediatization, meaningful experiences (Boswijk et al., 2007) and SEMs (Schmitt, 1999), there may be some distress of misunderstanding the interpretation of a place, misjudging the senses and interpret an incorrectly. To accompany this criticism I turn the section below regarding

mediatization, interpretation and the question of authenticity.

2.2.4 Mediatization and Interpretation – Staging Authenticity?

As I was explaining in the previous section, Technology – Augmenting The Experience Through Gamification, technology has changed immensely. Not only hardware but also the way we use it to communicate or interpret different experiences. Decades ago guidebooks, billboards, nature councilors etc. were the interpretation giving access to information, facts and narratives through text and sound. Today interpretation has gotten mediatized immensely through technology, giving the tourist 24-hour access to facts, narratives and information, which all influence the tourist's understanding of the place visiting. Not only through tourism bureaus, travel agents and travel magazines but likewise through subjective blogs, reviews and social networks. Mediatized interpretation can be a jungle, where true interpretation can be difficult to find and evaluate. If we look at Bohlin & Brandt (2014), they explain through Tilden (1977) that interpretation is an:

“(...) educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information. (...) Tilden's definition stresses the educational aspect of interpretation and the importance of conveying hidden meanings in local milieus. New technologies can make these processes more effective, provided the suitable technology is properly used.” (p. 6)

Through Bohlin & Brandt (2014) we can see that interpretation should be educational, which can be empowered through mediatization (i.e. *illustrative media*). But if the *meanings* and *relationship* has to go through illustrative media, the actual facts have been manipulated and constructed resulting in a staged authenticity. Cohen & Cohen (2012) reviews the term of mediatization through Janssen (2002) and Tussyadiah & Fesenmaier (2009). Here, they also have a gloomy look on mediatization, which:

“(…) envelops tourism attractions in a thick mantle of images and representations. Contemporary tourists are typically already saturated by media images of an attraction prior to approaching it, and thus virtually precluded from unmitigated access to, and experience of them.” (Cohen & Cohen, 2012, p. 2194)

Cohen & Cohen (2012) thereby stress that mediatization can give tourists a too mediated (or false) image of a place, which barriers them (the tourists) from interpreting it correctly. Cohen and Cohen (2012) also explain: “*While modern researchers would tend to consider mediatization as impairing the possibility of experiences of objective authenticity, those with a post-modern inclination see in it the potential of a new kind of authenticity*” (p. 2194). Cohen & Cohen (2012) hereby say that, those with compassionate eyes to technology and post-modern society sees possibilities more than negative thought and the destruction of the authentic. Authenticity is therefore subjective. It all essentially depends on the individual tourist. The Timelooper application (Brooks, 2016) can be used as an example. Here, the tourist can through his/hers smartphone and a cardboard headset (i.e. TIs) experience a site throughout time like the Great Fire of London in 1666 or The Blitz raging above the capital in 1945 (Brooks, 2016; Timelooper, n.d.). To stand in the middle of a mediatized war may be the best interpretation developed, since it makes the interpretation more living and realistic. The question is if it is authentic. However, staging authenticity to fit every tourist’s perception is clearly an impossible task, and authenticity does not really matter. Interpretation, however, can be used to stage authenticity, which can help the tourist to understand the communicated information correctly, where TIs are used to manipulate the senses and reflective processes, as I earlier touched through Boswijk et al. (2007), and the engagement (i.e. the performance of action, reflect, self-direction and the use of the five SEMs) of the tourist. Bohlin & Brandt (2014) argue through Ashworth & Larkham (1994) that:

“History is constantly re-evaluated and re-written, while heritage is a product of the present created to satisfy the visitor of today (...). Thus, technology by itself does not determine the authenticity of an experience. However, technology does alter the interaction between objects and subjects (visitors).” (p. 5)

Bohlin & Brandt (2014) hereby signifies that mediatization and TIs empowers the engagement (i.e. the performance of action, reflect, self-direction and the use of the five SEMs) between the tourist and the place visited; catalyzing certain interpretations of the staged authenticity. Interpretation has gone from fact-based and educational to engaging and entertaining. The question is how interpretation can be both educational, engaging and still also be enjoyable. Here gamification is an interesting approach, where Sigala (2015) states through Zichermann & Cunningham (2011), Witt et al. (2011), Hamari (2013), Canejo (2014), Sigala (2015) and Zichermann & Linder (2010):

“(...) gamification is increasingly integrated within marketing strategies (...) in order to increase the customers’ engagement, participation, learning and motivation by directing their behaviour (i.e. increased activity, social interaction, consumption and purchasing actions) through the design and affordances of positive and intrinsically motivating gameful experiences (...)”(p. 130)

The above quote gives me the notion that gamification can be used to self-direct the tourist and make them use the SEMs; i.e. engaging fully in the experience. To find out how to use mediatized interpretation (Cohen & Cohen, 2012) through technology (Lagerkvist, 2008; Benyon et al., 2014; Kaae, 2010) and communicate correct facts, science and narratives (Cohen & Cohen, 2012; Bohlin & Brandt, 2014) while still being educational (Bohlin & Brandt, 2014), enjoyable (Bell et al., 2007) and non-consumptive (Duffus & Dearden, 1990; Wilson & Tisdell, 2001; Buckley, 2011) within nature-based tourism (Kuenzi & McNeely, 2008), I now turn to the gamification section below.

2.3 Gamification – A New Approach to Interpretation

Deterding et al. (2011a) point out that: “(...) until now, little academic attention has been paid to a definition of the concept of “gamification” (...)” (p. 9). Deterding et al. (2011a) came to the conclusion to define gamification as “(...) the use of game design elements in non-game contexts” (p. 10). According to Deterding et al. (2011a) *game design elements* are structured in levels, where they go from concrete to abstract elements. These are:

“Interface design patterns (...); game design patterns (...) or game mechanics (...); design principles, heuristics or ‘lenses’ (...); conceptual models of game design units (...); game design methods and design processes (...)” (Deterding et al., 2011a, p. 12)

What I in the above will focus on is the game design mechanics. I will go back to more concrete definitions and examples later within the section ‘Game Elements/Mechanics’. Deterding et al. (2011a) also explains that there should be a social and experiential sphere within gamification, where the social dimension of gamification may diminish through structured rules-based systems. Huotari & Hamari (2012) disagrees with Deterding et al. (2011a) and contemplate essential gaps in Deterding et al.’s (2011a) gamification theory, which includes that Deterding et al.’s (2011a) definition of gamification only has a systematic perspective to games, where Huotari & Hamari (2012) acknowledge the missing link to subjective experiences. They explain that the unique individual has a say to what is a gamified experience and what is not, since the value of a game service is deeply subjective (Huotari & Hamari, 2012).

In Deterding et al.’s (2011a) definition of gamification, they signify the use of game design elements in a context, which is of a non-game character. Their (Deterding et al., 2011a) definition is clearly rather vague, since there is no explanation of what kind of usage they are referring to. But it seems like that Deterding et al. (2011a) have taken their criticism

into account. In another article (Deterding et al., 2011b) they define gamification more deeply as: *“an umbrella term for the use of video game elements (rather than full-fledged games) to improve user experience and user engagement in non-game services and applications”* (p. 2). The definition is academically usable, since it frames which environment (non-game services and applications) I can work within. But as with there is no explanation of what kind of service they are referring to. It is not as such specified in their respective articles (Deterding et al., 2011a; Deterding et al., 2011b; Huotari & Hamari, 2012). However, service is not a main aspect here, but interpretation through gamification is.

2.3.1 Gamification in a Heritage Interpretation Context

As we can see, defining gamification can be a difficult objective. Nunes & Mayer (2014), through Deterding et al. (2011) and Huotari & Hamari (2012), explain that gamification highly lacks a sufficient academic definition. Xu et al. (2015) agrees on this matter, where they explain: *“Gaming is in its infancy in many industries and also in tourism, as very few successful examples have so far been established, mainly specialized treasure hunts and cultural heritage applications. Gaming in tourism is a new and emerging area”* (p. 2). Domínguez et al. (2013) also has their version of a gamification, where they see it as: *“(…) incorporating game elements into a non-gaming software application to increase user experience and engagement”* (p. 381). Domínguez et al. (2013) here touched engagement (i.e. action, reflection, self-direction and the use of the five SEMs). According to Sigala (2015), who I presented in the previous section, there is, as well, more to the definition of gamification. She (Sigala, 2015) explains that gamified applications are different from serious games, since the gamified application does not need to have implemented all game elements that there is to a serious game. Domínguez et al.'s (2013) definition of gamification can be connected to Sigala's (2015) major aim of gamification, which is, according to her, through Lee & Hammer (2011), Schneiderman (2004) and Pavlus (2010):

“(…) to effectively motivate and direct the users’ behavior and to increase the users’ engagement with the “ play” tasks (…) by using game-like techniques (e.g. scoreboards, points and personalised fast feedback) that make people feel more ownership, flow and purpose when engaging with the “ play” tasks (…)” (p. 131)

Sigala (2015) here touches *edutainment*, which connects with Pine & Gilmore (1999), who sees edutainment as educational activities in an entertaining way. In a heritage context edutainment can be used to interpret true facts, information and narratives in a fun and engaging way through the ‘*play*’ tasks that Sigala (2015) is referring to. Also, Sigala’s (2015) reference to play task can be seen as the game design elements (Deterding et al., 2011a). In other words gamification can be an ‘edutaining’ way, where playfulness and education (e.g. the learning of a WHS) develops interpretation towards the tourist. The tourists are engaging the interpretation through game elements.

There seems to be an agreement on, that defining gamification is a quite elusive matter regarding academia. But through the above quotes of scholars, I hereby define gamification as: an umbrella term for the use of game elements in a non-game context to improve user experience and engagement (Deterding et al., 2011b; Boswijk et al., 2007; Schmitt, 1999) and develop mediatized interpretation (Cohen & cohen, 2012) through software applications (Domínquez et al., 2013). The non-game context, where the game elements are implemented to interpret certain interpretations to the tourists, should be understood as WHSs. The question is now, how to make the tourist engage in gamification.

2.3.2 Gamification Drivers

To answer the question the question above I turn to Zichermann & Cunningham (2011), who set up four underlying reasons of why people play. The reasons can be perceived as composed or detached individual motivations (Zichermann &

Cunningham, 2011). These reasons, why people play are for mastering something, to distress from something, to have fun and to socialize (Zichermann & Cunningham, 2011). At first glance the chapter in their book (Zichermann & Cunningham, 2011) seems as a solid foundation to start of a section of defining gamification drivers. Nevertheless, Zichermann & Cunningham (2011) fail to do so. Instead, they go about explaining player types. But reading further down their chapter (Zichermann & Cunningham, 2011) I stumbled across some very interesting gamification drivers (i.e. motivations), which are intrinsic and extrinsic motivations. Here they explain:

“Intrinsic motivations are those that derive from our core self and are not necessarily based on the world around us. Conversely, extrinsic motivations are driven mostly by the world around us, such as the desire to make money or win a spelling bee.” (Zichermann & Cunningham, 2011, p. 26)

At the above quote we can see that there are two fundamental drivers of gamification, which are highly different from each other. Intrinsic motivations are affected by the complex inner self, and extrinsic motivations are affected by the surroundings of the self. Such intrinsic and extrinsic motivations are acknowledged by Negrusa et al. (2015) and Xu et al. (2015), but Sigala (2015) goes much more into depth. She (Sigala, 2015) explain that the intrinsic motivations are motivations that come from within (i.e. doing something for own satisfaction, such as fun, curiosity, competition, love, aggression, interest and self-expression), where the extrinsic motivations are when you are motivated to do a certain task for a specific outcome (i.e. the player is encouraged to do something within a game for achievements and rewards) (Sigala, 2015). Some scholars explain the preference of intrinsic rewards over extrinsic rewards (Sigala, 2015), where Sigala (2015) stresses, through Sigala (2015) and Hamari et al. (2014), that there is a:

“(…) need to combine extrinsic and intrinsic motivation by using a mixture of game mechanics, because the use of extrinsic incentives can further enhance the users’

intrinsic motivation, specifically when the aim is to develop a sense of competence and mastery in the user/consumer. This sense of competence can be supported by the presence of extrinsic game elements, such as bonuses or rewards that may help establish intrinsic motivation.” (p. 132-133)

Therefore, instead of focusing either on intrinsic or extrinsic motivations as gamification drivers, I will acknowledge the importance of the balance between the two. A balance is important, since: “(...) *there is the danger that extrinsic incentives may diminish the intrinsic motivation of consumers (...)*” (Sigala, 2015, p. 132). Sigala (2015) also points out, through Robertson (2010), that too much “*pointsification*” (p. 132) (i.e. to large amount of point systems and competition) should be avoided, since the experiences and playfulness, which is triggered by intrinsic motivations, are making a game effective (Sigala, 2015). The pointification, which is triggered by extrinsic motivations, may diminish the intrinsic motivations. This view is also stressed by Zichermann & Cunningham (2011), who explain:

“Overjustification/replacement bias argues that replacing an intrinsic motivation with an extrinsic reward is a fairly easy thing to do. (...) Overjustification generally doesn’t negatively affect players with good performance or a strong personal motivation, though some extrinsic rewards can readily be seen as manipulative or negative if used in the wrong context.” (p. 27)

Zichermann & Cunningham (2011) comes with an example of a girl exceptionally playing piano for her own enjoyment. Placing her in a competitive environment, practicing to be the best (e.g. at a contest), where she fails, may make her stop playing piano forever. So, a balance needs to be paid attention to. Only a drive consisting of intrinsic motivations may not make a user/tourist engage in the gamified experience at all and only a drive of extrinsic motivation will make the gamified experience too competitive, loosing a large sum of users/tourists, who may feel irritated or even betrayed by looking at

the time they used on the gamified experience, which never gave them anything in return other than irritation. To further look into how these motivations are triggered I take a look at game elements/mechanics.

