AALBORG UNIVERSITY
STUDENT REPORT

MASTER THESIS

ENHANCING COMMUNICATION IN A SHARING ECONOMY BASED COMMUNITY

Kitchen Collective

PROCESS REPORT

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Abstract:

In collaboration with Kitchen Collective (KC), this project focuses on one of the core issues that KC experiences: lack of cleanness. Cleaness is especially an important factor within the food industry and it is therefore important to improve as the possibility of a vicious circle which will influence more than needed exists. The problem statement for this project is thus:

"*How is it possible to create a digital communication system that is able to catch problems at an early stage before the problem gets bigger?*"

To solve the problem an analysis of the current communication between kitcheneurs and KC was conducted. Additionally, was different communication methods investigated with the purpose of finding the best solution for the actors.

The findings showed that KC spend a lot of resources on receiving the claims and getting an overview while KC needs easier access to communication. This resulted in a proposed communication platform that helps KC collecting all the claims at one place while at the same time getting an overview of the content through visual statistical representations, whereas the communication platform seen from the kitcheneurs perspective will make it easier to claim, give feedback or communicate with KC.

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CHAPTER

1

Motivation

8 Motivation

This semester's project will be a continuation of last semester's project, continuing the collaboration with Kitchen Collective (KC).

KC is a kitchen rental business offering the possibility to rent an approved industrial kitchen on an hourly basis for smaller companies, startups or individuals within the food industry. According to the Danish law a kitchen has to be approved by the Danish Veterinary and Food Administration in order to be allowed to produce food to sell.

Kitchen Collective runs on the principle of sharing economy where the expenses of the kitchen is divided among those who use the service. The fee includes everything from the facilities to water, electricity etc. and the user will only have to pay one single known fee for the rental/usage of the kitchen. This lowers the barrier of entry, allowing prospective users also called kitcheneurs to take a chance and start their businesses with less risk associated compared to more traditional rental models. Taking part in the service allows the kitcheneurs to save the cost of investing in a kitchen that might not be used 24/7. Additionally they will not have to worry about unexpected maintenance fees which can be both costly and unpredictable.

During the previous semesters collaboration with KC several areas with room for improvement were discovered. Through a survey and interviews three main problems stood out: lack of cleanness, lack of online grocery shopping and delivery, and difficulties in estimating time when booking the kitchen, which were developed into initial three concepts. Out of these concepts it was decided to focus on the problem of cleanness as the problem is a general problem within the rental industry and the idea was found interesting by Kitchen Collective as well. Furthermore it can be said that cleanness is a big problem if not the biggest among the three concepts, especially in a service like Kitchen Collective where the users deal with ingredients and food and the inherent risk of food poisoning and other severe consequences. Food poisoning would not only result in people getting sick but also a very bad customer experience which would end with bad reputation, loss of customers, revenue and perhaps even legal repercussions.

In Figure 1 on page 9 a customer journey illustrates the kitcheneurs current experience with the service. It explains what and where in the process there are flaws and pains that have to be improved in order to give the kitcheneurs a good customer experience.

The findings from last semester indicated that the problem regarding cleanness is that people perceive "clean" differently and that it was difficult to communicate about the topic among the users as well as Kitchen Collective and establish a common ground. Not only is it a communication problem but the risk of a vicious circle is high, as it might happen that if one user does not clean the kitchen, neither will others. In this case it will end with more unsatisfied users which will result in a bad service experience. To prevent or at least reduce the risk of this happening it is important to catch the problem at an early stage (see Figure 2 on page 9).

This requires:
1) It has to be easy to communicate and inform about problems before they become bigger problems.

2) If it is difficult and inconvenient to communicate and inform about a problem it increases the risk of the problem growing unnecessarily big before someone even bothers to complain by e.g. writing an email or calling KC. Thus more users get affected by the problem and receives a bad experience before the problem is registered by KC and handled.

The focus of this project will be hereby be based on knowledge collected from last semester regarding cleanness. The problem statement of this project can hence be formulated as seen on page 8.

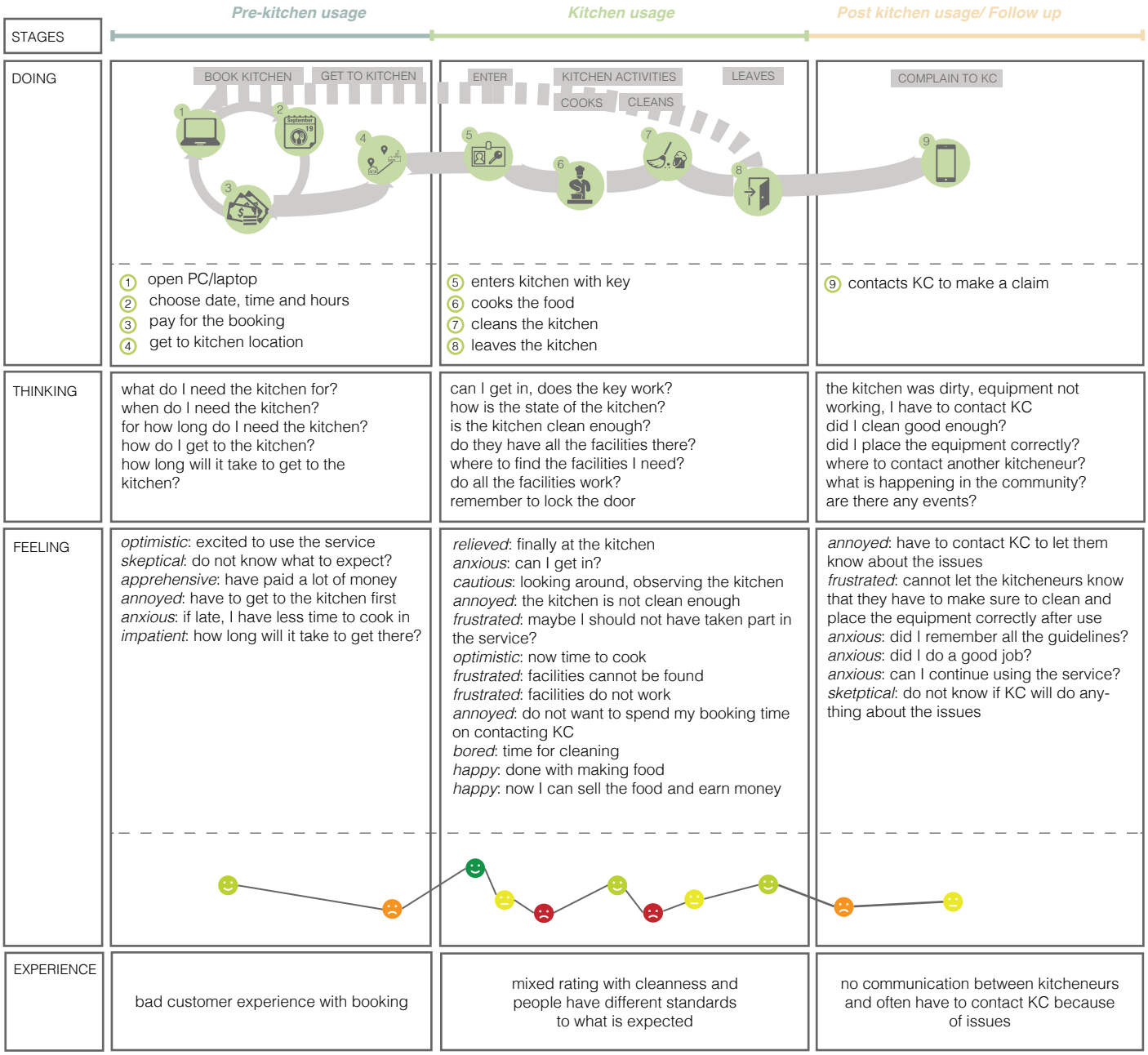


Figure 1: Customer Journey which shows the customer experience of Kitchen Collective.

Figure 2: The process of identifying the problem of cleanness.

Problem statement:

> *How is it possible to create a digital communication system that is able to catch problems at an early stage before the problem gets bigger?*

CHAPTER

2

methods

12 Methods

This section describes the methods and design approaches used for the project including service design, human centered design, the double diamond design process, prototyping, usability testing and business.

Service design

New services keeps being developed and in order for old services to be able to compete with these new services, better customer experience has to be provided. Service design does not only focus on the customer but views the problem holistically and includes the perspectives of all the various actors that services often rely on in the design process. It can be said that a service designer is the mediator between the actors involved ensuring that all parties are heard.

Service design is an interdisplinary approach which has adopted tools and methods from different fields "[23]". There is no common definition of what exactly service design is as it is still an evolving field but several people has given their definition of what service design is e.g. The Copenhagen Institute of Interaction Design and Frontier Service Design "[23]" :

> "*This cross-disciplinary practice combines numerous skills in design, management and process engineering. Services have existed and have been organised in various forms since time immemorial. However, consciously designed services that incorporate new business models are empathetic to user needs and attept to create new socio-economic value in society. Service design is essential in a knowledge driven economy*" (CIID)

> "*Service design is a holistic wat for business to gain a comprehensive, empathic understanding of customer needs.*" (Frontier Service Design)

Mark Stickdorn "[23]" outlines 5 principles of service design thinking:

1. User-centered. Services should be experienced through the customer's eyes.
2. Co-creative. All stakeholders should be included in the service design process.
3. Sequencing. The service should be visualised as a sequence of interrelated actions.
4. Evidencing. Intangible services should be visualised in terms of physical artefacts.
5. Holistic. The entire environment of a service should be considered.

Where many products are characterized by a physical appearance, services are often intangible; services are in stead the result of the interaction between a service provider an a customer. It is therefore important for that interaction to fulfill the customers needs and expectations in order to satisfy the customer and create a good customer experience.

It is not only the direct interaction between the service provider and the customer that results in a bad or good customer experience: services are often characterized by having a back-stage, where all the processes and transactions happen that are invisible to the customer, but nescessary for the end result. It is a sequence of interrelated actions between different actors that have to be orchestrated in an optimal and steady rhythm in order to provide a desirable service experience for the end user. Services happen over a certain time of period and in this period it is important that the interaction with the service does not trigger any form of frustration, nuisance or bad feelings towards the service, which could e.g. happen if the interaction with the service is too slow or too complicated.
Furthermore are physical artifacts are often used in order to make a service more tangible. The intention of making a service more intangible is often to have the customers look back and recall a hopefully good service experience, which could be done by e.g. attaching the service experience to a particular physical artifact.