2.3.3 Game Elements/Mechanics

We have previously touched the point of game elements (Huotari & Hamari, 2012; Deterding et al., 2011b; Domínguez et al., 2013; Xu et al., 2015; Sigala, 2015) within the section of defining gamification, but not thorough enough to have a framework developed. Scholars confront the game elements differently. For example do Domínguez et al. (2013) explain the game elements as badges and rewards, which are also acknowledged by Nunes & Mayer (2014), and leaderboards, but do not entirely focus on them. Their article is concentrated on e-learning and how gamification can be a learning tool, which results in a deeper focus within impacts, and how such impacts can influence players (Domínguez et al., 2013). Even though Sigala's (2015) article has a business and sales-oriented nature, it can be very useful in defining game element in connection to intrinsic and extrinsic motivations. Considering game elements she refers to game mechanics (Sigala, 2015), which is the term I from now on will be using to minimize misunderstandings. She explains, through Yee (2006), that usually game mechanics are divided into three categories, which are behavioral, feedback and progress (Sigala, 2015). The behavioral mechanics consists of e.g. discovery/exploration, status, story/theme, collaboration, virality and ownership, where the feedback mechanics are more of an evaluation; e.g. bonuses, rewards scheduling, and countdowns. The progress mechanics are the rewards; e.g. badges, leveling, points, challenges and progress bars (Sigala, 2015). These categories of game mechanics are generating intrinsic and extrinsic motivational affordances, which have been reviewed in the previous section. The intrinsic motivations:

“(…) can be triggered by the following game mechanics (Wood et al. 2004): avatar (virtual alter ego), role-playing, content (storyline), interaction

(feedback/motivation), level of control (freedom of choices), possibility of losing points, amount of choices and feeling connected. In sum, role-playing in games can trigger the following five primary intrinsic motivations (Companion and Sambrook 2008 ; Crawford 1982): choice, control, collaboration, challenge and achievement.” (Sigala, 2015, p. 132)

The extrinsic motivations are however different and can be triggered through other game mechanics: “(...) *such as, pressure, classifications, levels, points, badges, awards, missions (...)*” (Sigala, 2015, p. 132). So, there are different ways how game mechanics trigger intrinsic and extrinsic motivations. Domínguez et al. (2013) acknowledges reward systems through Wang & Sun (2011) but characterizes them differently as experience points, achievements, instant feedback messages, score systems, items, resources, game content and plot animations. Likewise, in their study about e-learning and gamification, they explain that: “(...) *leaderboard let students compete to obtain higher ranking by completing more exercises and by participating in the overall experience*” (Domínguez et al., 2013, p. 384). Nevertheless, I will focus on Sigala (2015), where I have some clear defined game mechanics, regardless the missing context of which they can be implemented. Also, a connection can be seen between Schmitt’s (1999) SEMs and Boswijk et al.’s (2007) ‘action’ and ‘reflection’, mentioned in the section of ‘Technological Augmented Experience Design’, and Sigalas (2015) intrinsic and extrinsic motivations. Intrinsic and extrinsic motivation can be seen as drivers to catalyze the five SEMs and ‘action’, ‘reflect’ and ‘self-direction’; thereby catalyzing engagement.

One thing is to theoretically frame game mechanics, but another thing is to design such mechanics. Domínguez et al. (2013) come with a very important point, through Watson et al. (2011): “(...) *video games provide a fictional context in the form of narrative, graphics and music, which if used appropriately, can encourage the interest of players on non-gaming topics, like for example, history (...)*” (p. 380). This means that by designing gamification not only should there be game mechanics, but these mechanics should be tailored to fit a certain narrative and thereby give them a sense of meaning. Another scholar

(Xu et al., 2015) comes with a suggestion through Linaza et al. (2014):

“For example, location-based games can be a way of experiencing points of interests for tourists through a treasure hunt. “Tourists can follow a list of recommendations given by a mobile game and can learn something about their environment by solving mini games related to their experiences” (...).” (p. 2)

The above quotation may have good intentions but a user or tourists should never feel obliged or forced to go through a gamified experience to get an overall experience of a place. There should always be a substitute for those, who do not wish to take part in a gamified experience no matter how entertaining and educative it may be. Going back to game mechanics Negrusa et al. (2015) explains how QR codes can be used to lure consumers into a webpage to seek for further information about products. Negrusa et al. (2015) also acknowledges that gamification should be both utilitarian (e.g. ease of use and usefulness) and hedonic (e.g. enjoyment and playfulness) to improve sustainable tourist behavior. The sustainability of tourists' behaviors should be understood as their continuous involvement in the gamified experience. Through the quote I can therefore understand, that a balance of utilitarian and hedonic use of gamification is evident for successful sustainable experiences, where a flow (Sigala, 2015) is present.

Sigala (2015) sets up how to design a gamified experience. She (Sigala, 2015) notes, that there is a need of a systematic component and an experiential component. The systematic component involves how the game is designed/constructed, where the experiential one focuses on human involvement inside the game (Sigala, 2015). I have already comprehensively reviewed the experiential component considering the intrinsic and extrinsic motivations and defining game mechanics through various scholars. Now I turn to the systematic. Sigala (2015) has identified some principles on how to select game mechanics, when designing a gamification application: Firstly, there needs to be a variety of game mechanics to mix both extrinsic and intrinsic motivations to make the game more

appealing and encounter the different objectives, motivational needs and personality types of the users of the application (Sigala, 2015). This has been mentioned before under the section, Gamification Drivers. Secondly, there needs to be implemented various choices, so the user is empowered to select and customize the gaming experience to their individual motivational needs. This should be done so the users can “(...) *selfidentify the game goals with their own values, create meaningful game elements and goals, and internalise the game activities*” (Sigala, 2015, p. 134). Thirdly, there should be a social sphere within the game, where the user can engage with media features and social networks:

“(...) because by incorporating network friends into the game play, the funwares can magnify intrinsic motivation (due to the increased interactions amongst friends and the empowerment of the user to customise/control game mechanics to his/her goals and context) and escalate the promotion and wider adoption of the gamified application due to the viral marketing and intensified exchanges taking place within the network.” (Sigala, 2015, p. 134)

From the above principles and quote I see that Sigala (2015) has a quite normative approach to the game mechanics without any context. Does her universal receipts fit the heritage context? I would say that her explanation of game mechanics is clear but the context, which they should be implemented in, is rather vague. The above principles and quote gives me, however, a hint on how to develop a gamified nature-based experience to communicate a certain message. A mixture of game mechanics to trigger both intrinsic and extrinsic motivations should be present, while a freedom of choice should be present as well. Ultimately this leads to a more customized experience, which should be shared within the user’s social network to further make intrinsic motivations.

Chou (2016), however, has developed a framework, Octalysis, which structures the game mechanics:

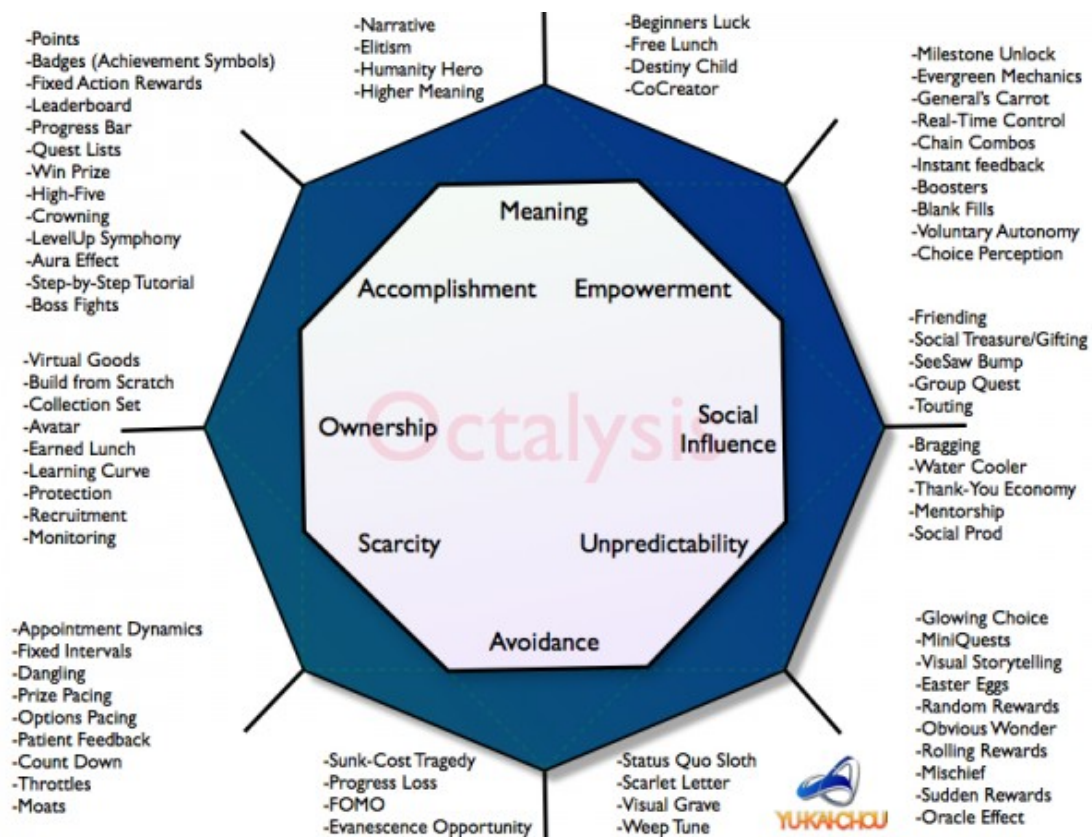


Figure 4: The Octalysis Framework. Source: Chou (2016)

The framework in figure 4 above consists of eight core drives, which encompass a certain amount of game mechanics. The core drives are: meaning, accomplishment, ownership, scarcity, avoidance, unpredictability, social influence and empowerment (Chou, n.d). I will not go through each core drive with their respective game mechanics, but it is important to mention that left core drives have a tendency to be more based on the extrinsic motivations, where the right core drives have a tendency to be more based on intrinsic motivations (Chou, 2016). Some core drives and mechanics is present within the articles of (Sigala, 2015; Domnquez et al., 2013). A theoretical validity of the game mechanics can hereby be acknowledged.

Game mechanics are divided into three categories, which is behavioral, feedback and progress. The behavioral category encompasses game mechanics, which are discovery/exploration, story/theme, status, virality, ownership and collaboration (Sigala, 2015). Feedback game mechanics consists of reward scheduling, countdowns and bonuses, which pressures the player's progression (Sigala, 2015). Feedback connects with fun (and fantasy). This should result in progression mechanics, which are rewards in the form of badges, progress bars, points, challenges and leveling (Sigala, 2015). Presence of game sharing mechanics should come into play (Negrusa et al., 2015). Sharing the gamified experience can be set in motion throughout the whole gamified experience. All the interactions of game mechanics to the user/player trigger intrinsic and extrinsic motivations (Sigala, 2015). Intrinsic motivations come from doing something for the users own satisfaction (e.g. fun, competition, curiosity, love, aggression, self-expression and interest) and connects with behavioral and feedback mechanics. Extrinsic motivations, however, is when the user is motivated to do a specific task for a certain outcome (e.g. progression mechanics). For the most successful gamified experience intrinsic and extrinsic motivations need to be balanced (Sigala, 2015) and triggered by a mixture of all game mechanics (Sigala, 2015), thus gives the user a both utilitarian and hedonistic gamified experience (Negrusa et al., 2015). All game mechanics can be viewed in the framework of Chou (2016), where the game mechanics are divided into eight core drivers. The question is, however, if this quite normative one-size-fits-all receipt can be applied to heritage interpretation. I will look further into this in the section 'Discussion - Game Design Opportunities'.

2.3.4 Gamification Forms in Tourism Experiences

There are different forms of gamification. Çeltek (2010) has a commercialized approach, where he defines advergames. Such advergames are interactive gaming technologies put to use to communicate an advertisement or commercialized message to

the consumer (Çeltek, 2010). At a point Çeltek (2010) moves away from the definition of advergames and refers instead, through Lopatina (2005) to mobile games, which:

“(...) can just be an integrated part of the tour. It can be, for example, a kind of tourist guide which accompanies the person on the move in a game form. Mobile games can be played indoors or outdoors. A large geographical area, an open air museum, a camping place or a hotel building are all the examples of potential playgrounds for mobile games (...).” (p. 270)

Çeltek (2010) hereby acknowledges the wide use of gamification in different settings, but it seems to be that the intentions of advergames (or mobile games) are mostly commercial. Instead, I turn to Xu et al. (2015), who explains that there are to date two kinds of games within the tourism industry. These are social games and location-based mobile games (Xu et al., 2015). The social games are games taken place before the tourist is located at the destination (Xu et al., 2015). On the other hand, Xu et al. (2015) explains location-based mobile games, which are played, while the tourist is at the destination. They further explain, through Waltz & Ballagas (2007) and Linaza et al. (2014) that location-based games:

“(...) are mainly used to encourage more engagement on-site, to enhance tourists’ on-site experiences at the destination in a more fun and informative way (...). However, “a tourist destination is an extremely rich source of information, supplying tourists at each moment with a continuous flow of images, sounds and feelings that cannot be fully simulated by computers” (...).” (Xu et al., 2015, p. 6)

Location-based games are therefore powerful tools to make the tourist engaged in an experience. Also, location-based games (Xu et al., 2015) enhances the experience, which can be done through senses (Schmitt, 1999; Boswijk et al., 2007), communicate a certain message in an informative and enjoyable way through technology to

augment the experience and interpretation (mentioned in the section, Mediatisation and Interpretation – Staging Authenticity?); all these aspects in the same time. The question now lies within why I should at all focus on gamification. Xu et al. (2015) explains it well:

“Game developers with a technical background sometimes may not be fully aware of the tourists’ need and motivation to play. (...) When designing a specific tourism game, destination marketers and [game] designers should work closely with each other, and consider carefully (...) specific motivations for playing a tourist game.” (p. 6-15)

The above quote by Xu et al. (2015) is exactly what this whole thesis is about. I see myself as the binding facilitator between exciting technological interpretation opportunities (i.e. gamification), game developers and stakeholder facing difficulties on how to communicate a certain value of a WHS. Before I turn to the methodology section I will structure the literature in a framework called the Technological Augmented Gamified Experience Design (TAGED)

2.4 TAGED – Technological Augmented Gamified Experience Design

To structure, understand and visualize the literature I have developed a framework, which is placed within a nature-based tourism perspective, where I use the previous framework developed, as promised earlier under the section, The Concept of Nature-Based Tourism. Connecting the former framework with the definitions, game drivers, game mechanics, forms of gamification, the theory of experience and technology I get the following framework:

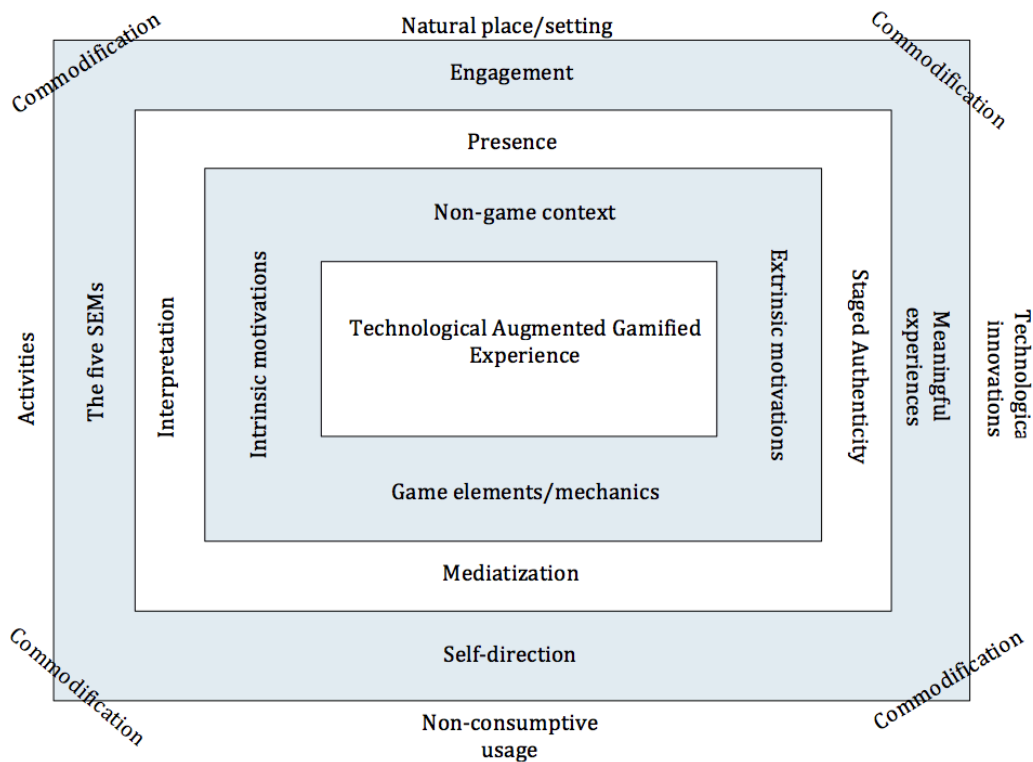


Figure 5: The framework of the Technological Augmented Gamified Experience Design (TAGED). Source: Thesis Author.