There is no specific procedure of how to design services but it is often described as an iterative process that consists of four steps: exploration, creation, reflection and implementation.

Double diamond

In this project the double diamond approach was used.

The Double Diamond model was developed by the Design Council (UK), to illustrate that while designers have different approaches and ways of working in different design specialisms, they also have many processes in common “[24]”. The Double Diamond is divived into four distinct phases: Discover, Define, Develop and Deliver, alternating between diverging processes, where the thinking and possibilites are as broad as possible, and converging processes where the thinking is deliberately narrowed down towards specific objectives (see Figure 3 on page 13).

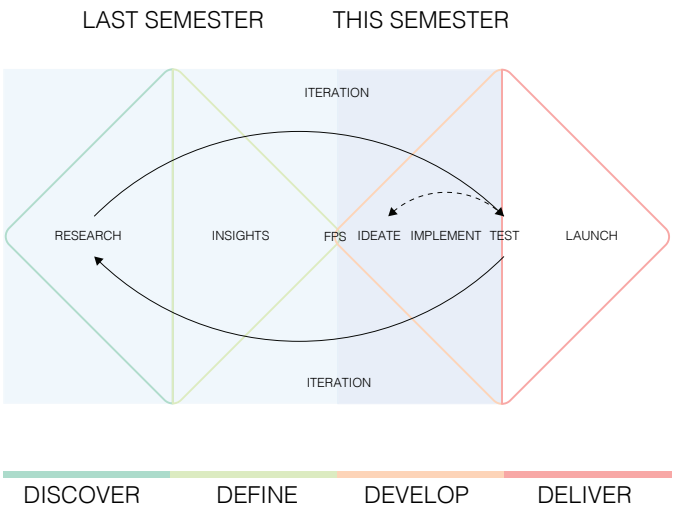


Figure 3:The double diamond approach.

1. Discover
The first part of the process is about discovery, namely gathering insights, inspiration and identifying user needs.

2. Define
In this part of the design process, the designers will try to make sense of all the discoveries from the first phase. The goal is to end up with a clear creative brief, that frames the design challenge to the organisation.

3. Develop
In this phase solutions are created, prototyped, tested an iterated, in order to improve and refine the ideas generated in the previous section. This step often includes multidisciplinary working, development methods and testing.

4. Deliver
This is the final phase, where the service or product is finalised and launched. Key objectives and activities include final testing, approval, lauch and continued evaluation and feedback loops.

As mentioned earlier, this project is based on work performed in the previous semester, where the discover and define phase were completed.
In the ***discover*** phase, insights were gathered in order to identify more specifically which areas could be improved in KC’s existing service offering. Methods included user research, including both KC’s customers, but also the needs of KC themselves. The phase futhermore included market research, identifying similar offerings in the culinary market. It was furthermore discovered by contacting other kitchen rental services abroad, that users not showing a responsibilty to clean the kitchen properly is a problem in many services.
In the ***define*** phase the insights from the previous phase were condensed into three design briefs: (1) a report/rating system, (2) an ingredients and delivery service, and finally (3) helping kitcheneurs estimate time needed when booking the kitchen.
Through dialog with KC, it was decided to focus on concept (1), which since served as the creative brief for the further process.

This thesis thus picks up where we left, namely with the design brief of creating a report/rating system with the objective of encouraging the kitcheneurs to clean the kitchen and ease the communication in order to ensure that problems with cleanness is reported and discovered as early in the process as possible. The work presented in this thesis will therefore mainly focus on the **develop** phase of the Double Diamond approach, iterating towards the final **deliver** phase.

Within this iterative process various service design tools are applied:

- **Customer Journeys** have been used to get an overview of the customers current customer experience and identify places with room for improvement (see “Motivation” on page 6).

- **Personas** have been used to get an overview of the different actors who are going to use the new communication system are and identify their pains and goals. This way their differences are taken into account when developing the new communication system (see “Persona 1”, “Persona 2”, “Persona 3” on page 45).

- **Scenarios** were used to illustrate how the new communication system is going to solve the personas pains and help them achieve their goals and improve the overall service experience (see “Scenarios” on page 49).

- The **Service Blueprint** was used to explain the different actors involved in the process and how they interplay with each other in order to provide the service (see “Service blueprint” on page 49).

- The **Motivation Matrix** was used to help understand what the different actors involved in the service add to the service, as well as what they get out of participating in the service (see “Motivation matrix” on page 24).

Human centered design

As the service moved towards encompassing an interactive system, with customers and service providers interacting through a digital communication platform, a few design methods and guidelines from interaction design also found its way into the process.

ISO 13407 Human-centered design processes for interactive systems

This standard provides guidance on human-centered design activites throughout the lifecycle of an interactive product, addressing planning and management of human-centered design, concering both hardware and software components “[26]”. While it does not cover specific design approaces in detail, and without being a specific Service Design process, the standard identifies four principles of human-centered design, which are relevant for the interaction design aspects which the service presented in this thesis encompasses, namely:

1. The interactive involvement of users and clear understanding of user and task requirements provides a valuable source of information in the design and development porocess.

2. The decision of the allocation of function between users and technology should not alone be a simple matter of allocating everything that is possible to the technology and leaving the rest for the human. Instead it should be based on several factors, including relative compentence of human and techology and not but not least the well-being of the user.

3. Design solutions should be developed in an iterative process.

4. The design team should be a multidisciplinary mix of different competences. This does not mean the team needs to be large, as one person may hold several designer roles.

The standard furthermore specifices four human-cenreted design activites as being central:

1. Understand and specify context of use.
2. Specify the user and organizational requirements.
3. Produce design solutions.
4. Evaluate the designs against the requirements.

These design principles and activities fit well with the principles of the Double Diamond approach, which e.g. includes users research in the discover process and encourages iterating through design solutions in the develop process, and finally approving the design in the deliver phase before launching it.

Prototyping

In some cases of user involvement the users do not know what they need or want but once e.g. a prototype is introduced it will be easier for the users users to tell what they like and dislike “[19]”. Prototypes are a powerful communication tool for the designer, developer

and potential users to reflect on not only the prototype itself but also the design and the idea behind "[19]". It is a tool that enables the potential users to interact with the envisioned product and experience using it as well as imagine what values it will give and a way for the designer to collect feedback for improvements "[19]".

Prototyping come in different forms, from non working paper prototypes (low-fidelity) to complex working software code (high-fidelity) "[19]". Low-fidelity prototypes are usually used early in a process while high-fidelity is used later in the process when a more committed concept has been build "[22]".

Low fidelity

Low-fidelity prototyping is used in the early phase in a project when wanting to explore ideas or designs rather than how well the user performs a task "[22]". It is cheap, fast and simple to produce as well as modify if needed "[19]" which makes it possible to explore multiple designs "[22]". Collecting feedback are sometimes not an easy task but low-fidelity prototypes may make the users feel more comfortable to give feedback and criticizing the design and idea as they can see that the progress is still in the exploration phase and therefore still can take feedback which requires modification "[22]".

A low-fidelity prototype is one that does not look like the final product "[19]". Examples include "[19]": storyboarding, sketching, index cards and Wizard of Oz.

High fidelity

High-fidelity prototyping is usually used late in a design process to sell the idea or for testing for technical flaws "[19]". It requires many resources and is thus more costly to develop. Marc Rettig argues that low-fidelity should be used more because of inherent problems with high-fidelity prototyping which he identifies as "[19]":

- They take too long to build
- Reviewers and testers tend to comment on superficial aspects rather than content
- Developers are reluctant to change something they have crafted for hours
- A software prototype can set expectations too high
- Just one bug in a high-fidelity prototype can bring the testing to a halt

Wireframes

One type of prototyping is the wireframe. A wireframe are used to quickly sketch out the layout, structure, navigation and functionalites of a product where the visual and technical details are decided later on in the process. It is used to get an idea of the "big picture" of how the different interface elements works together before going more in details.

Mock-Ups

Mock-ups can be said to be a step further up from wireframes. A mock-up focuses on the visuals in more details compared to wireframes. It gives a visual representation of the possible end product and includes decisions regarding color schemes, graphics, typography, style etc.

For this project the prototype is in-between wireframes and mockups as there are indications of what kind of style and typography the interfaces needs. It is low-fidelity prototype in terms of two static wireframes and a semi-working wireframe. These are created late in the process and has the purpose of acting as a catalyst to encourage people to share their thoughts about the concept and if the design is understandable and relatable. The wireframes and mockups will thus serve as props and conversation starters in informal usability tests and semi-structured interviews with users and service providers (KC) in the iterative design, test and evaluation steps in the develop phase of the Double Diamond approach.

Usability testing

In a usability test the potential users are performing real tasks by using the prototype "[22]". For this project an informal usability test "[22]" was conducted involving users who are testing the user interface and interaction flow of a proposed communication system. Furthermore

has it been used to find possible flaws that should be discussed and improved for better quality "[22]". As it is stated in Interaction Design "*we are not researching the user, we are researching the interface*" and it is important to remember that it is not about preferences but about discovering interface flaws that the majority of people find to be a problem "[22]". Key activities of this has been to give out tasks that the subjects had to perform followed by finding out what they feel about using the product and the whole concept "[21]" where time has been a measurement used to know how long it took for a subject to complete a task. If long then the interface might be too difficult to understand while if short it is likely easy "[21]".

Usability testing can include "[22]":

- Testing prototypes that have only been built on paper (known as paper prototypes)
- Testing prototypes that look complete but have a human behind the scenes responding (Wizard of Oz)
- Testing working versions of software before it is officially released
- Testing software that has already been implemented in existing systems

According to Interaction Design, usability testing is especially needed when developing hand-held devices as it contains stuffed content in a small screen size which makes it easier to perform a wrong activity "[22]".

So how many subject is needed for a usability test? Many people say five users is the magic number which is generally accepted in HCI "[22]". This is supported by Nielsen who states that a recommendation between three and five people is enough as they usually is able to identify approximately 75% of all usability problems "[20]".

Business aspect

The business perspecive played a central role in the project, as it was considered both how the service could integrate with Kitchen Collectives rapidly growing business, while still considering the possibility of designing the platform as a standalone service offering for other services as well, as has been seen with e.g. HappyOrNot.com, whose simple smiley service offer an easy way for business (especially retailers) to measure customer satisfaction.

Business Model

The concept of a business model is a good starting point for achieving a shared language when describing both new and existing business. Business models can be good for analyzing existing business, competitors or even for describing and developing new business ideas. Osterwalder, A. and Pigneur, Y. (2010) believes that a business model can be described through nine basic building blocks that show the logic of how a company intents to make money.

"*A business model describes the ratinale of how an organization creates, delivers and captures value*" (Osterwalder, A. & Pigneur, Y. 2010)

These nine blocks cover the four main areas of a business: customers, offer, infrastructure and financial viability. The nine building blocks are (Osterwalder, A. and Pigneur, Y. 2010):

Customer Segments
An organization serves one or several Customer Segments.

Value Propositions
It seeks to solve customer problems and satisfy customer needs with value propositions.

Channels
Value propositions are delivered to customers through communication, distribution and sales Channels.

Customer Relationships
Customer relationships are established and maintained with each Customer Segment.

Revenue Streams
Revenue streams result from value propositions sucessfully offered to customers.

Key Resources
Key resources are the assets required to offer and deliver the previously described elements...

Key Activities
... by performing a number of Key Activities

Key Partnerships
Some activites are outsourced and some resources are acquired outside the enterprise.

Cost Structure
The business model elements result in the cost structure.

Kitchen Collective target their offering at a specific customer segment, namely culinary entrepreneurs seeking an affordable certified kitchen which can be rented by the hour. KCs value proposition is thus based on the concept of sharing economy, where the high cost of establishing and owning a kitchen is split between the kitcheneurs lowering the barrier of entry. The key activities are focused on creating a ***collective*** of Kitcheneurs and facilitate networking between these and the setting is the kitchen at Aalborg University, which is one of the key resources required for KC to conduct their business. Other key activities include attracting and including new kitcheneurs in the collective, securing a steady revenue stream and keeping down the individual cost for the involved kitcheneurs according to the value proposition.

Communication and well-being of the members is central in a collective, and while this is to a large degree an “offline” problem, the world of digital could likely offer interesting opportunities for non-digital businesses. This can be a daunting journey into a new world for businesses who are not nescessarily digital at heart and whose value proposition or key activities does not nescessarily include digital offerings. This calls for outsourcing technical activities and could spell an opportunity for forming key partnerships or even new businness opportunities if the challenges of KC turn out to be general enough to form a business model around with potential enough for new revenue streams to appear.

In this thesis it has been decided to focus on investigating the hypothesis that better communication between KC and the kitcheneurs could help problems such as kitcheneurs not cleaning the kitchen properly. It will thus also be an aim in this thesis to look for business opportunities in the area of facilitating communication in collectives, rental services and the like, be it through a digital solution or not, but with focus on generating a general model that will not nescessarily only work in the context of Kitchen Collective, but one that would hopefully have potential for being applied to other businesses, being it kitchen rental services, mobile homes or car rental services. To begin with, the focus will though be on Kitchen Collective and the opportunities that may lie in improving their service, hopefully resulting in a strategic partnership in developing a new service helping communicating and reporting in small sharing economy or community based contexts.

CHAPTER

2

project process

Process

In Figure 4 on page 19 a flow chart of the expected process is shown. Beginning with a problem statement based on the findings from last semester followed by more specifc detailed research within the field of communication. This includes analysis of how communication currently works in Kitchen Collective through meetings with Kitchen Collective but also a state of the art research to get knowledge about different communication methods and the pros and cons of each. Furthermore will it be looked into how it is possible to get people to use a new technology through the adaption theory TAM2.

Based on the research a concept will be developed and requirements will be set for the implementation. The implementation will consist of two phases: 1) a wireframe and 2) semi functional prototype. For both implementations a test will be conducted to help answering the problem statement.

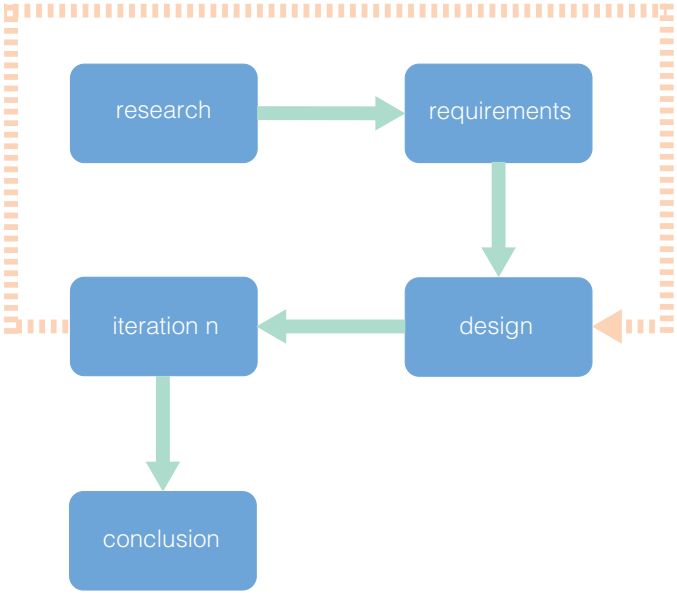


Figure 4: The phases of the project.

Schedule

To be able to achieve the desired result, a schedule of the different steps in the process has been created to get an overview of the deadlines in order to reach the goals (see Figure 5 on page 19).

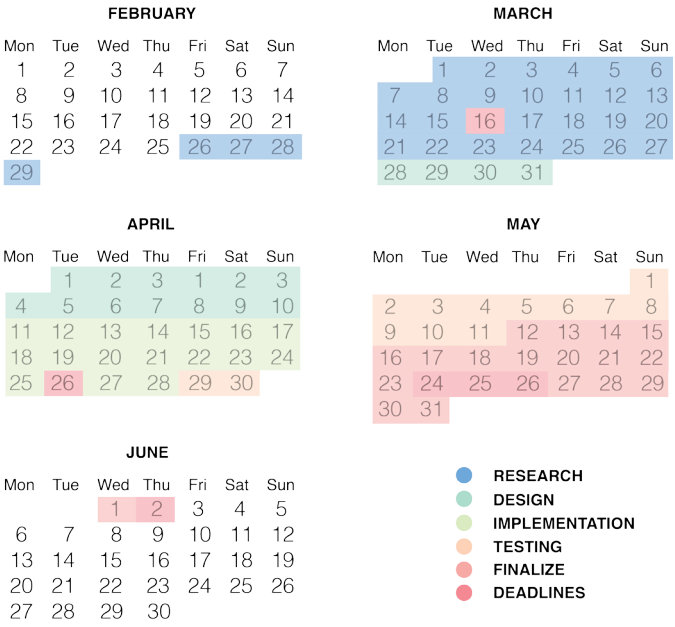


Figure 5:The schedule of the project.

CHAPTER

4

description of the present system

Who are Kitchen Collective?

The culinary variety in Denmark is limited due to high start up costs such as investing in a professional industrial kitchen and all the facilities needed, making it difficult for smaller niche culinary entrepreneurs to try out ideas and produce food on a smaller scale. Furthermore is it needed for the Danish Veterinary and Food Administration to certify the kitchen in order to be able to sell the food which is cooked in the kitchen. As a solution Kitchen Collective uses the strategy of sharing economy where users share a kitchen and divide the expenses between the users. This will enable more users such as chefs, food photographs, street food vendors, entrepreneurs selling specific products and caterers to have the finance to produce food.

Kitchen Collective consists of the two founders of Kitchen Collective Mia Maja Hansson and Marie Vedel and additional newly hired third collegue, Rasmus. Mia Maja has experience within the “restaurant business“ and dealt with marketing and partnership where Marie has a background as a cook and is known within the food industry. Kitchen Collective was launched January 2015 and has one single kitchen which is placed at Aalborg University Copenhagen but they are expecting to expand within the next few years to more kitchens in Copenhagen as the demand is high. Because the service is new their and revenue is limited, Kitchen Collective tries as much as possible to reduce the expenses by reducing the involvement of external actors; external actors, such as repair services, are only involved if KC are unable to solve the problems by themselves (see Figure 6 on page 21). Taking care of the tasks themselves requires a lot of resources as it involves everything from cleaning the kitchen to solve technical problems as well as being the contact persons for general feedback or networking. Furthermore they have other tasks such as admistrating the bookings which they currently do manually and create events and workshops together with external partners, Integrated Food Studies (IFS) students and their customers.
When problems occur in the weekend, calls will be received but they will not be able to solve the problems before monday.