The above framework in figure 5 above shows the experience design of technological augmented gamified experiences. For convenience the design is titled TAGED, which stands for Technological Augmented Experience Design. The positions of the components have no meaning, yet the levels of the framework do. The framework of commoditized nature-based tourism, as the outer rim, is set, since that is the standpoint, which I will work from. Within the natural setting/place technological innovations (TIs) foster activities for a non-consumptive purpose. The connection between TIs and activities catalyzes engagement (i.e. action, reflect, self-direction and the five SEMs (i.e. SENSE, THINK, FEEL, ACT and RELATE), which give meaningful experiences. The engagement, meaningful experiences, SEMs and the willpower of the tourist to self-direct gives the tourist mediatized interpretation, which acknowledges staged authenticity. To heighten the mediatized interpretation, the tourist engages in the TIs connecting him/her to game

mechanics in a non-game context as the nature-based tourism is in a natural setting/place. If the tourist has come that far the intrinsic motivations are already triggered to look further into the game mechanics. Within the investigation of the game mechanics the tourist comes across his/hers extrinsic motivations, thus experiencing himself/herself in a balance of intrinsic and extrinsic motivations continuously triggered by game mechanics. The tourist is immersed in the TAGED; a technological augmented gamified experience.

3. Methodology

This section accounts for the explanation of methods applied, research collected and how research was conducted. When considering which methods should be applied, the overall question is, which of qualitative or quantitative research methods are most usable for the validity of answering the problem formulation and research questions. The qualitative approach has been chosen as the research method. Through qualitative data collection a better insight in the respondents' (i.e. interviewees') own perceptions (Bryman, 2012) will be given. Within a qualitative research design semi-structured in-depth interviews have been chosen as the main source for data. A qualitative approach has likewise been chosen, since the case is of a unique character. The WHS of the par force hunting landscape in North Sealand, more narrowly perceived as JD, due to the respective problem formulation, has similarities to other WHSs around the world. Objectives appear of conservation and protection, while still communicating the OUV of the site. That can be seen as the overall context. What is unique in this case is that the WHS is a culturally constructed landscape. Also, the WHS is of such a large scale, that it comprises of six municipalities and two governmental institutions, which need to cooperate and coordinate the planning, conservation, protection and communication of the site (see 'Case Description').

In the following I will first go through the philosophical scientific positions, where the exploratory case study research design with an abductive research approach is presented. Secondly, the qualitative sampling design with semi-structured in-depth interviews will be justified together with an explanation of the sampling process, where a representation of the stakeholders will be ministered. Additionally to this section, the data collection methods are presented. Lastly, the limitations will be addressed and assessed, where the critical assessment of the research methods will be present.

3.1 Exploratory case-study research design

An exploratory case-study research design is chosen, since a case study gives the researcher the perception of a wider context then narrowing it down to a specific singular element of a case (Stake, 1978). Looking at the problem formulation with its underpinning RQs the approach to answering them is exploratory, since I first need to grasp the context of the case. Here, I see the connection with an exploratory research design, which builds theory rather than testing theory (Dooley, 2001). In this case, however, I am not building any theory, nor am I testing it. Instead, I have developed an ontological framework (TAGED) of already existing literature, which can be found at the end of the 'Literature Review'.

A case study is intertwined with explorative research, since knowledge gained from the study of the case may build up new knowledge. Also, the case of the JD within the WHS is rather idiosyncratic and peculiar, as mentioned above, which case studies can be (Stake, 1978). It is important to note that the idiosyncratic way of doing research leans up against the philosophy of social constructivism, where interpretivism, my own interest and socially constructed consciousness, commits the research to a qualitative approach (Research-methodology.net, 2016). Thereby, the knowledge addressed and assessed will always be a human construction of me (Au, 1998). In short: The study of this case is of a social constructivist, who explores the theoretical interconnectivity of theories for the purpose of solving a problem. In connection to the social constructivist and interpretivist view of the case, my ontological position has both advantages and disadvantages. The advantage is that I have had an easier access to the data collected, since I have used my already existing network acquired through my internship. This has made it possible to have an amount of interviews within the case (and outside the case), which gives the qualitative data collected a certain adequacy. Furthermore, respondents have been at ease and shared their views and opinions more openly than if a complete stranger had collected the data. The disadvantage with my ontological position is that the existing network of respondents

have had too much of my attention, leaving less attention to other valuable respondents. Nevertheless, the data collected is seen as adequate for a proper analysis and discussion, because of the amount of respondents.

The social constructivist and interpretivist approach applies abductive reasoning, which adheres to natural and instinctive processes (Shuttleworth, 2008). I have connected the literature in an ontological framework, TAGED, for the reason of trying to structure and make sense of my data collected. Additionally, the framework has helped me to understand the literature and the different aspects' interconnectivities, which will further help me structure and analyze the data collected. In this regard, the collected data may show that the framework needs adjustments, changes or maybe is not even applicable to the case. TAGED is therefore a form of hypothesis of the theories studied and needs experimentation through the data collected (Shuttleworth, 2008), which leads to recommendations to solve the case.

3.2 Qualitative design and process

Within the research design, much have changed throughout the writing process. Firstly, I had the vision to use both qualitative and quantitative research design, also entailing surveys beside interviews, since such a sampling design is more valid than mere qualitative methods (Flyvbjerg, 2006). In time, I chose to purely focus on semi-structured in-depth interviews (see Limitations). Semi-structured in-depth interviews have their advantages, which are the accessibility to the individual perceptions of the respondents (Bryman, 2012). Likewise, a semi-structured in-depth interview is a more flexible fluid conversation, where the researcher can ask into certain answers, if these were not sufficient (Bryman, 2012). Compared to a structured interview the semi-structure in-depth interview can give more detailed answers (Bryman, 2012). Unfortunately, not all interviews became a personal face-to-face interview because of time constraints of the stakeholders and my own planning. Some interviews became telephone-interviews, which

can be more effective than the face-to-face interview, but lacks personal connection and readings of non-verbal communication (Burnard, 1994).

Observations have also been addressed within the sampling design, even though that such observations were more spontaneous (see appendix 3); i.e. they were uncontrolled (Goode & Hatt, 1952). The observations gathered have not been assessed, but led to a semi-structured in-depth interview (Goode & Hatt, 1952).

3.2.1 Data collection process

The data was collected through 13 interviews (see table 3 below), where 9 of them were semi-structured in-depth interviews where the interviewee and I sat face-to-face. The other 4 interviews, where either conducted through telephone or Skype (which basically is the same, since there were no video frequency through Skype). Five interview-guides were developed (see appendix 4 – 16), since such helps the researcher to keep track of the interview. Also, interview-guides helped me to express the questions correctly, to have a more profound answer. Furthermore, I used the interview-guides to ask more into some themes, if the answers given were not sufficient (Goode & Hatt, 1952, p. 186). The first interview-guide was developed before the section of the literature review was changed immensely. This interview-guide contained the themes: general plans for planning and developing the WHS (the interview with LTM had a different section focusing on their tourism strategy and their plans for tourism in general), the case (opportunities, challenges and difference of parks) and brainstorming on how an application should be constructed and what it should communicate to tourists (see appendix 4, 5 and 6). The second interview-guide differed highly from all the other interview-guides, since the interviewee was not part of the case, but had valuable know-how about mobile-applications in a communication-context. This interview-guide contained the themes: functionality of their app, the process of developing the app, possibilities and challenges before and while developing the app, feedback from users and brainstorming on how an app, in my case,

should be developed (see appendix 7). After the literature review got changed a third and more profound interview-guide was developed, with the themes: context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS (see appendix 8, 9, 10, 11 and 12). The respondents of the old interview-guide got sent follow-up questions, which was the new interview-guide, over e-mail. The sitemanager and LTM got an added theme of politics. The fourth interview-guide was with dissimilar subjects considering gamification and its applicability. Here the themes were: gamification with possibilities and barriers, sensory & digital design of heritage interpretation and an representation of the case, where we brainstormed on how to implement gamification to communicate the WHS (see appendix 13, 14 and 15). The fifth interview-guide was likewise developed after supervision, with the themes; communication techniques, authenticity and brainstorming on how mediatization in best practice can communicate the WHS in an authentic way (see appendix 16). The interviews where conducted in the following order including name, position, their expertise, organization/institution, type of interview and interview themes:

No.	Name, position and expertise	Organization or institution	Type interview	Interview themes
1	Trine Schreiner Tybjerg (Tybjerg) Manager at the Planning & Business Department Expertise: Politics, governmental management, planning, rules & regulations of the municipality	Lyngby-Taarbæk Municipality (LTM)	Face-to-face	Tourism strategy, the case, brainstorming on the case. Answered follow-up questions: Context, communication requirements, rules & regulations, ambitions and

				conservation & protection of the WHS, politics.
2	<p>Jes Aagård (Aagård) Nature Agency councilor, member of the subcommittee responsible for the communication of the UNESCO WHS</p> <p>Expertise: Communication of the WHS, rules & regulations of natural areas, conservation & protection of natural areas</p>	Naturstyrelsen	Face-to-face	<p>General plans, the case, brainstorming on the case.</p> <p>Have not answered follow-up questions: Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS.</p>
3	<p>Tinna Møbjerg (Møbjerg) Museum director of Museum Midtjylland</p> <p>Expertise: Know-how about processing and developing a smartphone application to communicate culture and history</p>	Museum Midtjylland	Face-to-face	<p>Functionality of app, development of app, possibilities and challenges, feedback, brainstorming on the case.</p> <p>Know-how on applications</p>
4	<p>Anders Kring Mortensen (Mortensen) Sitemanager at the UNESCO</p>	Dansk Jagt- of Skovbrugsmuseum	Face-to-face	<p>General plans, the case, brainstorming.</p>

	<p>WHS</p> <p>Expertise: The culture and history of the WHS, rules & regulations of the WHS, conservation & protection of the WHS, plans of the WHS</p>			<p>Answered follow-up questions: Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS, politics</p>
5	<p>Stella Blichfeldt (Blichfeldt) Nature Agency councilor</p> <p>Expertise: Communication of the WHS, rules & regulations of natural areas, conservation & protection of natural areas</p>	Naturstyrelsen	Face-to-face	<p>Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS</p>
6	<p>Dorete Dandanell (Dandanell) Politician, vice chairman of the Business and Employment Committee</p> <p>Expertise: Politics, communications, municipal operations</p>	LTM	Face-to-face	<p>Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS, politics</p>

7	<p>Jon Voss (Voss)</p> <p>Museum manager of Rudersdal Museer and member of the steering committee of the UNESCO WHS</p> <p>Expertise: The culture and the history of the WHS (JH), general history, communicating history</p>	Rudersdal Museer	Face-to-face	Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS, politics
8	<p>Dorthe la Cour (la Cour)</p> <p>Politician and former vice chairman of the Culture & Leisure Committee</p> <p>Expertise: Politics, municipal operations, communication</p>	Telephone	Telephone	Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS, politics
9	<p>Jan Detlefsen (Detlefsen)</p> <p>Partner and co-founder at KigOp, former student of mediaology and former developer at Unity Studios ApS</p> <p>Expertise:</p>	Skype	Skype / Telephone	Gamification, sensory & digital design of heritage interpretation, brainstorming on the case

	Gamification			
10	<p>Jette Baagøe (Baagøe)</p> <p>Former museum director of Dansk Jagt- og Skovbrugsmuseum, former sitemanager of the UNESCO WHS and a member of the steering committee of the UNESCO WHS</p> <p>Expertise: The culture and history of the WHS, rules & regulations of the WHS, conservation & protection of the WHS, plans of the WHS</p>	Telephone	Telephone	Context, communication requirements, rules & regulations, ambitions and conservation & protection of the WHS, politics
11	<p>Henrik Schønau Fog (Fog)</p> <p>PhD. in media technology, associate professor at Aalborg University Copenhagen.</p> <p>Expertise: Gamification</p>	Aalborg University Copenhagen	Face-to-face	Gamification, sensory & digital design of heritage interpretation, brainstorming on the case
12	<p>Mads Bødker (Bødker)</p> <p>PhD. in human-computer interaction and philosophy of</p>	Copenhagen Business School	Face-to-face	Gamification, sensory & digital design of heritage

	technology and lecturer at Copenhagen Business School Expertise: Gamification			interpretation, brainstorming on the case
13	Can Seng Ooi (Ooi) PhD. Professor with special responsibilities at Copenhagen Business School, center director of the Center for Leisure and Culture Services Expertise: Mediatization, interpretation, authenticity	Copenhagen Business School	Skype	Communication techniques, authenticity and brainstorming on the case.

Table 3: Interviewees. Source: Thesis Author

Each interviewee is referred to by their last name. It is Lyngby-Taarbæk (LTM), which holds the greatest area of the JD, where Rudersdal Municipality (RM) has the area of JH, which is the northern part of JD. I also wanted to interview Kristoffer Gottlieb, consultant within LTM with responsibilities within tourism of the municipality, but he was absent due to maternity leave. I have tried to set up an interview with both the mayor of LTM, Sofia Osmani, and the chairman of the business and employment committee, Anne Jeremiassen, without any success. The interview with Møbjerg was spontaneously conducted. I was working as a student support for the associate professor, Carina Ren,

during the Innovation Camp of the 8th semester students in Herning, Jutland. After a minor speech at the TextilForum, which is a part of Museum Midtjylland, I spoke informally with the museum director. We spoke about the subject of my thesis, and Møbjerg mentioned their work with the application, Digitale Tråde, which is an application for smartphones that has implemented augmented reality and has the purpose to communicate the history and culture of Herning and the town's surrounding area. I immediately saw an opportunity of gaining some of her know-how on implementing applications in a communication context. Concerning the interview of la Cour the recording of the phone call, through the application, TapeACall, somehow malfunctioned, so there was, unfortunately, no usable sound file available of the interview. To compensate for this incident I send la Cour my interview-guide over e-mail to answer by text. Instead, la Cour recorded a minor speech answering the questions, which got transcribed.

I have tried to get a hold of associate professors and researchers in interactive design, human technologies and visual culture & performance design at the IT University of Copenhagen and at Roskilde University without any success. I wanted to interview respondents with such expertise, since it could give me valuable insight on how tourists are interacting with technology. Without any success I decided to focus on the interview with Detlefsen, Fog, and Bødker regarding gamification. Nevertheless, the amount and expertise of all the respondents interviewed have given me a valid fundament to answer my problem formulation and RQs.

All interviews were recorded at the acceptance of each interviewee by an iPhone or Macbook Pro (only regarding Skype interviews and some telephone interviews considering the incident with the application, TapeACall). The interviews lasted between 19min 48sec to 1h 25min 34sec. All interviews can be found on the USB delivered together with the thesis. Additionally, the transcription of the interviews can be found in appendix 17 - 29. Appendix 17 and 19 includes the follow-up questions sent over e-mail. To uphold ethics I have asked all respondents for permission to use their full name and their working

position. All of the Interviews, except the one of Ooi, have been freely translated from Danish to English by me.

3.3 Limitations

Within the literature review there are two aspects, which I want to point out. Firstly, it is important to mention, that the use of the term ecotourism (i.e. sustainable tourism) is not present, since the term is highly strict, regarding manageable activities and objectives. Ecotourism is explained how it should be performed compared to nature-based tourism, where I just have an overview of the concept. The term of ecotourism could lead me into the terms of sustainability (Fredman & Tyrväinen, 2010). The term of sustainability could be a catalyst for much deeper research in fluxing phenomena of the context, than the thesis is limited for. Therefore, I acknowledge the underpinnings of nature-based tourism but stick to have defined the overall concept, since an approach with such a concept is more academically sound and will keep the thesis within the required limits.

Secondly, I have not focused on experience design with a commercialized and business orientation, since there is, in my case, talk of a UNESCO WHS, which has more conservational and communicative strategic objectives (World Heritage Convention, 2015). Additionally, the UNESCO WHS is the par force hunting landscape in a larger geographical area considering of JD, Gribskov and Store Dyrehave, which are all public and have no admittance fee. Therefore, I have looked solely on experience design regarding technological augmented gamified experiences to communicate a certain message (i.e. communicative experience design) and developed a framework, which may be adequate for the WHS to harmonize between tourism and conservational goals.

I wanted to form focus groups for qualitative data collection, since focus groups can give more detailed data because of discussions and explanations between the individuals within the group (Morgan, 1996). I found deep willpower to form focus groups

with respondents of medialogy and techno-anthropology students outside the case study, since such a scenario would give me more un-biased and objective data. A focus group of the interviewed stakeholders (see 'Data Collection Process') was not even considered due to the stakeholders' tight schedules and the experience from forming focus groups consisting of students. However, a stakeholder focus group or workshop would have been very valuable for the analysis, since stakeholders could have discussed the case in depth with each other and thereby forming new insights. Semi-structured in-depth interviews were seen as the better solution, which did not take as much of the stakeholders time as a focus group.

4. Analysis – The Game Design Context

After an extensive literature review incl. developing the framework, TAGED, and data collection, I now attend to the analysis of the game design context. Here, the following themes have been found when reviewing and coding the conducted and transcribed semi-structured in-depth interviews: ‘Conservation & Protection – An Non-Consumptive Approach’, ‘Rules & Regulations in a Natural Setting’ and ‘Interpretation – The Way of Communicating a Cultural WHS in a Natural Setting’ with various underpinnings. Here, I will go through the status quo, difficulties, attitudes towards the use of technological augmented interpretation in nature, the complete narrative with content requirements and, lastly, addressing the synergy between the places within the WHS.

4.1 Conservation & Protection – A Non-Consumptive Approach

Since there is talk of a WHS, there exists a need to conserve and protect the universal value of the site according to the Operational Guidelines for the Implementation of the UNESCO World Heritage Convention (World Heritage Convention, 2015). A non-consumptive usage of the WHS should be upheld (Mortensen, 18th of March, 2016; Baagøe, interview, 20th of April, 2016; Blichfeldt, interview, 14th of April, 2016; Aagård, interview, 11th of March, 2016). The planning & business department manager in LTM, where she points out the challenges with visitor crowding and congestions, suggests:

“Now there are many people who already visit the Deer Park [JD]. I almost think that you sometimes can have the experience of standing in line out there. So, it could be that we [the tourists/visitors] should be divided. While other places in the Deer Park are less visited. So, you could divide them [the tourists], if you [tourists visiting the Deer Park] don’t want to harm yourself (...).” (Tybjerg, interview, 9th of March, 2016)

The local politicians in LTM voice the same concern. One of the politicians state:

“We looked at, among other things, if there are any environmental or planning considerations. We should also be careful not to destroy when we communicate world heritage. (...) we want to communicate but (...) it should not be a too great success, because then we get problems.” (la Cour, e-mail, 1st of May, 2016)

The politician does not explain, which kind of problems will occur. These problems could be connected to image, politics, social and environmental issue etc. Nevertheless, the politicians in the Lungby-Taarbæk Municipality hereby see the protective and conservational (i.e. a non-consumptive use) aspects of both the natural place/setting and the WHS as of high importance. But the Deer Park was before the enlisting on the WHL already under certain rules & regulations (Blichfeldt, interview, 14th of April, 2016) (see section ‘Rules & Regulations in a Natural Setting’). What is new in this case is that UNESCO have put on an extra layer of conservational and protective requirements for staying on the WHL (World Heritage Convention, 2015). If not followed accordingly to the operational guidelines of the World Heritage Convention (2015) problems will arise, such as, in worst-case scenario, loosing the position on the WHL. Another politician agrees that conservation and protection is of high importance by saying that barriers for development are politically acceptable, since the WHS then would be used up bit by bit and thereby diminishing the natural setting. She simply sees a necessity of protection. She signifies furthermore, that they (Lynby-Taarbæk Municipality) want more one-day tourists but also accepts that there is a balance between recreational activities in the WHS and conservational and protective objectives, which needs to be managed (Dandanell, interview, 14th of April, 2016). These views from the politicians go hand in hand with the sitemanager’s statements. While talking about the large number of visitors in the south of JD, he stated:

“Well, that is correct and it is definitely a balance act, and that also applies for the other areas. Because one of the other objectives I have is that I need to keep an eye on that the world heritage is taken care of. (...) And they [the Nature Agency] are very attentive about it down in JD, because they already have many visitors and they have something else than these par force hunting systems. (...) they also have the deers to take care of, and more to that. (...) so you need to find a balance, and that is also for Gribskov and Store Dyrehave [the two other forests in the WHS].” (Mortensen, interview, 18th of March, 2016)

The sitemanager thereby acknowledges that there needs to be a balance between what is communicated, the amount of tourists and the conservation and protection of the WHS, which also encompasses the natural environment (i.e. the natural setting (Bell et al., 2007)). This is also acknowledged by a member of the steering committee, who states: “*We should rather not risk to destroy the values [of the WHS], because we have to communicate it*” (Baagøe, interview, 20th of April, 2016). The sitemanager later signifies that just because they (i.e. the stakeholders) have a world heritage site, it does not mean that they need to invade it with signage and constructions. It simply needs to be done in a way that it does not maculate the WHS (Mortensen, interview, 18th of March, 2016); that is, in a non-consumptive way (Duffus & Dearden, 1990; Wilson & Tisdell, 2001; Buckley, 2011). One way to do that, as he suggests, is to make the communication invisible, by for example having a visitor centre underground (Mortensen, interview, 18th of March, 2016). However, there will in the future be implemented more rules and regulations, since JD is about to be accepted as a protected area (Blichfeldt, interview, 14th of April, 2016). Additionally, another Nature Agency councilor signifies that JD is such a strong brand among visitors/tourists, so they do not need to pull more tourists in with activities in the nature. But he signifies that:

“(…) by default, we have in Denmark a very open approach to our nature, where this balance, utilize and protect, is given in the Nature Protection Act [naturbeskyttelsesloven]. By default we say that there is access all over in our nature, unless other regulations apply.” (Aagård, interview, 11th of March, 2016)

In the above quote I see that also this Nature Agency councilor acknowledges a balance between conservation and protection (i.e. non-consumptive use) of the natural setting (Bell et al., 2007) and the communication of the Outstanding Universal Value (OUV) of the site; thereby agreeing with the sitemanager (Mortensen, interview, 18th of March, 2016). The saying ‘*utilize and protect*’ seems as a national code of conduct for developing visitor sites in natural areas. What the Nature Agency councilor exactly mean by ‘utilize and protect’ can be found in the Nature Protection Act, which states:

“§ 1. The law should assist to protect the country’s nature and environment, so that the development of society can occur on a sustainable basis in respect to man’s living conditions and to preserve flora and fauna. (...) 3) to give the population access to move and reside in nature and to improve the possibilities of recreation. (...) During the administration of the law there has to be emphasized the significance, which an area, because of it’s location, might have towards the public.”¹ (retsinformation.dk, n.d.)

A Nature Agency councilors later notes that the Deer Park has a very well maintained path system, which means that 90% percent of their visitors stay within the paths (Aagård, interview, 11th of March, 2016). As he states: “(…) *we have canalized our users out on some areas, where it [the environment] can withstand the wear.*” (Aagård, interview, 11th of March, 2016). Another Nature Agency councilor points out that visitors are mostly on paths and they should have a chance to find the communications of the WHS, when they are visiting. She also notes that even though the flora of the Deer Park is very resilient, they need to protect pre-history sites, which also can be found within JD

¹ Translated freely from Danish to English by the author.

(Blichfeldt, interview, 14th of April, 2016). So, tourist communications of the WHS should be at the paths, where the natural setting will be less damaged and thereby strengthening the non-consumptive usage. As a member of the steering committee states:

“(...) the roads [the paths] are only there, because they have been used. That is, that the traffic on the roads [the paths] is not a threat; it is a promise of maintenance. (...) it [the landscape] is very resilient, if we just don’t do something, where everyone visits one place, for example the Hermitage [i.e. the castle in JD]. Because then it [the landscape] will be overburdened. We should get them [the tourists] dispersed.” (Baagøe, interview, 20th of April, 2016)

We here see some contradictions, where a Nature Agency councilor advises communication to stay on the paths, where a member of the steering committee also refers to the landscape for usage. Nevertheless, I will focus on the paths of the WHS, so the tourists have easier access to the communication and minimalizing that nature does not get damaged. Also, the landscape can be interpreted from the paths (Baagøe, interview, 20th of April, 2016).

The stakeholders are apparently in line with the literature related to non-consumptive usage and use various strategies to maintain it (Aagård, interview, 11th of March, 2016; Blichfeldt, interview, 14th of April, 2016; Baagøe, interview, 20th of April, 2016; Mortensen, interview, 18th of March, 2016; la Cour, e-mail, 1st of May, 2016). However, the WHS designation entails strictness from the UNESCO World Heritage Center considering upholding sustainable conservational and protective processes (World Heritage Convention, 2015).

4.2 Rules & Regulations in a Natural Setting

The WHS is a property of the state (Tybjerg, interview, 9th of March, 2016). The power of Naturstyrelsen and their decisions can be felt, where a member of the steering committee explains:

“In reality there are tools in the different regulations, which says what you may and what you may not do in the forest. You may, for example, not build houses. (...) You may not do that, since the Forest Act says, that you may not build within the forest. Therefore, you need of course to take such considerations into account.” (Baagøe, interview, 20th of April, 2016)

According to the above quote a visitor centre or museum is therefore not possible within the WHS. This was also signified earlier through the sitemanager under the section, Conservation & Protection – A non-consumptive aspect, where he envisioned a visitor centre underground (Mortensen, 18th of March, 2016). The member of the steering committee continues to exemplify the power of Naturstyrelsen, where she explains that drones also are prohibited in JD, and that we need to be aware of the possibilities modern technology gives us but not to damage the values of the site at the same time (Baagøe, interview, 20th of April, 2016). A Nature Agency councilor acknowledges that there are many rules to follow:

“There is a Forest Act, and there is the Nature Protection Act, which prescribes, what there may be of facilities in the forest. (...) And then there is also an operational plan of the forest, which has zoned areas as places, where there can be facilities, and where there can be heftier outdoor recreation, and where there needs to be silence. (...) And then there is the Planning Act as well. You need building permits and the like, every time you need to make something, which is a little something, you need to apply through all of these, so you

can be assured, that no inalienable things are perishing.” (Blichfeldt, interview, 14th of April, 2016)

The Nature Agency councilor also signifies there is the Natura 2000; an EU-regulative (Blichfeldt, interview 14th of April, 2016). And then there is the Operational Guidelines for the Implementation of the World Heritage Convention (2015), which the sitemanager should follow strictly (World Heritage Convention, 2015). The sitemanager acknowledges all these aspects, since he states:

“We wish to protect the world heritage area, so there are legislative settings, which secures, that we for example do not build a great communication centre in the middle of the area, which ruins the world heritage.” (Mortensen, e-mail, 20th of April, 2016)

A member of the steering committee acknowledges many rules and regulations and signifies that now, when JD is a part of a WHS, the areas (the natural setting) are protected from all sides (Voss, interview, 15th of April, 2016).

To have an easier overview of the rules, regulation and acts I have developed table 4 below:

Act	Regulations	Content	Level	Source
Planning Act	Law to secure the comprehensive planning uniting the societal interests in the use of areas.	The law contributes to protect the country’s nature and environment, so the social development can occur on a sustainable basis in respect to man’s living conditions and	Local	Retsinformation.dk (2015a)

		the preservation of flora and fauna. Securing appropriate development within the country and individual municipalities.		
Operational Plan	How the forests and natural areas should be operated and preserved.	Description of the goals of the area operations. Description of the goals for individual forests and natural areas. A plan on how to operate the forest, how to nurture nature, how to develop the landscape. A plan for recreation, and a plan for preserving ancient sites and cultural traces.	Regional	Naturstyrelsen (n.d. (a))
Nature Protection Act	Use of nature and which facilities there may be build.	Protect the nature incl. it's wild animals and plant, their habitats and the landscape, culture	National	Retsinformation.dk (2015b)

		historical, natural scientific and educational values. Improve, restore or provide areas, which has importance to wild animals, plants and landscape and culture historical interests. Give the population access to move and reside in nature and to improve the possibilities of recreation.		
Forest Act	Preserve and protect the country's forests.	Facilitate the build-up of the forest, securing the production of the forest, preserve and increase the forest's biodiversity and secure that consideration is given to landscape, nature history, culture history environmental	National	Retsinformation.dk (2015c)

		protection and recreation.		
Natura 2000	EU's nature protection regulations.	The Nature 2000 areas should preserve and protect types of nature and flora and fauna, which are rare threatened or characteristic for the EU countries	Continental	Naturstyrelsen.dk (n.d. (b))
Operational Guidelines for the Implementation of the World Heritage Convention		The operational guidelines concern the implementation of protection of the World Cultural and Natural Heritage.	Global	World Heritage Convention (2015)

Table 4: Overview of Regulations, Rules and Acts. Source: Retsinformation.dk (2015a; 2015b; 2015c), Naturstyrelsen (n.d. (a); n.d. (b)) and World Heritage Convention (2015)

The above listing of rules, regulations and acts gives me a clue of how complex implementing a gamified experience to communicate the OUV of the WHS can be, if there needs to be build or positioned something within the site.

When asked about the barriers of communicating the site, a politician from LTM points out that if no rules and regulations protect the area of the WHS it will diminish and get damaged over time due to development and planning (Dandanell, interview, 14th of April, 2016). This is good news for the sitemanager. He points out:

“The project [communicating the OUV of the WHS] is supported by Naturstyrelsen, Slots- og Kulturstyrelsen, six municipalities and Dansk Jagt- og Skovbrugsmuseum. The project should protect and develop the world heritage area with the different parties’ wishes as a starting point. The bottom line is that it is the political [regional] level, which decides whether the projects meets the common objectives.” (Mortensen, e-mail, 20th of April, 2016)

The sitemanager thereby states that the political aspects of the project are the fundament for development and process. I will further not go through each and every regulation, but the prohibition of building in the WHS, prohibition of the use of drones, and in general the protection and conservation of the WHS and its natural setting (Bell et al., 2007), both environmentally and cultural, is important when developing a gamified experience to communicate the universal values of the site. The gamified experience should have a non-consumptive usage (Duffus & Dearden, 1990; Wilson & Tisdell, 2001; Buckley, 2011). Even though, there are many rules and regulation, the possibilities for such are seen as present. I should just be careful that the fun of the play does not dissolve in the labyrinth regulations (Bødker, interview, 20th of April, 2016).