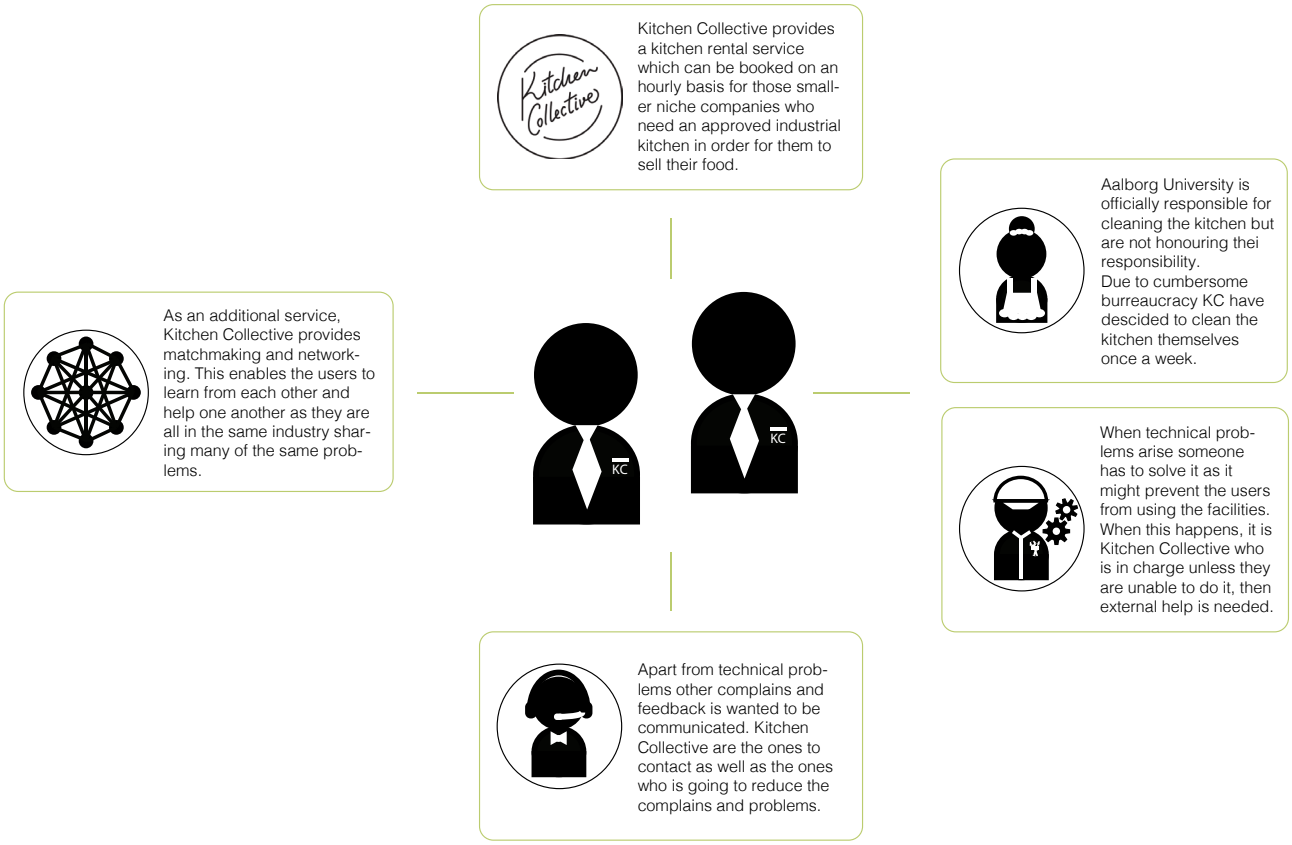


Figure 6:The functions Kitchcen Collective have in the service

Value proposition

What enables Kitchen Collective to be able to attract customers and being the preferred choice over other similar kitchen rental services is their value proposition, namely the values they give their customers which differ from their competitors (see Figure 7 on page 22).

Comparing these values with other similar services in Denmark shows that they have several values in common in regards to the rental concept, namely that the users can rent a kitchen at a low cost, but what differentiates KC from their competitors is that KC targets culinary entrepreneurs rather than private consumers. What differs culinary entrepreneurs from private consumers is that they run a business where they sell their food which according to Danish law requires a kitchen certified by the Danish Veterinary Food Administration which is exactly what KC provides. Furthermore the kitchen is located in Copenhagen, making it easy for those who sell street food to get to and from the location where they cook their food to where they sell their food. Lastly, KC has created a service where it makes it possible to rent on an hourly basis which is rare as it is usually on a daily or monthly basis. This means that the customers only pay for the exact usage.

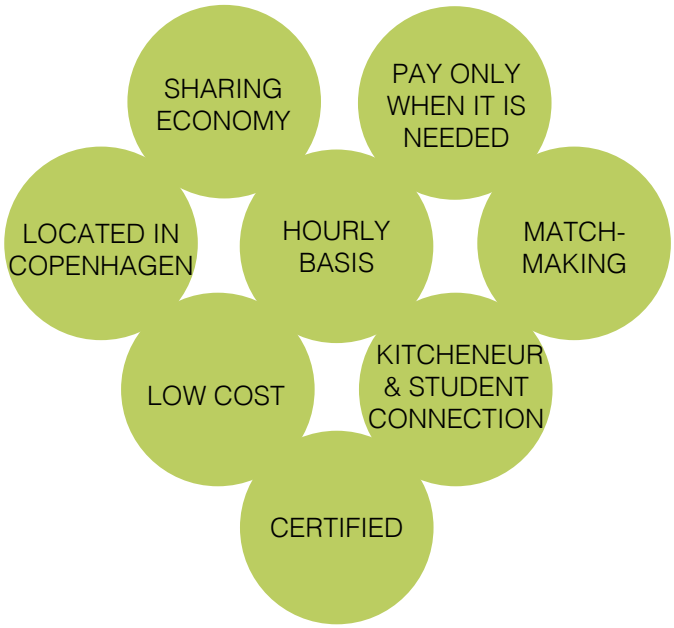


Figure 7:The current value proposition of KC.

Apart from this KC also values community feeling and networking opportunities among the customers and students at Aalborg University as they are within the same field and can teach and learn from one another.

Who are the actors?

In order to be able to offer a service with the given value proposition to their customers, Kitchen Collective has included other relevant actors in the service. The number of actors involved in the current service is limited as Kitchen Collective is new and have limited earnings and resources for paying external actors. Two actors are particularly relevant in this service other than Kitchen Collective themselves: Aalborg University, and the customers (see Figure 8 on page 22, Figure 9 on page 22 and Figure 10 on page 22).

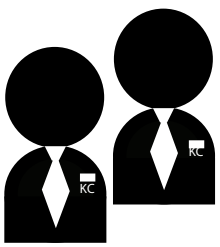


Figure 8: Kitchen Collective

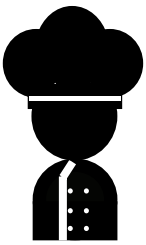


Figure 9: Kitcheneur

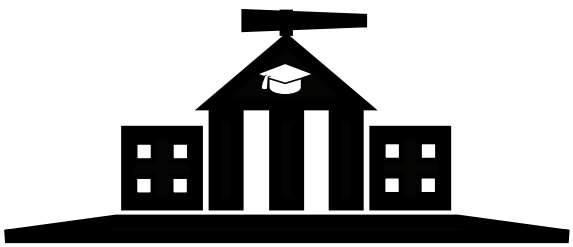


Figure 10: Aalborg University

Value constellation

KC also create value by collaborating with a number of other actors who are experts within their field. They connect these different actors who have similar goals in Kitchen Collective (see Figure 11 on page 23).
For instance is a kitchen crucial because a kitchen is required when running a rental kitchen service. Usually one would look for a landlord but in this case KC already have Aalborg University who provides the kitchen. Additionally is there a need for cleaning which is usually done by oneself but for this service an agreement has been made with Aalborg University who are responsible for this task.

During the course of this project, it has however turned out that Aalborg University have problems honouring this agreement according to KC.

With the concept being a sharing kitchen there is a need for getting people who wants to take part in the service and divide the expenses between the customers. Lastly there may be a need for technical assistance but this is conducted by KC themselves unless they are not able to solve the problem, in which case they will have to call for external assistance. The connection of the actors and their role in the service is the *value constellation* of Kitchen Collective. KC connects all these actors to create a single product targeted at a specific target group, namely food entrepreneurs in need of a certified kitchen on a hourly basis.

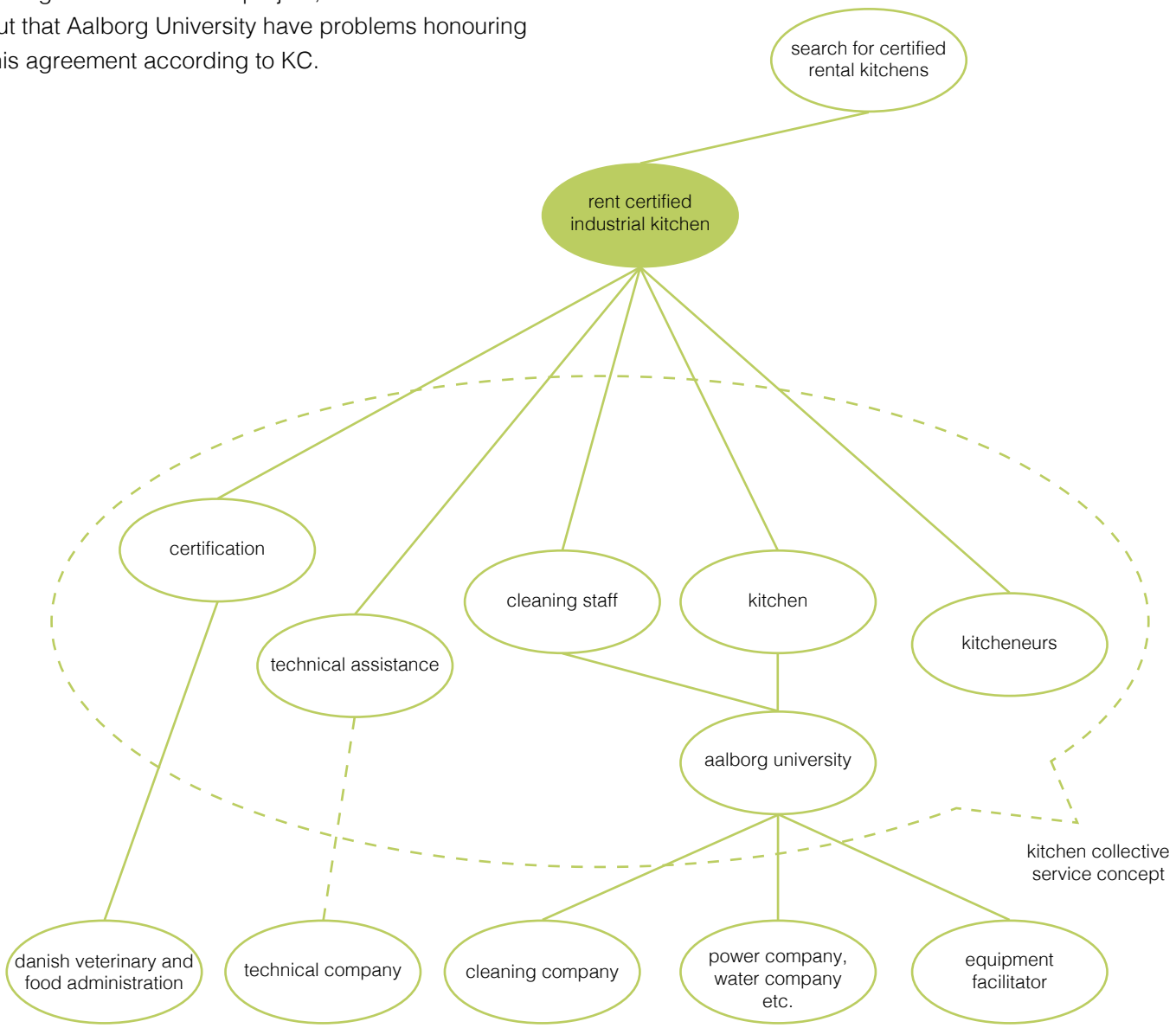


Figure 11:The value constellation of the service which describes the actors involved and their role in the service.

Motivation matrix

Why do the actors want to get involved in the service and what do they get out of collaborating with Kitchen Collective? This is what the motivation matrix will help illustrate, as it maps the interest and gain from the different actors point of views and not only the service providers. The motivation matrix explains the relationship between the actors involved in the service; it explains what they achieve by taking part in the service and what they give to the service. For this service 3 relevant actors are involved: customers, KC and Aalborg University.

The relationship between the actors is mutually beneficial: The actors create opportunities for each other, when e.g. Aalborg University "gives" KC the kitchen, whereas KC in exchange "gives" Aalborg University students a network and real life cases.

In Figure 12 on page 24 a matrix with each of the actors placed in both the x-axis and y-axis is seen. The y-axis represent those who give something to the x-axis. Through the motivation matrix is possible to see the interest and gain from the different actors point of view and not only the service providers.

gives to...	kitcheneur	kitchen collective	aalborg university
kitcheneur	kitcheneurs intention is to get access to a certified kitchen that they can use to make food on a smaller scale and legally sell it. This way they delimit the cost of investing in such a kitchen, enabling them to take chances without losing much	gives kitchen collective new gastronomic ideas and a market for new culinary experiences with awareness of food production and sustainability	provides aalborg university with real cases, workshops or courses that the student can participate in, use for their projects or learn from. Additionally does it help the students in creating a network
kitchen collective	provides the kitcheneurs with a kitchen sharing service where the cost of using a kitchen is low and on an hourly basis. It is divided among several users which means that a user only pays for the usage	kitchen collectives intention is to give culinary entrepreneurs the opportunity to try out new gastronomic ideas as well as create a community where partnerships and collaborations happens	gives aalborg university the connection to culinary entrepreneurs and real life cases where the students are given the opportunity to create a network with people within the food industry
aalborg university	gives the kitcheneurs the possibility to collaborate or make partnerships with students within the field. A collaboration which might help the kitcheneurs to e.g. get new gastronomic ideas or marketing strategies	provides kitchen collective- with a certified kitchen including the standard facilities which makes it possibile for KC to be able to provide a kitchen sharing service for their customers	aalborg university's intention to take part in the service is to give their students more opportunities to create a network and get advices and learn from "experts" through projects, courses or workshops

Figure 12:The motivation matrix that illustrates what the different actors give and receive by taking part in the service.

Aalborg University

Aalborg University is the actor who makes it possible for Kitchen Collective to run their service as they are in charge of the kitchen that Kitchen Collective use for their service (see Figure 13 on page 25). The kitchen and facilities were already established when Aalborg University took over the Nokia building and today Integrated Food Studies are using it for studies but only a limited amount of time. This means that when IFS is not using the kitchen, the kitchen is available. Having two entrepreneurs (Mia Maja and Marie, KC) who needed a kitchen for their service and a university who owns a kitchen which was infrequently used, an agreement and collaboration was established between the two parts. Aalborg university provides Kitchen Collective with a kitchen and Kitchen Collective in exchange enables the IFS students to use the service and company for their project, academic courses and workshops. Additionally is Aalborg University in charge of the cleaning in the kitchen, but according to Kitchen Collective the cleaning is not conducted properly, or at least not to the standard of KC (see Figure 13 on page 25). Therefore has KC decided to do the cleaning themselves.

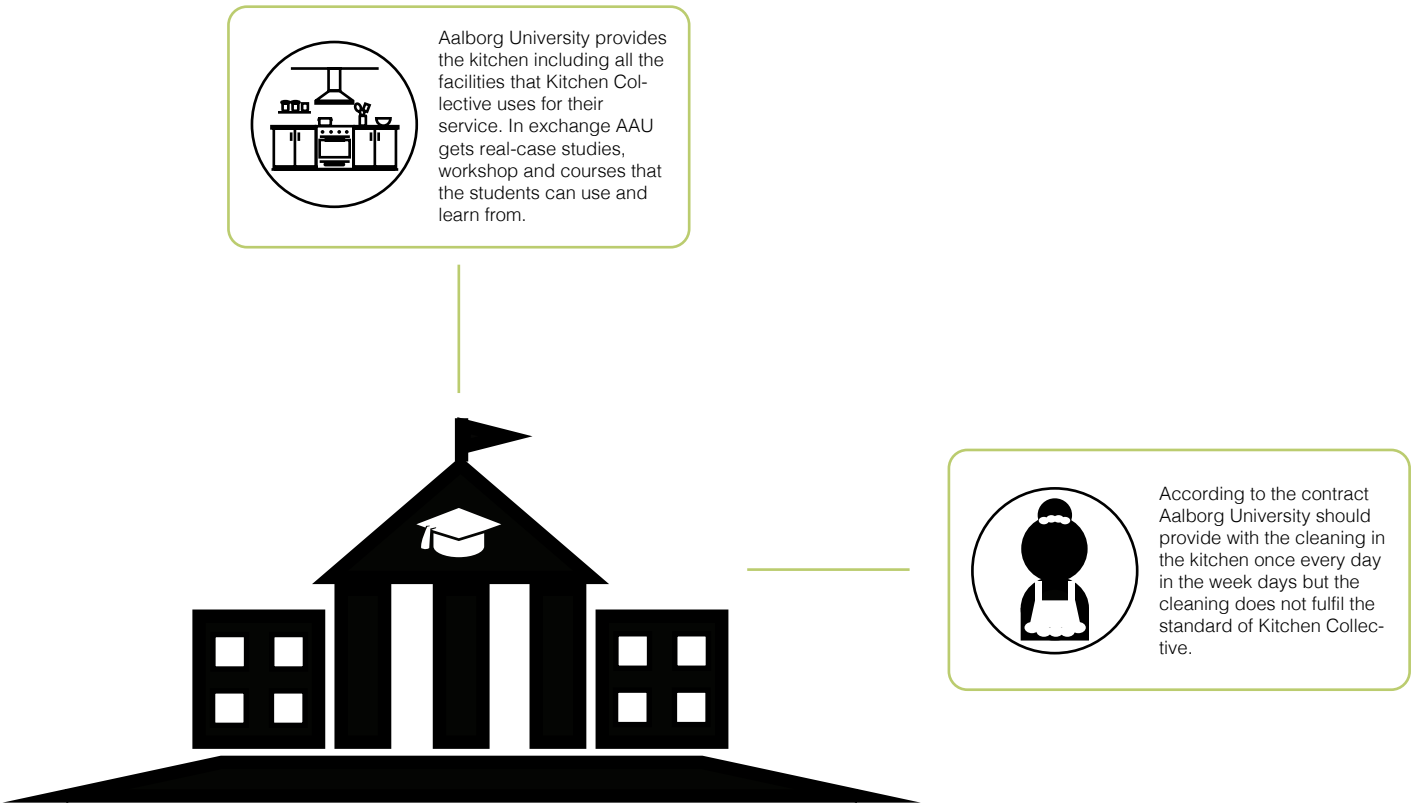


Figure 13:The functions Aalborg University have in the service.

Kitcheneurs

Kitcheneurs are what KC call their customers who rents the kitchen. From January 2015 to January 2016 a total of 44 members have been taking part in the service, where 6 of them are now former members. Out of all the members 80% has tried to use the kitchen. To be a member, one will have to go through a membership process which includes a meeting with KC who will either accept or reject you if not fulfilling their requirements. That said, KC do not have many requirements. The requirements they do have are to follow the rules and regulations, that it is someone KC can trust to be legally running a business, being consious about food production and sustainability.

KC focuses on culinary entrepreneurs rather than private customers. These culinary entrepreneurs are people who make food for selling and therefore needs a certified kitchen and usually they need to produce food on a smaller scale or a place to wash their pots or pans, hereby only a few hours.

According to a survey conducted by KC there are four types of kitcheneurs: alternative catering, street food, food consultants and product development. Out of these kitcheneurs 65% already had their business running before taking part in KC and for 45% is it a fulltime work while 60% has studies or work beside the business. Their reason for taking part in the service is not because of better income or lowered expenses but is due to the flexibility (60%), price (55%) and networking (50%) etc. while their purpose to use the kitchen is either to make food or wash their own equipment (see Figure 14 on page 26).