4.3 Interpretation – The Way of Communicating a Cultural WHS in a Natural Setting

4.3.1 Status Quo

When speaking with LTM I asked if there were any new municipal initiatives concerning development within the WHS. Quite shortly the planning & business department manager of LTM answered that there would come up new signs shortly (Tybjerg, interview, 9th of March, 2016). A member of the steering committee acknowledges this:

“(…) we have begun at the very basic level providing that there will come some traffic signs, so people can come by and find the place. And thereafter, when they arrive at the place, it is important that there are some signs on the spot, which tells them what to look for, at that exact spot.” (Baagøe, interview, 20th of April, 2016)

The quote signifies traffic signs and signage at the WHS but it is not clear, where the signs will be positioned. Nevertheless, she signifies in the interview that there will be outer signs to the WHS and inside the WHS as well, which should function as pathfinders with information about the OUV. In short: there will be many levels of the communication with location specific information on signs (Baagøe, interview, 20th of April). A Nature Agency councillor supports the member of the steering committee:

“Well, there will of course be a leaflet about it. And there will be some signage. Those signs they are actually right at the stairs (...). It is certainly world heritage. We definitely need some signs. (...) We start with putting up some signs, where we also will show the path system and explain the story behind it. And we have pictures as well. So, signs and leaflets would be, how can you say, the more traditional media. The benefit is, however, that you can access them all day, and they should also be in English, of course.” (Blichfeldt, interview, 14th of April, 2016)

What I can read between the lines is that there is a determination of getting something quickly done. The sitemanager acknowledges the slow process as a result of many stakeholders involved (Mortensen, interview, 18th of March, 2016). What the Nature Agency councillor further notes (between the lines) is the unfavourable traditional media, but they need to be present (Blichfeldt, interview 14th of April, 2016).

LTM has been doing much to communicate the WHS. At the enlisting they supported the representation of the Danish royal family at the Hermitage, which marked the enlisting of the site. Likewise, they have published about the WHS on their homepage.

Moreover, they use each possibility to get something about the WHS in the papers. Furthermore, municipality's city and area guide, which got distributed to every household in the municipality, also has a place for explaining the enlisting (Tybjerg, interview, 9th of March, 2016). As the planning & business department manager in LTM notes: *"So we are trying to fit the story in, where it makes sense. (...) Broadly, we are using the UNESCO as marketing on all fronts"* (Tybjerg, interview, 9th of March, 2016). What is important to note here is that they have only communicated that they got enlisted, and not communicated the OUV of the WHS. What they have communicated on their homepage is more or less a press release, which is the same on other websites (Lyngby-Taarbæk Kommune, n.d.; Naturstyrelsen, 2015). As she notes: *"We await the sitemanager and the common proposal, before we communicate ourselves"* (Tybjerg, e-mail, 20th of April, 2016). What is interesting here is that LTM is dependent of the sitemanager's orders, who is under the rules and regulations of the UNESCO World Heritage Centre (World Heritage Convention, 2015). The sitemanager need to follow the World Heritage Centre's code of conduct (World Heritage Convention, 2015), which limits all the municipality's planning and operations concerning the WHS. However, the sitemanager signifies that:

"We are about to make a base narrative, which will be the professional footing of the communication of the WHS. The base narrative can be used by everyone, who wants to know something about the par force hunting landscapes or wish to communicate it." (Mortensen, e-mail, 20th of April, 2016)

This goes hand in hand with a member of the steering committee's statement about that they are starting at a basic level, which is the taking care of traffic signs, so the tourists can find the place (Baagøe, interview 20th of April, 2016). The Nature Agency councilor in Naturstyrelsen agrees on this matter: *"We are at the very infancy. A very infant step"* (Aagård, interview, 11th of March, 2016). He later explains that they are working on the primary signage and a minor homepage of the WHS (Aagård, interview, 11th of March,

2016), which is the only mediatized digital (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014) communication planned so far.

4.3.1.1 What the Stakeholders Want

Looking at the interviews it is not only about signage and leaflets that the stakeholders want. On the contrary, in the interview with a member of the steering committee it came to my attention, that he is not fond of traditional media (i.e. billboards, signage, prints etc.) within the park:

“We still have some very conservative citizens and they will of course benefit of a sign at different locations at the entrée roads to the forest. But as much as possible avoid signage within the forest [non-understandable]. It is truly a total experience to walk in the forest. Even though you have focus on the cultural and historical aspects, you are still enjoying the forest itself. And if you walk around looking at signs or going with your nose down in your smartphone all the time, you wont see those deers or the fox or whatever it is.” (Voss, interview 15th of April, 2016)

In his quotation I see two things. Firstly, according to him the signage should be at the entrances to the park and not within the park. Secondly, he sees too much usage of signs and smartphones as barriers for experiencing the WHS. Instead, they are doing guided tours (Voss, interview 15th of April, 2016). A lecturer at CBS identifies the obtrusive intermediation; the barrier which the steering committee member is referring to:

“There is almost a physical barrier between you and the object you are looking at. If you have the phone [smartphone] in front of you; if you hold your phone in a stretched arm, then there is somewhat of a... It [the smartphone] makes such a weird bubble.” (Bødker, interview, 20th of April, 2016)

Here we see that technological innovations can be barriers between the tourist and the destination visited. The lecturer at CBS signifies that visuals are making a stronger bubble because of the screen of the smartphone, where sound would be more introspective (Bødker, interview, 20th of April, 2016). However, a steering committee member sees a smartphone as a potential tool for interpretation:

“But here I think, in correlation with authenticity, then it is a profound benefit with communication, for example, on a smartphone out in the forest, because then you avoid particularly having all these billboards and signs around the place, which actually a little disturbs the authentic feeling of being in the forest.” (Voss, interview, 15th of April, 2016).

He simply states that less signage will seem more authentic to the overall experience of the WHS. Naturstyrelsen already communicate about the WHS through a single spot along Kløvertierne, which is a path that can be followed, where the tourists are getting small information on their smartphones as sound files (i.e. the communication is mediatized digital) (Blichfeldt, interview, 14th of April, 2016). The Nature Agency councillor signifies though that this was developed before they became a WHS and the sound file now needs to be recreated (Blichfeldt, interview, 14th of April, 2016). A member of the steering committee has somewhat the same idea for the future. He explains:

“And it is exactly such a GPS-based system, which is highly preferable instead of all these signs and QR-codes and so on. You should also think about, that when you walk in nature, then it is not to be met by a forest of signs and QR-codes all over the place.” (Voss, interview, 15th of April, 2015).

A member of the steering committee refers a system (i.e. TIs) (Kaae, 2010), which is GPS-based and reads the location of the tourist's smartphone. When the tourist then is at a certain location the smartphone triggers, and comes up with information (Voss,

interview, 15th of April, 2016). The sitemanager, however, signifies that they in 2016 only will focus on signage, leaflets and the homepage. But in a 10-year perspective he has other visions:

“Well, it could be a visitor centre, an experience centre in the forests. (...) maybe not necessarily all three places [he refers to Store Dyrehave, Gribskov and JD], but a couple of places, where there will be established a visitor centre, which I would find very exciting (...).” (Mortensen, interview, 18th of March, 2016)

As we have seen in the previous section of ‘Conservation & Protection – A Non-Consumptive Aspect’, such a visitor centre would neglect the conservational protection (i.e. non-consumptive usage) of the site and its natural setting. The sitemanager, however, signifies that communication techniques first will be evaluated and decided upon after all the paperwork is done as of decisions of the steering committee, idea development phase, preparation phase, appliance for funds etc. (Mortensen, interview, 18th of March, 2016). What is interesting here is that only few of the stakeholders acknowledge new interpretation trends. A Nature Agency councilor, however, exemplifies exciting interpretation at Moesgaard Museum in Jutland (Blichfeldt, interview 14^h of April, 2016), where also a member of the steering committee mentions GPS-based systems (Voss, interview, 15th of April, 2016). Additionally, another steering committee member addresses gamification (Baagøe, interview, 20th of April, 2016). None however signifies different market segment needs (e.g. nature-lovers, sport-enthusiasts, families with kids etc.).

As of now I have come across many desires regarding the communicative aspect of the OUV. The sitemanager explains: “*But some of what I find important to communicate. Well, what people need to understand is the whole idea of the par force hunting landscape (...)*” (Mortensen, interview, 18th of April, 2016). In a e-mail explained it in a wider context: “*We wish to communicate the history of par force hunting, the absolute monarch’s power and put this into the context, which relate to Dyrehaven’s history and the*

kings' influences on North Sealand in a wider sense" (Mortensen, e-mail, 20th of April, 2016). To do this a member of the steering committee explains that Naturstyrelsen have spoken of using the old feeding houses and the minor house next to the Hermitage (i.e. the castle in the middle of JD), which is called the storehouse (Baagøe, interview, 20th of April, 2016). But the interests differ. When I was talking to another member of the steering committee he signified that his focus is more on JH (Voss, interview, 15th of April, 2016). During the interview the member of the steering committee told incredible stories of the historic society, the fence system around JH, law and regulations concerning the area in the period of par force hunting and international connections (Voss, interview, 15th of April, 2016). It came to my attention that the history of both JD and JH is so complex with more to it than mere hunt practice and landscape architecture. Also, the member of the steering committee pointed out exhibition plans at Mothsgården (a part Rudersdal Museer) (Voss, interview, 15th of April, 2016).

The point is that the stakeholders only have a basic idea, considering communication, of what should be done so far. As of now PR, recreation guides and royal happenings have been used to communicate the enlisting. Traffic signs, signage inside (functioning as pathfinders) and outside the WHS, leaflets, pictures and a homepage are under development. Their future wishes for the interpretation is a base narrative, visitor centre, GPS-system and storytelling. The interests are many, and there are some that differ, where both traditional and digital interpretation techniques are in the minds of the stakeholders. This may make the objective of communicating the WHS a difficult one without the use of gamification or any other portable digital interpretation. Before I go any further I will look more into the difficulties in the next section.

4.3.2 Difficulties

There is a large agreement that it is difficult to communicate the OUV of the WHS. The Nature Agency councilor points out that:

“We think that we have a good story, and it is a wonderful status to have; to be enlisted as world heritage. But I also think that we acknowledge that it is a difficult story to tell. (...) It is such a strange indefinable scale. There is no great ostentatious building or special physical natural phenomena, which you can point at. And this, I think, will be our greatest challenge to communicate the story, so they who visit us they think that it is... That it [the WHS] fulfills the expectations you might have.” (Aagård, interview, 11 of March, 2016)

The OUV is both indefinable and has an intangible scale, since it is a system with an emblematical design. The sitemanager explains that it is their objective to communicate value, which has importance to the par force hunting landscapes (Mortensen, interview, 18th of March, 2016). A member of the steering committee agrees that the OUV of the WHS is a complex matter to communicate: *“It is insanely hard to understand [the OUV], because you are all the time standing in the middle of it and can’t have an overall view”* (Baagøe, interview, 20th of April, 2016).

As written within the ‘Case Description’ not all the paths in the WHS are from the past (i.e. original) (Baagøe et al., 2014). In the interview with one of the Nature Agency councilors, I got quite surprised by this fact and I double-checked by asking her again if I understood it correctly, that not all of the paths, which can be seen today are original. The answer was yes (Bichfeldt, interview, 14th of April, 2016). This can complicate the communication and the interpretation of the OUV of the WHS even more, since, as we have seen under the section of ‘Conservation & Protection – A Non-Consumptive Aspect’, the

communication should be at the paths, which can withstand the wear of many visitors/tourists.

We here see some great difficulties of communicating the OUV: the intangible OUV of the WHS and the linkage to conservation and protection. The original paths are important for the context but due to minimalizing the wear of the site and its flora and fauna (i.e. the natural setting (Bell et al., 2007)) I need to adhere to the stable paths to enhance non-consumptive usage (Duffus & Dearden, 1990; Wilson & Tisdell, 2001; Buckley, 2011).

4.3.3 Attitudes Towards Technologically Augmented Interpretation in Nature

TIs (Kaae, 2010) in the natural setting (Bell et al., 2007) of the WHS to communicate the OUV have been met with both skepticism and approval. LTM acknowledges the use of technology to communicate the OUV: *"(...) I think that it is to a high degree electronically and on the spot"* (la Cour, e-mail, 1st of May, 2016). She continues with that the communication can be done digitally through the internet and an app: *"But also on those places, where you can maybe develop some app, where you can see the pattern in some way or another"* (la Cour, e-mail, 1st of May, 2016). Here there are no perspectives of user demands. It seems that a smartphone application is an easy solution, which fits all tourist segments. A member of the steering committee has also made thoughts about how to communicate digitally to the visitors/tourists (Voss, interview, 15th of April, 2016). He points out, though, that digital communication has to be well thought and that there are both pros and cons to it. An exhibition should not be overwhelmed by TIs and mediatized digital communication, since that would disrupt the intention of immersion into the facts, stories and other historical data communicated (Voss, interview, 15th of April, 2016). However, the steering committee member states:

“And my opinion is that the digitalization certainly has a place in museum communications, but the overall communication should be balanced. Thereby saying that the digitalization should be used for what it is best at.” (Voss, interview, 15th of April, 2016)

I here see his advise, that the mediatized digital (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014) communication through TIs (Kaae, 2010) should be well thought and not just something you interpret through an iPad-stander (i.e. tablet-stander) in the forest, because then a billboard would be just as good. The member of the steering committee signifies that it should be easy and simple to use digital communication apps. Also, he values mostly qualitative communication, where there is a relation between the communicator (i.e. a tour guide) and the tourist (Voss, interview, 15th of April, 2016). This method can however be done through mediatized digitalization (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014). A Nature Agency councilor has a more social point of view to this aspect, where she values activities and interaction between communicator and tourist, but she also acknowledges the potential for digital interpretations: “*Therefore I can easily imagine, that you can use digital communication, which people can have with them and use around the clock*” (Blichfeldt, interview, 14th of April, 2016). She thereby acknowledges portable digital communication through smartphones. But she is also skeptical about the idea of being at a museum or WHS and then sit with a screen all the time (Blichfeldt, interview, 14th of April, 2016). Naturally, there needs to be a balance as a member of the steering committee signified as well (Voss, interview, 15th of April, 2016). The Nature Agency councilor later explains, though, that a value of entertainment should be within the interpretations (Blichfeldt, interview, 14th of April, 2016).

The stakeholders’ views on interpretation, which may and can happen in a WHS is based on generalizations and stereotyped images of conservative tourists and their needs and wants (e.g. billboards, text, and leaflets). The Nature Agency councilor notes however:

“In the same way, then the historical... has its right to be visualized and digitalized, because it is not there [not visible]. (...) But in regards to nature you may also have the need to perceive something tiny or something that is underground, which you cannot see. Or seeing the larger context and so forth.” (Blichfeldt, interview, 14th of April, 2016)

This correlates with the previous quote by a member of the steering committee, who values smartphones over billboards and signage (Voss, interview, 15^h of April, 2016). This is also acknowledged by a Nature Agency councilor, who explains that: *“If you can visualize it in some way or another; making some reenactments, which you will implement either in an exhibition context or use on your homepage. That would definitely be an advantage”* (Aagård, interview, 11th of March, 2016). The sitemanager is definitely most optimistic with digital communication:

“Well, it is maybe the same as what you are working with, but somewhat of a living communication of the par force hunting story. By that I mean some rooms, either in some existing buildings, which will be reconstructed or maybe are being established in an entirely different way, but some rooms, where you can come inside and experience the par force hunting story; you know, interactive screens and sound and light and stuff like that.” (Mortensen, 18th of March, 2016).