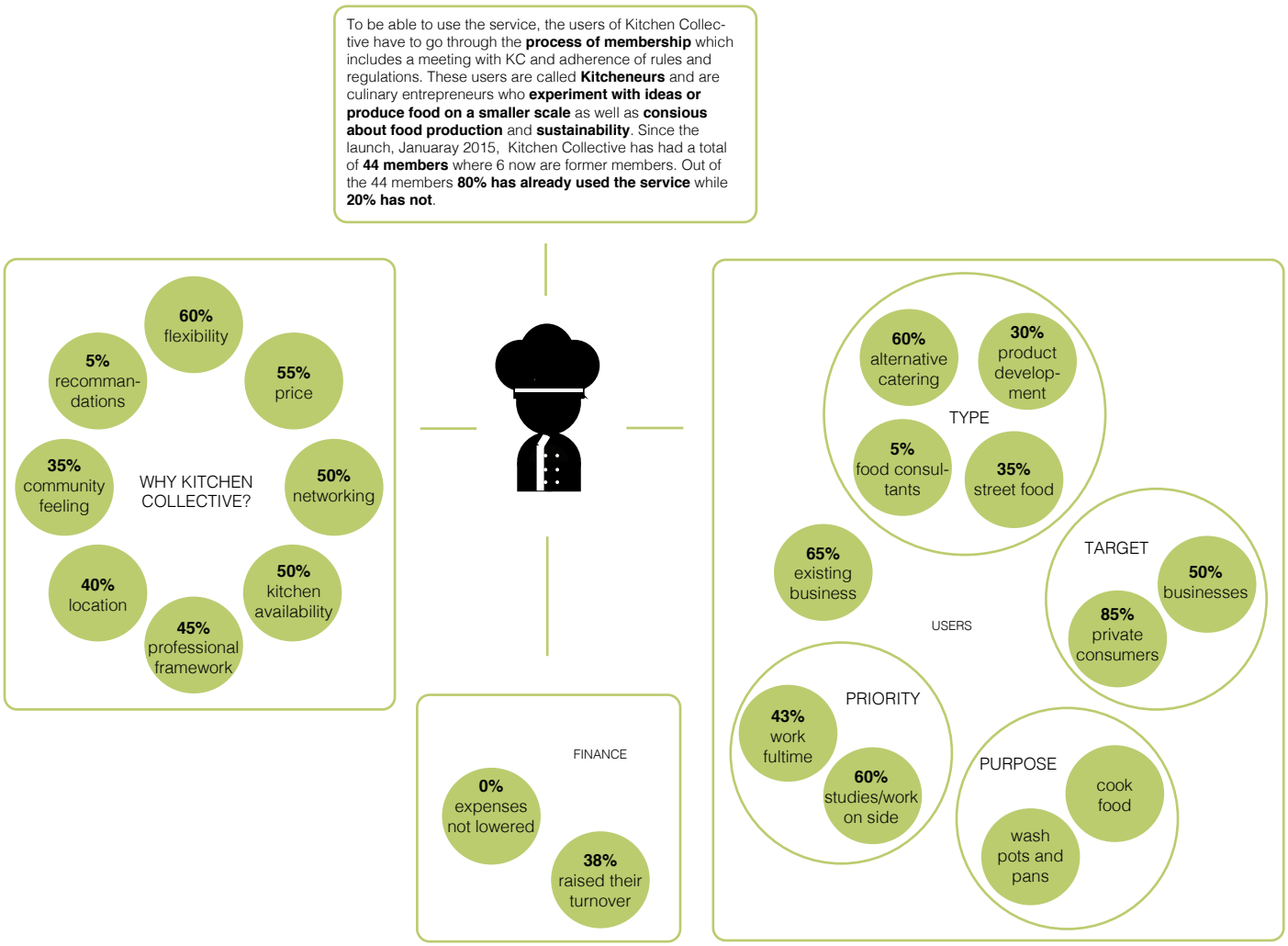


Figure 14:Information about the kitcheneurs.

What is a “collective“?

A collective is a group of individuals who goes together with the same goal in mind. The size of a collective differs as it can be everything from 10 to 100 or even 1000 people. When taking part in a collective the people involved share things but an important point is that in a collective is that there needs to be rules like for instance remembering to clean after oneself and behave properly. Common rules are required to be established, rules that everyone who is part of the collective have to follow. Another point which is important in a collective is the necessity of communicating with each other. KC encourages the kitcheneurs to interact with each other and teach and learn from one another. The communication platform therefore plays an important role as it also has to be used to get people to interact and get closer. Not only should the kitcheneurs be able to communicate about cleanness but also general topics that are suitable to communicate within a community such as other problems, tips, recipes, collaborations etc. From the perspective of KC it would be beneficial to be able to observe the state of the kitchen, the pulse of the community, and get nofified about problems fast.

Rules for kitchen usage

As mentioned in the previous section rules are an important factor in order to make a collective work. These rules are established to make sure everyone is on the same terms and have the same conditions. Before becoming a member the user will have a meeting with Kitchen Collective to get to know each other and then Kitchen Collective will consider whether that member is trustable. If that is the case an email with a link containing the terms and condition is received, read and accepted. Once Kitchen Collective has received the acceptance of terms and conditions an invoice which includes membership for a year will be sent and the user will pay. For use of the kitchen additional payment will be required once booking the kitchen in the booking system. The rental cost is on an hourly basis.

The terms and conditions includes three important rules which are relevant for this project **“[1]”**:

- allows access to the use of kitchen Integrated Food Study Lab
- it is not possible to receive money back for unused hours
- members are fully liable for any damages - including accidental damages - inflicted on building, kitchen, inventory or the surroundings.

Communication

Another important factor in a collective is the ability and need for communicating with each other as communication is at the essence of a collective. It is therefore crucial to facilitate the communication and make sure it is as easy and effiecient as possible.
Communication helps to create a common ground and make sure that everyone aims towards the same objective. Through communication relationships are formed between businesses and customers. Regardless of how personal the relationship is, the importance of having a healthy relationship to each other is a crucial factor, especially when it comes to differentiating oneself against the competition.

To get an understanding of the gap in the current communication between customers and Kitchen Collective an analysis of the current service with focus on communication of feedback has to be conducted. This means that an analysis of how the current communication between the customers and Kitchen Collective has to be explored and understood in order to identify where the problem(s) are.

In the current system, the problems are being communicated by the customers taking the initiative to contacting Kitchen Collective if there is something that they are not satisfied with. According to Kitchen Collective only four general types of complains are being reported: 1) kitchen not being clean, 2) facilities not working, 3) missing equipment and 4) keycards not working or electricity shut down. These complains are currently communicated through several platforms including social media, KC website, email and telephone which

requires a lot of resources for Kitchen Collective to go through. Once they have gone through all the complains Kitchen Collective will not have any overview or structure of the complaints making it difficult for them to know which problems to address.

Figure 15 on page 28 shows an illustration of when and how the kitcheneurs and KC communicate in the current service while Figure 16 on page 28 has an additional feature as it specifies who the communication is between at each steps.

It can be seen that the kitcheneurs needs to communicate when they are in the booking process because they might need assistance if problems occurs or if they have questions. This communication can happen through either of the mentioned platforms while telephone calls are the most popular platform when having to communicate while in the kitchen, the reason being that they require an immediate response. The topic of communication in this phase is usually about not being able to enter the kitchen due to technical problems with the keycard, no electricity, problems in the kitchen such as missing equipment or equipment that does not work. The moment when KC communicates the most with the kitcheneurs is after the kitcheneurs having used the kitchen as they often have complains usually regarding the cleannes of the kitchen.

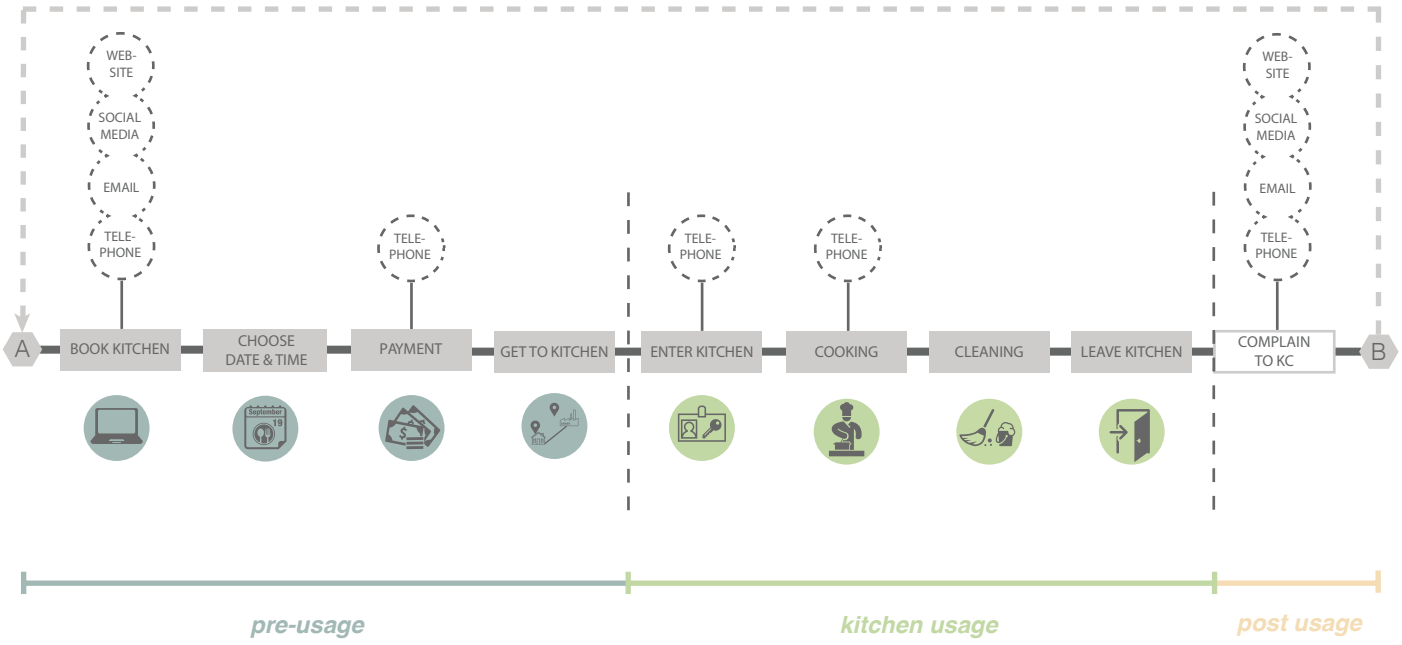


Figure 15: Current communication methods used between kitchceneurs and KC.

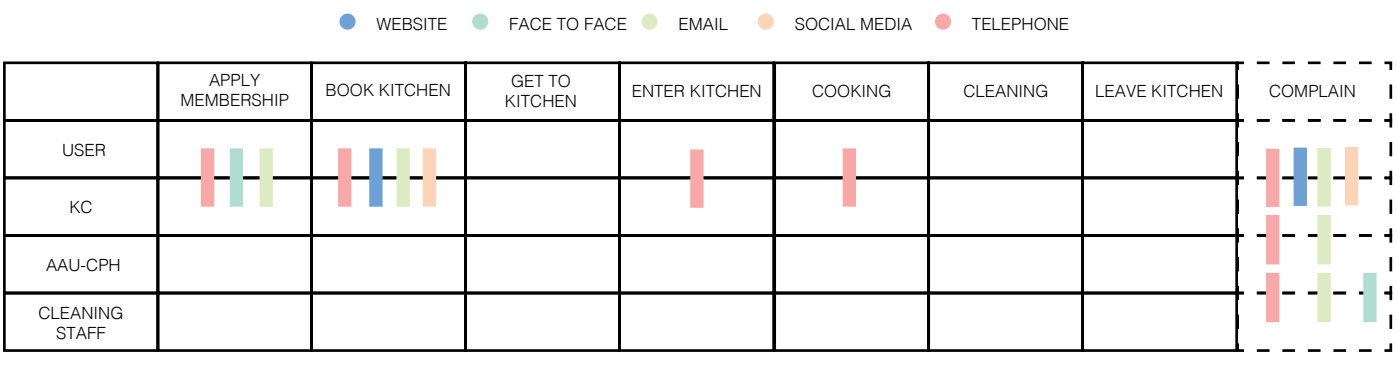


Figure 16: Who are communicating at which step using what method.

Problem flow

Depending on what kind of complain or the reason the kitcheneurs are contacting KC, the flow of actions will be different apart from the first four steps which are identical in all cases: 1) at some point in the process a problem will occur whether it is in the booking process, when using the kitchen or about cleanness, 2) when this happens the kitcheneurs will contact KC who will 3) receive the problem through one or more of the platforms available for the kitcheneurs to contacting KC, 4) depending on the degree of legitimaticy and seriousness of the complaint KC will decide to either ignore it or take action (see Figure 17 on page 29).

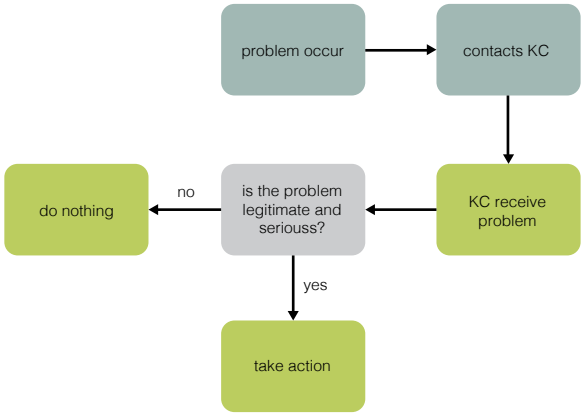


Figure 17: The four common actions when a complain is sent.

These actions are what differs from case to case. As mentioned in the beginning of Communication four complains are recieved (see “4.3 Communication” on page 5). To explain how the process of the actions for each complain is handled, the complains are grouped into three groups which are the cases: cleannes, equipment and others.

Case 1- Cleanness

Cleanness is the first case and can further be divided into three subcases:

1) when a kitcheneur contacts KC because he does not perceive the kitchen as clean but it might actually fulfill the cleaning standard of KC.

2) when the kitchen is not clean and the kitcheneur do not want to clean.

3) when the kitchen is not clean and KC has to clean it.

In the first case KC will judge whether the complaint is legitimate and seriouss enough based on the conversation with the kitcheneur. If it is not perceived as legitimate or serious KC will do nothing about it but if it turns out to be the opposite KC will contact the kitcheneur who used the kitchen earlier to ask about the kitchen and if the kitcheneurs explanation is ok only a warning will be given. On the other hand if it is not ok then a fine will be sent and if this kitcheneur is a regular troublemaker there is a risk of being “thrown out“ (see Figure 18 on page 29).

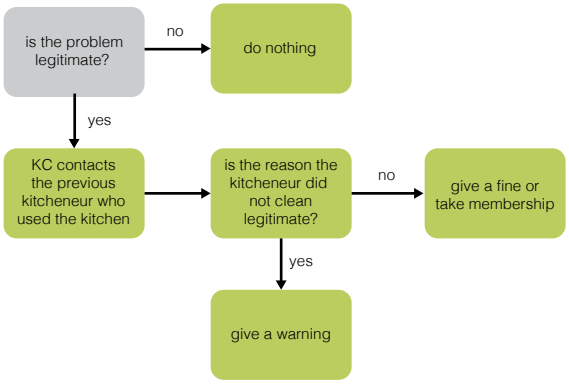


Figure 18: The actions taken when cleanness - subcase 1 happens.

Second case is similar to first case as the kitcheneur will be receiving a fine and maybe “thrown out” if that kitcheneur’s behaviour does not improve (see Figure 19 on page 29). In these cases KC will do the cleaning which is the third case (see Figure 20 on page 29).

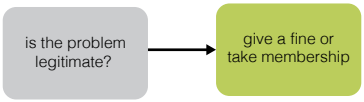


Figure 19: The actions taken when cleanness - subcase 2 happens.

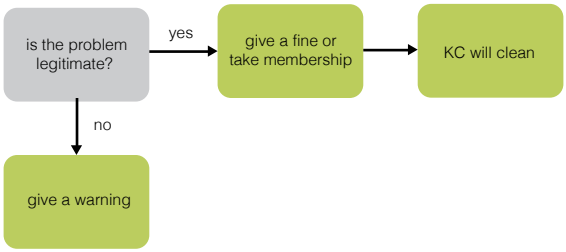


Figure 20: The actions taken when cleanness - subcase 3 happens.

Case 2 - Equipment

Equipment is the second case which also have three subcases like the cleaning case:

1) when kitcheneurs wants/needs new equipment in the kitchen.
2) when the kitcheneurs cannot find the equipment in the kitchen because they are new members or because the equipment is not placed correctly.
3) when the equipment such as machines do not work.

In the first case KC will judge whether the equipment is attractive and hereby will add value followed by a look into their budget to see if they have enough money to buy it. If everything is ok KC will buy the equipment (see Figure 21 on page 30).

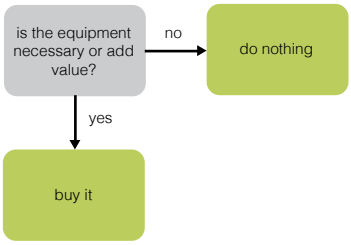


Figure 21: The actions taken when equipment - subcase 1 happens.

In the second case, the kitcheneurs will contact KC where KC will try helping the kitcheneur and guide the kitcheneur to the place where the equipment is supposed to be. If it is not there, KC will contact the kitcheneurs who used the kitchen earlier to ask if they know where it is (see Figure 22 on page 30).

Figure 22: The actions taken when equipment - subcase 2 happens.

In the third case KC will use their own resources to try making the equipment work as they want to reduce external involvement because they can save a lot of money. If they cannot make it work then they will consider what pays off the most, whether it is to contact external help or buy new equipment (see Figure 23 on page 30).

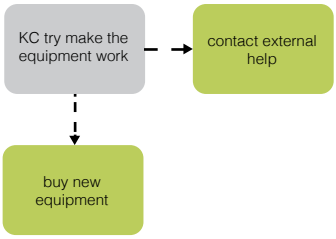


Figure 23: The actions taken when equipment - subcase 3 happens.

Case 3 - Others

Others are the third and final case which are other reasons the kitcheneurs are reaching out to KC. It can be said these kind of complains are out of the hands of KC and consists of two main cases:
1) when the keycard to the kitchen does not work
2) when there is no electricity due to electricity shut down

For each of the two cases, Aalborg University has to be contacted as they are the providers of the keys and electricity. In the case of the keys not working, KC will contact Aalborg University who will contact the so called “betjente“ at Aalborg University who are the people who are responsible for the key cards. In the case of no electricity, KC will also contact Aalborg University who in this case will contact the relevant staff who can check whether it has something to do with a fuse or if it is the external electricity provider. If that is the case Aalborg University will contact the electricity provider and if nothing can be done, the money are given back to the kitcheneur. The same goes for the keycard. If it cannot be solved, the kitcheneurs are given back their money (see Figure 24 on page 30).

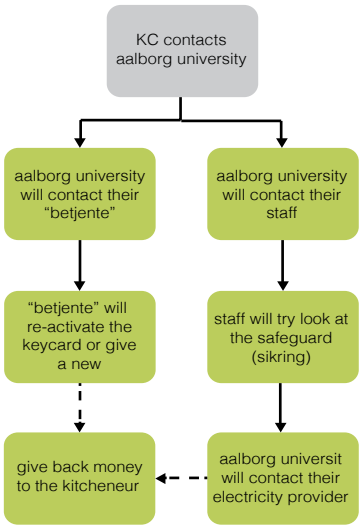
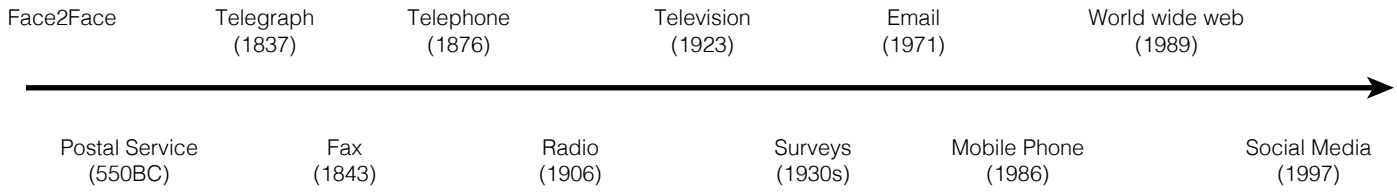


Figure 24: The actions taken when the keycard or electricity shut down occurs which Aalborg University has charge of.

History of communication



The way people communicate has changed over the years starting from face-to-face communication to telephone, surveys, emails, instant messaging, social media etc. Most of these communication methods remain popular today, and this section will therefore provide a comparison as well as an overview over advantages and disadvantages of each. This information will be utilized to form a service in the form of a communication system for Kitchen Collective that will hopefully ease the communication between KC and their users.

State of the art of communication methods

As already mentioned in previous section, several methods of communication are available and in use today. In the case of communication between a business and customers the businesses often prefer the customers to use a channel like email as it costs less resources seen from the business perspective "[2]". That said, usage of this method might not be quick enough for the customers which might lead to reduced confidence in this channel resulting in the customers finding other ways to communicate with the business such as telephone or more recently social media channels "[2]". Telephone is according to "[2]" the most used in the customer service departments followed by emails.

A US study has shown that people who are over 40 years old prefer to speak to a person whether it is face-to-face or telephone while the younger generation prefer to use internet and mobile communication "[2]". But for more sensitive topics both groups prefer to speak to a person "[2]".