We see here a large willpower and visions to use TIs (Kaae, 2010) and mediatized digitalization (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014) to communicate the OUV of the site, but the scenario of having buildings, where the mediatized interpretation is perceived by the tourist may be old-fashioned, when looking at the technological innovations today. A Nature Agency councilor exemplifies the use of TIs by explaining the visual methods used in Moesgaard Museum in Aarhus, where she was very excited and enjoyed the experience (Blichfeldt, interview, 14th of April, 2016). The

sitemanager was asked what he would do if he had no economic limitations according to communicating the OUV. His answer was:

”So, it is certainly the aspect of working with some things; in the matter of this visitor centre and it could be games and so forth. Develop some things, where you can visualise it. I also think it would be fun to develop movies and TV and... This with acting and the like. Things that makes this story a living one (...). Well yes, that it will be easier to relate to the story here.” (Mortensen, interview, 18th of March, 2016)

The sitemanager of the WHS finds play and games interesting in a communication context. TIs (Kaae, 2010) could be the best solutions for making his visions achievable. He signifies that technology has great potential, but that they have not started any development yet (Mortensen, e-mail, 20th of April, 2016). Also a member of the steering committee shows willingness to use media, modern technology and living interactive communications (Baagøe, interview, 20th of April, 2016). What came to me, as a surprise, was that the member of the steering committee also acknowledged gamification and told me, that gamification actually was in their nomination document for the enlisting on the WHL (Baagøe, interview, 20th of April, 2016). Looking in their nomination document it says regarding communicative mobile media: *“Mobile telephones etc. with apps, audio guides, GPS in use on location [new line] Mobile and online games on location/at home/in school”* (Baagøe et al., 2014). She also explains in the interview: *“It is totally obvious to develop something with games, and also digital games”* (Baagøe, interview, 20th of April, 2016). This is great news within the analysis, since this gives the use of TIs (Kaae, 2010) and mediatized digital (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014) communications high validity. The member of the steering committee also comes with some examples, which they had been thinking about, when writing the nomination document. These were role-playing games where the player was the jack looking for the stag and other things in the forest. She also referred to the geometry of the path system, where you could divide the forest in components (Baagøe, interview, 20th of April, 2016). The first game idea can be

connected to role-playing game mechanics (Sigal, 2015), which got mention in section 'Game Elements/Mechanics'. The other can be seen as a puzzle game.

Through the interviews of a politician, the Nature Agency councilors, the sitemanager, two members of the steering committee (la Cour, e-mail, 1st of May, 216; Aagård, interview, 11th of March, 2016; Mortensen, 18th of March, 2016; Blichfeldt, interview, 14th of April, 2016; Voss, interview, 15th of April, 2016; Baagøe, interview, 20th of April, 2016; Dandanell, interview, 14th of April, 2016) I see a strong acknowledgement of using technological innovation to communicate the OUV of the WHS. Therefore, Cohen & Cohen (2012) and Hjarvard's (2008) perspectives on the negative mediatized gaze is not valid within this case. Instead, I see a positive willpower to develop interpretation (Bohlin & Brandt, 2014) through digital media empowered by TIs (Kaae. 2010). A Nature Agency councilors is, however, skeptical because of previous experiences with another project 3-5 years ago, where QR-codes, were used to give information on tourists' smartphones (Aagård, interview, 11th of March, 2016). Nevertheless, technology develops fast and much can happen within e.g. five years, where maybe some more advanced TIs may be available. Before continuing to the next section I have listed the different interpretation tools/techniques in table 5 below for a better overview:

Has been processed	Digital	Print	Activities	Constructions
	PR	LTM's recreation guide	Royal happenings	
			Guided tours	
Future plans	Base narrative	Base narrative	Base narrative	
		Traffic signs		
		Signage		

		Leaflets		
		Pictures		
Future desires	GPS-system		On the spot interpretation	Visitor centre
	Many stories/storytelling		Qualitative communication (i.e. guided tours)	Rooms in existing building or reconstructed building.
	Electronics			
	App			
	Homepage			
	Portable communication			
	Interactive screens			
	Sounds			
	Lights			
	Games/Gamification, role playing games and geometry/puzzle game			
	Acting (living story)			
	Movies			
	TV			
	Audio guides			
	Youtube-movies			

Table 5: Different Interpretation Tools/Techniques processed, Future Plans and Future Desires. Source: Tybjerg, interview, 9th of March, 2016; la Cour, e-mail, 1st of May, 2016; Aagård, interview, 11th of March, 2016;

Mortensen, 18th of March, 2016; Blichfeldt, interview, 14th of April, 2016; Voss, interview, 15th of April, 2016; Baagøe, interview, 20th of April, 2016; Dandanell, interview, 14th of April, 2016

4.3.4 The Complete Narrative – Content Requirements

4.3.4.1 Synergies and Complementary Narratives

As explained in the ‘Case Description’ the WHS of the par force hunting landscape comprises of JD, Store Dyrehave and Gribskov. To communicate the OUV of JD there needs to be a synergy with the two others hunting forests. As a Nature Agency councilor notes: *“Well, I think that as a point of departure, we will try to make as much synergy, as we possibly can, so what is used [communicated] one place also can be used at another place”* (Aagård, interview, 11th of March, 2016). The Nature Agency councilor also signifies the different characteristics of the park and the two hunting forests, where the hunting path system is more visible in Store Dyrehave and Gribskov, where JD (not incl. JH (Voss, interview, 15th of April, 2016)) has the living resource (i.e. the deers) (Aagård, interview, 11th of March, 2016). This view is agreed upon by the sitemanager, when he points out the large areas, which the WHS covers; that there is a difference on the three areas in many aspects, how you attract people and signify what you have to ‘compete’ with (Mortensen, interview, 18th of March, 2016). A member of the steering committee acknowledges:

“But what is again important is, which is also one of Anders’ [the sitemanager’s] objectives, is that you don’t get the same narrative. If you drive from Jægersborg Dyrehave to Store Dyrehave, then you need to get different parts of the narrative, which is hidden in the whole landscape.” (Baagøe, interview, 20th of April, 2016)

Here, a member of the steering committee also signifies that there has to be a synergy between the two forests and the royal hunting park, JD. She also signifies that JD is older than the two forests (Baagøe, interview, 20th of April, 2016), which gives the park an

older history catalysing different stories and communicative aspects. This is however a supply concern. Would the tourists/visitors care about the interconnectivity of the places? A professor at CBS signifies that the stakeholders should focus on correct and true communications, which might be more interesting for the tourist, since they can introduce their own interpretations (Ooi, interview, 25th of April, 2016). The professor at CBS later signifies that the tourists do not even know what they want. They want to experience '*going local*' but still want the nice comfortable hotel etc. (Ooi, interview, 25th of April, 2016). The professor at CBS also states:

“(...) I don't think you can really communicate a single message. (...) I think that is one of the fundamental challenges in cultural tourism or heritage tourism or any tourism that inquires interpretation. How do you send out and control one single simple message, while your audiences are so diverse? So, my own position is that you can't, and you should be more relaxed about it.” (Ooi, interview, 25th of April, 2016)

Therefore, before focusing on synergy between the park and two forests markets segments should be analysed to have a profound general view on their perceptions of synergy between places in the WHS. In the nomination document for the enlisting on the WHL only target audiences have been addressed as international tourists, national tourists, scientist and knowledge-sharing milieus, students and pupils on a regional and national basis and kindergarten children (Baagøe et al., 2014).

However, the view of synergy between the park and the two forests is shared, where a Nature Agency councillor acknowledges the difference from the three places. She points out that the path system is more geometric up north than in the park, which has a more sporadic system. Also, she tells that the Deer Park, where both deers and the castle (i.e. the Hermitage) are present, were designed before the two other forests (Blichfeldt, 14th of April, 2016). So, the complete narrative simply needs to be communicated through specific spots and characteristics differentiated by the three places. The difference should

be highly visible, but still have interconnectivity to the whole WHS (i.e. the complete narrative) to give a full interpretation (Bohlin & Brandt, 2014) of the WHS with its OUV. As a member of the steering committee explain quite clearly:

“It needs to be set within a context. (...) Not just about the roads but the complete narrative. And thereby saying that it is also the narrative about the hunt, it is the narrative, where you place a castle [the Hermitage], where it is located, it is the narrative about who has done what on which time regarding buildings among other things. (...) It has to be a full storytelling, otherwise there is nothing to it.” (Baagøe, interview, 20th of April, 2016)

I here have a clear message that interconnectivity, synergy between the sites, which comprises of the whole WHS, different characteristics and historical and cultural aspects are eminent for communicating the complete narrative and give a full interpretation (Bohlin & Brandt, 2014). Through the interview with a member of the steering committee, as mentioned under the section, Status Quo, it also came to my attention how complex the history and narratives are and how differing interests are present (Voss, interview, 15th of April, 2016). A complete narrative is also acknowledged by the LTM (Dandanell, interview, 14th of April, 2016).

4.3.4.2 Narrative Design Suggestions

Looking through the interviews there are some point of interests, where JD and what the royal hunting park entails can be communicated. For an easier overview, table 6 below has been developed:

Respondent	Location	About	Comments
Aagård, interview, 11 th of March, 2016	Different entrances, where they want to direct tourism. Maybe Hjortekjær or Fortunen.	Directing the tourists to points of interest, where the narrative is communicated.	Do not want to use the southeast entrance because of the pressure near the amusement park, Bakken.
Mortensen, interview, 18 th of March, 2016	The centrum of the forests and park. In the park it is the location of the Hermitage.	A centrum for much of the communication.	No complete overview over locations so far.
Baagøe, interview, 20 th of April, 2016	The Ålevejs Cross in Gribskov and near the Hermitage.	A public road goes by, so it would be a good location for information (the Ålevejs Cross).	No complete overview over locations so far.
Voss, interview, 15 th of April, 2016	At Rundforbi, Kørom, Skodsborg entrance and Bøllemosen. Also, where the king got injured in a hunt near the Hermitage. Additionally, walking routes.	Information mainly about JH, the fences, the natural setting and stories (e.g. the accident, where the king got kicked by a stag).	Walking routes should be short, middle and long distances.
Blichfedt, interview, 14 th of April, 2016	She has locations of where the points of interest should not	None, since we talked about where locations should not	Feeding ground where points of interests cannot

	be: at the feeding grounds for the animals in the park, where they get fed during winter.	be.	be is showed below.
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Table 6: Points of interest. Source: Aagård, interview 11 of March, 2016; Mortensen, 18th of March, 2016; Baagøe, interview, 20th of April, 2016; Voss, interview, 15th of April, 2016; Blichfeldt, interview, 14th of April, 2016

What needs to be pointed out regarding the above table 6 is that they are in an early stage of planning and development, as noted in the section, Status Quo. Therefore, the above points of interest are merely thoughts and ideas. However, we see some commonalities such as location based interpretation and directing the tourists to certain spots. Here, extrinsic and intrinsic motivations with the respective game mechanics may be required to lead the tourists to these certain spots, where the interpretation is available. Additionally, game mechanics can lead the tourists away from other places. As can be seen, one of the Nature Agency councilors points out locations, where they feed the animals during winter. At these spots there should not be any communication positioned (Blichfeldt, interview, 14th of April, 2016).

There is not doubt that a complete narrative should be told, which includes the difference of the park and the two forests (Aagård, interview, 11th of March, 2016), history, society, who has done what in which period (Baagøe, interview, 20th of April, 2016), geometric patterns (Blichfeldt, interview 14th of April, 2016) and many other stories of law, internationality, infrastructure etc. (i.e. a complex narrative) (Voss, interview, 15th of April, 2016). Points of interest should be located and function as interpretive spaces, were parts of the OUV of the WHS will be told; interconnected will all the other spots within the whole WHS, so the overall narrative can be communicated and interpreted thoroughly (Bohlin & Brandt, 2014).

We have now gone through the status quo regarding communicating the OUV of the WHS, laid out the difficulties regarding this objective, which encompasses in the intangible OUV together with conservational and protective schemes, and approved the use of TIs to communicate the OUV. Ideas/desires from various respondents have been addressed. However, there are many more ideas within the interviews. I have tried to summarize all of them in table 7 below:

Respondent	Ideas/desires
Tybjerg	App before and after visit, deers and path system, highlight other places than the popular ones (directing tourism), implement something that interests a larger group (i.e. role-playing).
la Cour	Path pattern in a game context.
Dandanell	Living communication, sound scapes, storytelling (the complete narrative), role-playing (being the stag), treasure hunt.
Aagård	Reenactments or reconstructions, use the living resource in interpretation, interpretation also available in English, easy access to interpretation.
Blichfeldt	Tourists could get something with them home, different versions of interpretation so people can choose, role-playing (identity selection), living narrative, interpret the WHS from above, use of drawings and videos, use the world view at the time of par force hunting, digitalization can make what is invisible visible, implementation of base

	narrative.
Mortensen	Games, visualization of the narrative, virtual interpretation, role-playing, videos, TV broadcasting, play (both children and adults), augmented reality.
Baagøe	Levels of interpretation, media usage in gamification, telling the complete narrative, living interpretation through gamification, augmented reality, gamification on the paths, role-playing (the jack who searches for the stag), quiz game, move between locations in the WHS.
Voss	Trigger points in gamification, GPS-based gamification, qualitative interpretation (i.e. guided tours), GPS trigger system for qualitative interpretation, digital interpretation should be user-friendly (i.e. tourist should not start searching for the spots, if they cannot find them), walking route (long, middle, short), puzzle game (regarding fences and red ports around JH), follow an imaginary deer, game spots where the king got kicked.

Table 7: Summary of ideas by respondents. Source: Tybjerg, interview, 9th of March, 2016; la Cour, e-mail, 1st of March, 2016; Dandanell, interview, 14th of April, 2016; Aagård, interview, 11th of March, 2016; Blichfeldt, interview, 14th of April, 2016; Mortensen, interview, 18th of March, 2016; Baagøe, interview 20th of April, 2016; Voss, interview, 15th of April, 2016.

I will now turn to the discussion, where the possibilities and challenges of gamification in the game design context are assessed and why or why not gamification should be implemented in JD as a part of the WHS.

5. Discussion – Game Design Possibilities for Jægersborg Dyrehave

In the following I will discuss the opportunities within the game design context, which was analyzed above with the respective goals and desires of the stakeholders. The discussion should give a clear view over the possibilities of the game design context and lead to the solution of how a gamified experience design could be constructed and used through a smartphone application.

5.1 Facilitating Non-Consumptive Use: Technological Options and Barriers

In the analysis under the section of 'Conservation & Protection – A Non-Consumptive Aspect', I came across that the tourists should be scattered across the WHS for not to overburden specific points of interest. Here gamification can be an outstanding tool to interpret the OUV of the site. With extrinsic and intrinsic motivations tourists can be directed to certain points of interest. The extrinsic motivations could be that if they go to this and that spot, they will get more information about the OUV of the site. After arriving at the first spot intrinsic motivations should be implemented with the 'empowerment' drive core giving the tourist a choice of which spot they want to visit next to get even more information about the WHS.

In the section of conservational and protective matters, it also came up that the interpretations should be invisible (Mortensen, interview, 18th of March, 2016). Here, gamification can be a valuable tool to interpret the WHS, since mediatized interpretation (Hjarvard, 2008; Cohen & Cohen, 2012; Bohlin & Brandt, 2014) through TIs (Kaae, 2010) can make something more clear and visible to the tourist, enhancing their interpretation of the OUV of the WHS. Additionally, daily excursion may be too expensive and time consuming. Both the lecturer at CBS and the co-founder at Kigop talk about iBeacons

(Bødker, interview, 20th of April, 2016; Detlefsen, interview, 18th of April, 2016), which is a system dispersed at different spots in a setting that can communicate with the tourists' smartphones through minor beacons attached to objects (e.g. a tree or a castle). The tourists simply install the app from home and turn on Bluetooth on their device, when arriving at the destination. When tourist then walk, bike or run etc. through the destination, their smartphone will react, when it arrives near a beacon. Content then pops up on the tourists' smartphones. Such content can be communication through text, videos and pictures in a good-looking graphical design. Also the app on the smartphone can send messages to the tourist before and after the visit (Emplate ApS, 2016). By using such TIs, as beacons, sending mediatized digital communication on the tourists' smartphones the interpretation can be almost invisible, only leaving a minor beacon on certain spots. There were also talks of staying on the paths of the WHS, since they can withstand the wear. The beacons have a range of 70 meters (Emplate ApS, 2016). They can thereby be hidden within the 'wilderness' and still send signals to the tourists' smartphones on the paths. Also they can be put up within the old feeding houses and the storehouse to the Hermitage, which is not used anymore. In this way the communication through a gamified experience does not cross rules and regulations, since nothing is build and no damage is inflicted on the flora and fauna. Likewise, the park will not be covered by signs, which may diminish the experience of being in a natural setting. A beacon can be set in a height, which the deers cannot reach. Also, the beacon can be attached to an already dead tree. There are thereby no rules and regulations, which are crossed while interpreting the OUV value of the site. I have hereby acknowledged the restrictive natural context, where the conservation and protection of the natural setting is of high priority to the stakeholders. What is challenging is the internet-connection within the WHS, which the stakeholders have been pointing out. Beacons need Internet to communicate to a server and thereby send information back to the phone. The beacon has therefore a need to be placed at a spot, where the signal to satellites etc. is strong enough. Walking around in JD and JH I have not experienced the loss of signal, but it may depend on the telecommunication-supplier. Also, most foreigners do not have internet/data on their smartphones, when travelling since it is too expensive. To

compensate for this, foreigners should have the opportunity to buy Danish SIM-cards for their smartphones at a potential visitor centre or tourism bureaus within the area of the WHS. The purchase of Danish SIM-cards were mentioned by the museum director of Museum Midtjylland, who explained about their own smartphone application, Digitale Tråde, and the issue of foreigners' access to the Internet (Møbjerg, interview, 17th of March, 2016). However, the foreigners' challenges of having no Internet should not stop the development of communicating the WHS through a gamified experience design on the tourists' smartphones (Møbjerg, interview, 17th of March, 2016). The UNESCO WHS of Stevns Klint has for example gamification implemented to communicate their history, and this gamified experience design is only available in Danish (Østlyllands Museum, 2012). See below for a visual presentation:

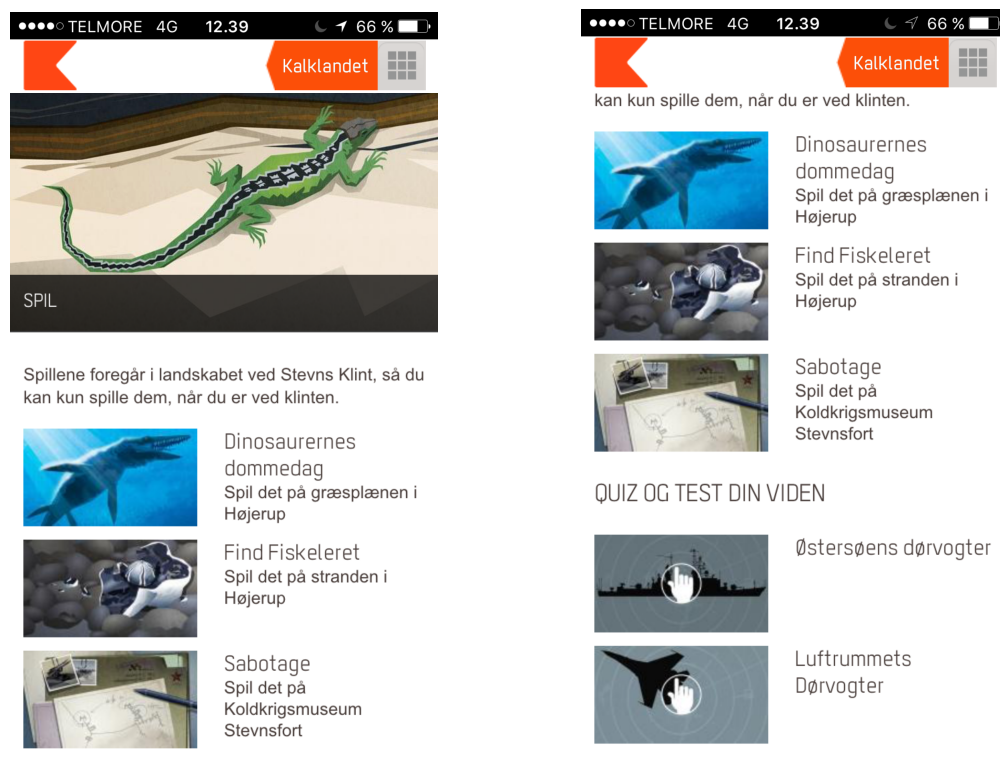


Figure 6: Visualization of gamification within the app, Kalklandet – Stevns Klint. Source: Østjyllands Museum (2012)

Therefore, the absent Internet connection of the foreigners' smartphones should not be a barrier for further development and implementation of gamification.

The sitemanager desires a visitor centre; either constructed or reconstructed in old buildings, where rooms had digital interpretation installed incl. sound, light, movies, pictures, games etc. (Mortensen, 18th of March, 2016). Since a visitor centre should not pollute the natural scenario, he signified that the visitor centre could be build underground such as the Maritime Museum of Denmark in Elsinore (Maritime Museum of Denmark, n.d.). The idea is good but it might be too expensive to construct a visitor centre (i.e. a new one) and to big of a hassle to build it, either on ground or underground, in the WHS, which would disturb the peace of the fauna; a part of the natural setting. Furthermore, a visitor centre is, in my opinion, old-fashioned; just as billboards and signage. Here, gamification can come in handy, since it does not disturb, damage or pollute the natural setting. As the museum director of Museum Midtjylland states: *"It is easier to take the museum with you to the locations, than to take the locations with you inside the museum"* (Møbjerg, interview, 17th of March, 2016). Additionally, JD is about to be a protected area, as mentioned under the section 'Conservation & Protection – A Non-Consumptive Approach'. This may complicate the development of interpretation techniques inside the WHS even more, since more rules and regulations will apply within the area, thereby limiting the sitemanager's assignments concerning the interpretational aspects of communicating the OUV.

5.2 Interpretation – Narratives and Intangible Outstanding Universal Value

In the section of 'Status Quo' I can see that a goal is that there should be many levels of interpretation with location specific information (Baagøe, interview, 20th of April, 2016). Such levels can be empowered through gamification, since the gamified experience can have a starting point and then function as a narrative; building up the narrative along the process within the game. Developing interpretational levels in a physical form may be very difficult, since tourists then would have to remember, what was interpreted (e.g. on a

billboard they passed by previously) when arriving at a new billboard. The tourists could take pictures of the billboards, but that would not be user-friendly. Within mediatized digital interpretation on the tourist's smartphone, however, the tourists have easier access to all the information he/she needs. Within gamification the levels of interpretation can be communicated in a narratively way. Narratives should then be connected by points of interest, building up the complete narrative throughout the tourists' visits. Also, the gamified experience design (i.e. gamification) empowers the tourist to choose the depth of the communications themselves. If they do not have enough time or simply have enough of the experience, they can skip points as they choose, where the narrative still will be of a desirable content; only missing out some narratives, which does not break the complete narrative. The complete narrative could in JD comprise of the history and implementation of par force hunting, since the park was the first designed par force hunting landscape of the WHS, international relationships, society, infrastructure and the animals. All of these storytelling components comprise a complete narrative of JD. Here I can also relate to the base narrative, which is under construction. The base narrative, which comprises of the interpretation of the par force hunting and the monarch's power, the history of JD and the monarch's influence (Mortensen, e-mail, 20th of April, 2016), can form a minor amount of spots leaving the tourist, who is in a hurry, to get the base knowledge/narrative through a certain route. Thereby, a base narrative can give the busy tourist an understanding of the OUV of the site, while tourists with more time can get the complete narrative.

5.3 Technological innovations in a natural setting

As pointed out in the section, Attitudes Towards Technologically Augmented Interpretation in Nature, the digitalization of interpretations should not be overwhelming. It should be user-friendly and give a relation between communicator and tourist, which I highly believe a gamified experience design (i.e. gamification) does. Since the beacons are not very visible and the tourist can choose to or not to use his/her smartphone the gamified experience communicated through TIs is not overwhelming. It is also user-friendly, since

the tourists, who have smartphone, already are used to their own device. A relation between communicator and tourist is a little trickier. I would claim that going through a gamified experience developed by the stakeholders, while at the end receiving a reward personally would strengthen the bond between the two. Furthermore, videos at the spots could entitle Nature Agency councilors, steering committee members, historians, the sitemanager etc. lecturing shortly about the point of interest, where the tourists then have a minor guided tour without the guide being there, since such a supply for all tourists would be costly. Stakeholders have also appointed that tourists should not be attached to a screen all the time, when being in the WHS. This is not the case with points of interest. At these spots the tourist will, engage, listen, learn and play (i.e. going through the SEMs (Schmitt, 1999)), but between the spots they will enjoy the natural setting. Also, visualizations within the gamified experience can make the narratives more clear, enhancing the tourists' interpretations of OUV of the WHS. Both reenactment and a living narrative have been pointed out by stakeholders, which can be visualized through smartphones and their technological advances. Additionally, gamification is in their nomination document for the enlisting on the WHL (Baagøe et al., 2014).

As an example I would like to point out the application of Swarm. When using the application customers, consumers, tourists etc. check in at a certain business, institution or organization when visiting. When doing so they receive virtual coins, which cannot be used, but are functioning as a point-system ranking the e.g. costumer/visitor on a leaderboard. At the page of the place visited the e.g. customer can view reviews, tips, hints and pictures written or taken by other customers. Writing reviews etc. or taking a picture, while visiting a place gives additional virtual coins on top of the check-in reward. If visiting a place continuously (can only check in at each place one time within 24 hours) the customer can become 'mayor' of the place (Detlefsen, interview, 18th of April, 2016), which only can be obtained by visiting the place more times than the previous 'mayor'. Swarm is a part of Foursquare, another app, which collect all your data from Swarm and comes with recommendations to what the customer is nearby (Foursquare Labs Inc., 2016a;

Foursquare Labs Inc, 2016b). Thereby, stakeholders engage with their customers without even talking to them. The point system (i.e. 'accomplishment'), the 'social influence' (i.e. sharing their views) and the 'ownership' drive (i.e. the mayor (avatar) game mechanic) is enough for people reviewing, rating and even market the stakeholder within their network. Visualisations of the app, Swarm, can be viewed below in figure 6:

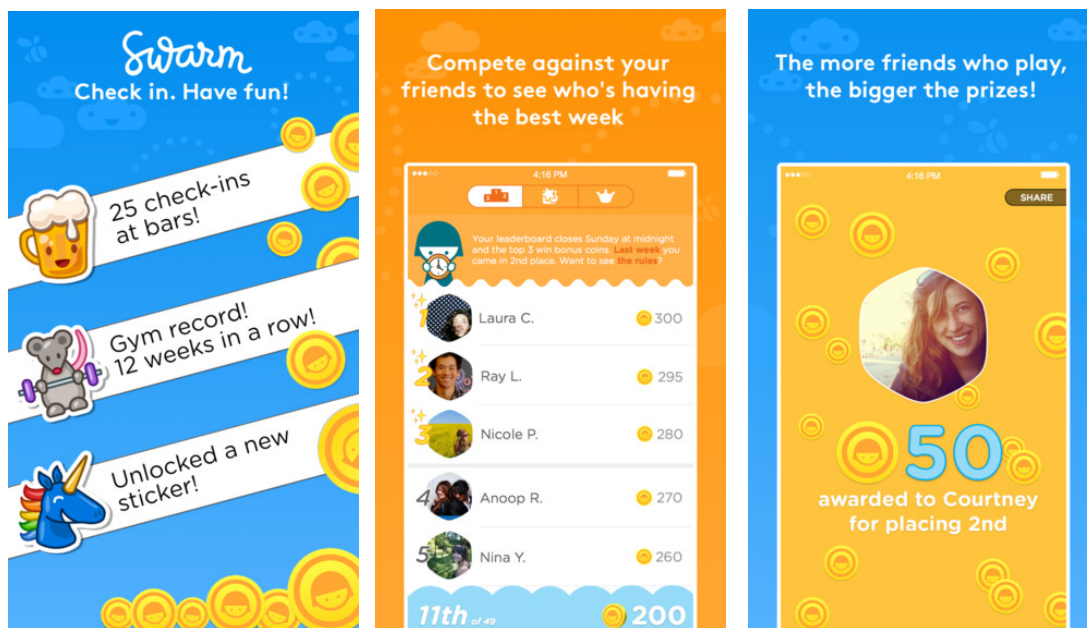


Figure 6: Visualizations of the app, Swarm. Source: Apple Inc. (2016)

5.4 Synergy – Connecting Divided Narratives

As mentioned in the analysis there needs to be a synergy between the park and the two forests. The game and the gamified experience could be divided into three parts, where each park or forests has its own narrative. Store Dyrehave and Gribskov have a more geometrical path pattern, where JD has the living resource; fauna (i.e. the deers, where JH now is a scientifically driven forest (Voss, interview, 15th of April, 2016)). The game on the spots in the park and the two forests should somehow have an interconnected narrative but still be independent considering the different characteristics and the tourists, who may not

have enough time to experience everything. The same narrative should not be present at all three places. Here, JD has the historical and natural values, which can be communicated, since the park was the first designed par force hunting landscape out of the three places, which consists of the WHS. In the section of 'The Complete Narrative – Content Requirements' specific points of interest were pointed out by the stakeholders. These were not settled and can therefore be subject to change. Nevertheless, I must keep to the data. The gamified experience should in JD communicate the OUV of the WHS at the entrances, the Hermitage, Rundforbi, Kørom and Skodsborg Station, the spot where the king got injured during a hunt and at some walking routes. The spots should not be at the feeding grounds. What is difficult here are the walking routes. Sure, tourists will walk, when going to the different spots, but the member of the steering committee acknowledges certain routes in JH (Voss, interview, 15th of April, 2016). The routes will be neglected, since there already is a lot of walking but nevertheless, there is still Kørom and Rundforbi as spots in JH. All of these spots should communicate the narratives of JD and JH, while still being connected to the other forests. This is indeed possible, but I do not have the necessary knowledge history studies to advise in such a context. However, I can refer to the example on The Danish Castle Centre in Vordingborg. In collaboration with the VFX Ghost the Danish Castle Centre has developed a virtual game, where children and adults alike walk around in the castle's area with an iPad shooting monsters, which are inspired by fabled historical animals and creatures (Museum Sydøstdanmark, n.d.). A question lies within how educational such an interpretation may be. Nevertheless, it gives a clue of how visuals, TIs and interpretation can interact to communicate a certain message.

Instead, I can assure the stakeholders that the true narrative and facts should be correctly interpreted (Ooi, interview, 25th of April, 2016; Bohlin & Brandt, 2014), where gamification have the advantage, together with the beacons mentioned earlier, to visualize the storytelling (Aagård, interview, 11th of March, 2016; Blichfeldt, interview, 14th of April, 2016) on the given spot and have a sense of play (Sigala, 2015). TIs (Kaae, 2010) will here come to their full right and enhance the interpretation to the tourists (Priestnall et al., 2009;

Xu et al., 2015). The stakeholders do not need to worry about staged authenticity, since tourists have different ideas of authenticity (Ooi, interview, 25th of April, 2016). They should just be aware that the material communicated is accurate and correct. The stakeholders should make it clear on their homepage and through marketing objectives, what the OUV of the WHS is about, so the tourists have a clear idea, what they are about to experience prior to their arrival. In that way the stakeholders are making sure that the tourists have the correct preconceptions (Ooi, interview, 25th of April, 2016) of the site.

5.5 How to create an engaging gamified experience design

Within the literature review regarding gamification design, I saw that game drivers (i.e. motivational affordances) were comprised of extrinsic and intrinsic motivations (Zichermann & Cunnigham, 2011; Negrusa et al., 2015; Xu et al., 2015; Sigala, 2015), which are supposed to direct and, at some level, control the tourist to experience certain interpretations of the WHS. The associate professor at AAU CPH explains about extrinsic motivations:

“(...) it [his PhD] divides these goals and objectives, as you call them, up in extrinsic objectives and intrinsic objectives, and that has of course much to do with external and internal motivation [extrinsic and intrinsic motivation]. So, what you can do in a game is to start with building up a row of external motivations, which is something, where the game tells you to do this and that.” (Fog, interview 20th of April, 2016)

So, what the associate professor at AAU CPH is saying is that the gamified experience should start with extrinsic motivations. He later signifies though that extrinsic motivations should go over to intrinsic motivations as soon as possible, since extrinsic motivations quickly can overrule the gamified experience, where the game only will be about getting a reward and not encompassing the joyful and playful aspect, which is within intrinsic motivations (Fog, interview, 20th of April, 2016). This can be connected to

Zichermann & Cunningham (2011), where he differentiates between external and internal motivations: Extrinsic motivations is driven by the world around us, while intrinsic motivations are driven by the players own self (Zichermann & Cunningham, 2011; Sigala, 2015). The co-founder at Kigop acknowledges the quote by the associate professor at AAU CPH stating:

“But it is here that extrinsic motivation has it to totally destroy intrinsic (i.e. internal) motivation, or completely remove internal motivation. (...) Well, internal [intrinsic] motivation has difficulties surviving, if it is in the meantime exposed to external motivation.” (Detlefsen, interview, 18th of April, 2016)

The co-founder at Kigop here signifies that extrinsic motivations cannot exist alone in a gamified experience, just as the associate professor at AAU CPH stated (Fog, interview, 20th of April, 2016), since the game will be played purely because of rewards. The co-founder at Kigop’s quote empowers the example of Zichermann & Cunningham (2011), where the girl stops playing piano, when she fails in a competition. The co-founder at Kigop explains though that there should be a balance: *“So, you need to use a bit of everything, and it is important within gamification, that you have somewhat of a balance between the light and the dark side”* (Detlefsen, interview, 18th of April, 2016). What the co-founder at Kigop refers to here is that both extrinsic and intrinsic motivations should be used balancing each other; just as Sigala (2015) states. This is also supported by the lecturer at CBS, but in a slightly different manner:

“The question is, if this gamification is feeling forced or if it feels kind of self-motivating, if you can say so, or self-controlling. Here you can say, that it likely is a balance in the sense that every game requires some kind of prompt or requires some kind of contact with the player considering that now you are entering some kind of gamified activity.” (Bødker, interview, 20th of April, 2016)

The balance between forced and self-control together with the prompt can be connected to the balance between extrinsic and intrinsic motivation (Sigala, 2015), where the extrinsic is forced, with some kind of reward or punishment, and where the intrinsic, a feel good activity, is self-controlled. The prompt, which the lecturer at CBS refers to, is simply the extrinsic motivational trigger. The co-founder at Kigop states:

“Well, it is that the punishment or reward comes from outside [external/extrinsic]. And then the inner [internal/intrinsic] that is, when you feel good with yourself because you are doing something, which is just good to do, like for example, that you want to take a swin. That is just because it’s nice.” (Detlefsen, interview, 18th of April, 2016)

What is really interesting here is that the intrinsic/internal motivation can be seen as self-controlled if the gamified experience is designed correctly (Bødker, interview, 20th of April, 2016; Detlefsen, interview, 18th of April, 2016; Fog, interview, 20th of April, 2016). Self-controlled is self-direction (Boswijk et al., 2007), which was explained in the literature review under the section of ‘The Experience Economy – Volume I, II and III’. This is here I want to head at: To develop a gamified experience, which starts with extrinsic motivations and thereby go over to intrinsic motivations, where the tourist is so immersed in the gamified experience design (i.e. the gamification), that they keep on gaming (and learning about the WHS) by themselves. For a profound construct of a smartphone app I need to look at the game mechanics below.

5.5.1 Mechanics within game design

The co-founder at Kigop refers to the Octalysis framework by Chou (2016), which was shown in the literature review (Detlefsen, interview, 18th of April, 2016) under the section of ‘Game Elements/Mechanics’. When brainstorming on the case and how these game mechanics can be used, the co-founder at Kigop noted:

“Yes, it could be ‘unpredictability’; this thing that you never know, when you get a hold of this prey, which you hunt. But there is also some ‘accomplishment’; this when you arrive at the different posts, and in at some time caught your prey. And along the way you get information about or you learn about what par force hunting was, and what it meant, and about the king, at that time, where he got it from. You can even develop these persons as characters in the experience.” (Detlefsen, interview, 18th of April, 2016)

The co-founder at Kigop here comes up with some core drives, which can be used to construct the gamified experience design to communicate the OUV of the WHS. ‘Unpredictability’ can be used for the points of interests. There will be no information to the tourists, what will be communicated and how the interpretation will process at the spots. The unpredictability should heighten the tourists’ curiosities (i.e. intrinsic motivations) and make them move towards the points of interest. The ‘accomplishment’ core can be implemented, so the tourist gets a certain amount of points, when arriving at the points of interest. At the end when arriving at e.g. the visitor centre or a tourist bureau, they present their collected points and get a reward accordingly. A stag’s anglers (e.g. made of plastic) could be the top prize (visited all the points of interest), a minor teddy stag could be the second prize (visited a moderate amount of points of interest) and a diploma (visiting one point of interest) could be the third prize all depending of how many spots visited and points collected. The largest prize will get all three, second prize will get the teddy and the diploma and so forth. Here, the tourists get tangible rewards instead of digital/visual empty rewards (Fog, interview, 20th of April, 2016) like e.g. digital badges or diplomas. The reward should then correspond to how many spots they have visited, material downloaded (through the beacons) to learn about the OUV of the site. In this way, gamification (i.e. the gamified experience design) can help the tourists to understand the intangible aspect of the site through videos, visualizations, puzzle games, quiz games etc., since the stakeholders have difficulties finding a solution to how the OUV of the WHS should be communicated.

Gamification can thereby help communicating the OUV of the site through extrinsic and intrinsic motivations. The reward-system is driven by extrinsic motivations, which is triggered in the background, when arriving at a spot. What is also interesting here, is that the co-founder of Kigop refers to making the narrative a living one, by incorporating the historical characters; as he later refers to can be chosen as an avatar or a main character picked by the player to control (i.e. a role-playing game) (Detlefsen, 18th of April, 2016). This is also acknowledged by the associate professor at AAU CPH: "(...) *you know, you can make a role-playing game and say: "Now you're the king" and "Now you're the architect" and "Now you're the hunter" (...)*" (Fog, interview, 20th of April, 2016). I here see a tendency that the game mechanic, avatar, under the core drive of 'ownership' (Chou, 2016) can be used within a role-playing approach (Detlefsen, interview, 18th of April, 2016). The extrinsic motivation could be the core drives of 'ownership' and 'meaning' (Chou, 2016). In practice the tourists will, when installing and opening their app at the site, be presented to the narrative mechanic under the core drive of 'meaning' after some minor instructions. The tourist needs then to accept that the app turns on their Bluetooth-function. Here, they will also get informed that by playing the game, they will get the best interpretation of the OUV of the WHS (which can be seen as a reward (i.e. extrinsic motivator)). Likewise, the core drive 'meaning' can also be seen as a driver to intrinsic motivations, starting an inner desire of the tourists to experience the narratives. Additionally, this core drive supports Boswijk et al.'s (2007) meaningful experiences. The core drive 'Meaning' will give the tourist "*a different outlook on the world and or himself*" (Boswijk et al., 2007). Next, after confirming their participation, they choose a character as their avatar, where the core drive of 'ownership' comes in. When choosing their avatar, which could be e.g. the monarch, the stag, the architect, the jack or a hunting dog, they are engaging in the narrative of the WHS. There may be no difference in the communicated material because of the choice of the avatar. This would be too comprehensive and costly to develop. Instead, the tourists feel ownership without knowing that there is no difference. Furthermore, mechanics for the core of 'social influence', where the player is sharing his/hers experiences, can empower the feeling of presence (Detlefsen, interview, 18th of April, 2016), which gamification may

diminish. The associate professor at AAU CPH, however, states that presence is not of an issue, since you are in the nature, and are using your senses (Fog, interview, 20th of April, 2016); which can be connected to Schmitt's (1999) five SEMs. The co-founder at Kigop also signifies the importance of 'social influence' when the context is hunting: to show friends and relatives your trophy (i.e. the prey, a badge, diploma, etc.). Through the whole process/the gamified experience the tourists should have the opportunity to share their progress and their route on social networks to compensate for the large extrinsic motivation derived from the core drive 'Accomplishment'.

The co-founder of Kigop additionally signifies the importance of 'empowerment': that the tourist (i.e. the player) has choices to make of which paths to choose (Detlefsen, interview, 18th of April, 2016). Throughout the gamified experience design choices can be made by the tourist of which route they would like to take and in which order, they would like to visit the spots. What is important here is that all spots in the WHS should have their own narrative but still be interconnected to narratives at other spots making a synergy within the digital interpretation.

To sum up the above suggestion to construct of the gamified experience design, I have developed table 8 below:

Why?	Extrinsic /Intrinsic	Core drives	Game mechanics	How?
Directing the tourist throughout JD.	Extrinsic	Accomplishment	Points and physical reward	Obtained by the amount of spots reach, communication received and games played.

Implementing role playing mechanics and make the tourist interact in the gamified experience.	Extrinsic	Ownership	Avatar/Character selection	At the start of visit, when entering the app through the smartphone.
Communicating the OUV through education, fun and play.	Intrinsic	Unpredictability	Puzzle game, geometry game, videos, visual reenactments and digital tour guides.	When within the reach of a beacon on a location specific spot.
Spreading the experience, which can be gained within the WHS (branding).	Intrinsic	Social Influence	Sharing, bragging	Sharing progress and the gamified experience through social networks.
Not limiting/restricting the tourist. Empowering the tourist's free will developing a more enjoyable gamified experience.	Intrinsic	Empowerment	Having choices of routes and sequence of spots visiting.	A map within the app signifying where the beacons/spots are located, but now which type of interpretation technique is used.

Making the tourist engage in the gamified experience, communicating the OUV of the WHS through narratives. The tourist gets the greatest experience with the complete narrative. Also, the tourist gets a perception of the world and himself/herself (learning).	Intrinsic/ Extrinsic	Meaning	Narratives	It will be communicated that they will be giving the best communication by playing the game. Narratives are presented (not content), which should rise an inner desire of the tourist to experience the narratives.
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Table 8: Summary of suggested construct of the gamified experience design. Source: Thesis Author.

The stakeholders are worried about not fulfilling the expectations of the tourists. I believe though, through the above suggested gamified experience design (i.e. gamification), as an interpretational tool, incl. core drives and game mechanics, that the stakeholders can communicate the tourists the OUV of the WHS and greatly increase the tourists' satisfactions of the learning gain, since it will be both fun and challenging; an effective way to interpret the narrative through a smartphone application.

6. Conclusion

The purpose with this thesis has been to fill up the gap between nature-based tourism in a natural setting and gamification (i.e. gamified experience design). With the case study of the UNESCO World Heritage Site of the unique par force hunting landscape in North Sealand, more narrowly described as Jægersborg Dyrehave incl. Jægersborg Hegn, nature-based tourism and gamification has been united for the purpose of communicating the Outstanding Universal Value of the site. Through a case description the case study was laid out with case limitations. An extensive literature review started with the concept, nature-based tourism, following the technological augmented experience design incl. a review of the Experience Economy, Strategic Experiential Modules, technology and interpretation; following gamification as a new approach to interpretation with gamification drivers, -mechanics and -forms. The literature review resulted in the framework of Technological Augmented Gamified Experience Design (TAGED), which was used to structure and frame the theories, approaches and notions and signify their interconnectivity. The methodology comprised of an exploratory case-study research design incl. the outline of qualitative design and process, where semi-structured in-depth interviews were addressed as the best approach for data collection. The data collected resulted in an extensive analysis, where the game design context, incl. the themes of conservation & protection, rules & regulations together with interpretation, a way of communicating a cultural World Heritage Site in a natural setting, were addressed. Here, the status quo and difficulties concerning the stakeholders' communication of the Outstanding Universal Value of the World Heritage Site were addressed together with the stakeholders' attitudes towards the technological augmented interpretation in a natural setting. Additionally, the complete narrative, where content requirements incl. synergy and narrative design suggestions, was addressed. Research question no. 1 (i.e. what should a mobile application prototype contain and interpret to the visitors?) was answered within the analysis. The discussion took departure in the analysis. Here, game design possibilities for communicating the unique par force

hunting landscape of Jægersborg Dyrehave incl. Jægersborg Hegn were discussed on the basis of the analysis; that is the game design context. In the discussion I facilitated the non-consumptive use of the natural setting with assessing the technological options and barriers within the game design context. Furthermore, the interpretation of narratives and the intangible Outstanding Universal Value of the site were discussed, where spots and narratives of different levels were reflected upon. The discussion of technological innovations in a natural setting followed. Here, beacons were addressed and assessed on the basis of the stakeholders attitudes towards technological innovations in nature. A discussion followed were a synergy of narratives within the World Heritage Site (i.e. the royal hunting park, Jægersborg Dyrehave incl. Jægersborg Hegn and the forests Store Dyrehave and Gribskov) was discussed, where it was suggested that divided narratives should be communicated individually but be interconnected to comprise of a complete narrative. Lastly, the overall solution on how to construct an engaging gamified experience design via a smartphone application was suggested incl. the use of game core drives and game mechanics. Here, the research question no. 2 (i.e. how should the prototype's gamified experience design be constructed?) was answered. By answering the research question no. 1 in the analysis and research question no. 2 in the discussion, I have hereby through this thesis answered the problem formulation.

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