Face-to-face

Face-to-face is the oldest form of communication "[3]". Through face-to-face communication the involved parties will be able to receive immediate and accurate response. It is a good communication method for discussions where there is a need for true dialogue and consensus "[4]". The amount of people communicating face-to-face have to be limited as a conversation in larger groups are more difficult to conduct and can result in some people taking the lead while others might have difficulties voicing their oppinions. Additionally differences in social skills might affect the quality of communication "[3]".

With face-to-face communication all parties have to listen very carefully as information is usually given only once unless one asks them to tell it again. The possibility of asking to repeat or clarify a sentence reduces the risk of misunderstandings but one has to remember the conversation as usually no record is conducted "[3]". Furthermore a conversation is more personal due to the other parties' physical presence which enables one to not only listen to what is being said but also see the body language, facial expression, gestures etc. which are crucial for developing a relationship and trust with another party. As two interviewees stated in the article "[4]":

"I often find that when I look the other person in the eyes and ask them something I get far more than I ever would over e-mail"

"Having a personal connection builds trust and minimizes misinterpretation and misunderstanding".

According to a global survey 67% of senior executives and managers stated that their organization would be more productive if communicated by personal discussions but they use email due to the reduced cost of resources needed compared to face-to-face communication. Face-to-face communication often takes more time and lacks the possibility of multitasking "[4]".

Telephone

When face-to-face communication is not an option due to long distance, telephone communication is the preferred method because the customers will be able to get an immediate response and the conversation will still be on a personal level though on a less personal level compared to face-to-face communication but more personal email or web chat "[4]". Telephone is a quick and a good alternative to email where a more personal conversation is required as questions and answers can be clarified with limited misunderstandings.

Just as face-to-face communication, telephone is not the most cost efficient method from either the business or the customers but it is still one of the most used because of the ability to get immediate response and clarification over distances. However it require both parts to be available. Sometimes it happens that the business customer service department have too many people calling in compared to the amount of people able to receive these calls and this results in the customers having to wait which can take minutes or even hours. If not available one will usually be directed to the answerphone where one can leave a message. This can lead to frustration or irritation if not handled gracefully.

Additionally technical problems can occur or noise might appear making it difficult to hear what is being said. This can be crucial as one has to pay much attention to the conversation as no record is being conducted. Other disadvantages of this communication method is that it does not support body language, facial expressions, gestures etc. The only personal "factor" is the voice and the way one is speaking. Furthermore does telephone communication only make it possible to 'send' voice and not images, files etc.

Survey

A survey is more focused on the business and what the business want to know and thus often acts as a communication method for a business to get an evaluation or feedback about their service. This means that the business reaches out to the customers rather than the customers reaching the business like the two previous mentioned communication methods. In this way it is a two-way communication but starting from the business taking the initiative to communicate with the customer (one to many). Surveys can be performed online or offline.

Surveys are good at collecting feedback and knowledge about the customers and improve the service based on customer needs and opinions. It is especially great at collecting quantitative data from a larger population and generalize the findings through random samples.

What might be less great about the method is that it cost expensive resources to prepare the right questions without being biased (business) and answering these questions (customer). Because it often requires a considerable amount of time to answer a survey, people often try to avoid them whether they are received online or offline. Additionally this method is less personal which might add to the customers disliking of this method as it can be hard to see what value it adds for the customer.

Reputation system

Reputation systems is a relatively new concept tool that is often used to help users to take decisions (e.g. which to buy) "[5]". According to "[5]" 75% of people trust peer reviews which has now become an important trust factor as well as a tool for how they evaluate and take decision "[6]". Trust is important within the concept of sharing economy and online shopping as people are buying and renting from people that they do not know "[6]".

There is no specific definition of reputation but "[5]" defines it as "information used to make a value judgement about a person or a thing". Over time a person or thing will build a reputation that customers will take into consideration when deciding whether they find it trustable or not "[6]".

Reputation is earned within a context and things or persons can have reputation in multiple contexts "[5]". In the case of Kitchen Collective the reputation might differ

depending on whether the context is about the facilities in the kitchen (good) or the state of the kitchen (bad).

The concept of reputation consists of a source, target and a claim. The order of the source, target and claim depends on whether the concept is explicit reputation or implicit reputation "[5]":
1) the explicit reputation (what people say) – source, target and claim
2) the implicit reputation (what people do) – source, claim and target

According to Horowitz B. it cannot be expected that a whole community will be top contributors "[5]". He makes a distinction among creators, synthesizers and consumers "[5]": *Creators* are the users who might start a "group". They represents 1% of the users. *Synthesizers* are the users who might participate actively. They represent 10% of the users, and the *Consumers* are the users who might benefit from the activities of the Creators and Synthesizers.

Creating a reputation system is not all easy as it also comes with challenges:

Challenges

- *Problems of scale* – how to create a system that is able to handle all the incoming data without having difficulties with the processor or storage? Technical problems can lead to frustration and fall backs on not wanting to use it.
- *Problems of quality* – how to know what data that is good and what is bad?
- *Problems of engagement* – how to get all people to use the concept and keep using it? There is a tendency for user to only use the system when having a really bad experience or really good experience.
- *Problems of moderation* – how to deal with those who abuse the system? Unhandled abuse of the system will result in people not trusting the ratings and reputation and it will cost more resources from the business.

In the case of Kitchen Collective the problem of quality is less likely as the users who are going to use the system are known and trusted in the relatively small community.

Email and text messaging

Communicating through email or text messaging is similar. The difference is that email is internet based while text messaging is "offline". Apple though has made it possible to text message through the internet through their so called iMessage. Additionally email is the most used online communication method while text messaging is not as widely used. It can also be said that text messages generally contains shorter content and can be considered more personal with more informal language compared to email.

For both email and text messaging it is useful for simple things such scheduling "[4]". It is a quick, cheap and global communication method which is great for larger groups and when requiring printing "[4]". Through these methods it is possible to multitask and serve multiple customers at a time but neither are real-time which means that it usually takes time to receive a response. Because it is unknown how long it will take to receive a response customers will change to a channel that they know work but this will often be through a method that will require more resources.

Furthermore neither of the methods are as personal as e.g. face to face or video, as they have neither body language, gesture, facial expression or voice to help decode the conversation. This can easily lead to misunderstandings and misinterpretations that can take a considerable amount of time to resolve.

Not only are text messages used as a communication method between business and customer about a matter but lately it has also been used as a confirmation tool. Text messages usually is conducted through a mobile phone which is a personal object. Because it is a personal object it is used to confirm one's identity when for instance having to create a social media account.

Web-chat

The next method is web-chat which is real-time text messages. This means that the customer through the use of the chat will get an immediate response as long as there is an available person on the other side. Sometimes it happens that one will have to wait but the waiting time is rarely more than 5 minutes as it is possible for one staff member to handle multiple customers at a time through the chat.

Web-chat is a resource efficient method and good for smaller and less detailed conversations "[3]". It is especially useful if one has a problem at that specific moment.

This method is currently spreading very fast and more and more services make use of it in order to reduce the often more resource heavy telephone communication. This channel's main shortcoming is the fact that it is only available in the opening hours which in Denmark usually is 08-16 on week days.

Social media

With Facebook as an example social media can be said to be an integrated combination of all the above mentioned communication methods. Depending on the conversation one can choose between communication through private messaging, real-time chat, voice call or video call. Social media or Facebook even have rating systems where people can rate how much they like a post or express how they feel but not only that, if one has signed up for as a "service" then people are able to rate that service and review the businesses.

Although social media is widely used there are still challenges in form of privacy concerns, too much information and the unwillingness to share personal information "[3]". In the first case it can be discussed whether privacy actually is a concern because we as consumers already know that the services that involves new technology always will have some kind of privacy concern. If one wants to be private then one should be totally offline.

Future communication methods

Today we live in a society where businesses have to adapt to rapid development of new technology and initiatives in order to keep up with competitors. In the last couple of years communication has been shown to be going in the direction of the new technologies of Artificial Intelligent (AI), Virtual Reality (VR), smart homes (IoT) and voice agents "[7]""[8]""[9]""[2]". In the future it is expected that these will play an important role in our society and the way communication is handled "[10]""[11]".

Artificial intelligence (AI)

AI is expected to take over the customer service departments as they will be able to handle the tasks of interacting with the customers about a service by answering customer questions or deliver requests or claims to the company. It is an efficient and effective method and will cost less human resources. Additionally the existence of AI will make it possible to handle several customers at the same time as well as making it possible for the customers to reach a company's customer service 24 hours a day "[2]".

Virtual reality (VR)

In regards to VR, the founder of Facebook (whom have acquired the VR headset maker Oculus), Mark Zuckerberg thinks that the future is about telepathy, the possibility of communication by exchanging thoughts with each other through the use of VR "[12]".

Others think VR will be the new long distance way of communicating "face-to-face" as it will give the feeling of presence which is different from e.g. FaceTime "[9]".

Smart homes

Smart homes and personal assistants in the form of speech recognition is expected to change our daily lives "[7]""[8]". Today smartphone applications are the most common control modality of smart home devices available as it is easy to use because people are familiar with them but sometimes it actually requires more to do a task through the application than manually. As an alternative solution speech recognition is predicted to

be the interaction modality of the future “[7]”.

Voice agents

Lastly, speech recognition is part of the new phenomena “internet of zero” or “zero UI”, which are technologies that make it as effortless as possible by doing things without having to interact with a screen”[11]””[13]”. Even today speech recognition is used for different purposes for instance as an alternative to typing on mobile phones “[14]” or for criminal investigation purposes “[15]”. Additionally is it a technology in which more and more research, improvement and development is being conducted “[15]”. Examples of speech recognition personal assistants are Siri which is found in iPhones, Amazon’s Alexa Echo, Google’s Now and Microsoft’s Cortana “[7]””[13]”. Furthermore more movies are envisioning the possible future of speech recognition and digital personal assistants being created such as Samantha in the 2013 movie Her by Spike Jonze.

Larger platform providers such as Amazon and Google are said to be the companies that have the best foundation/ground for doing a great job within the technology of voice agents as they have the knowledge and resources needed.

In the case of speech recognition/voice agents, many people have access to it but according to “[7]” people do not use it as it does not yet provide enough value for adoption and continuous usage. Currently voice agents are focused on functionality which saves users a few seconds but what is needed for people to wanting to use it is for the voice agents to execute more useful tasks than saving one for a few seconds e.g. safety when driving a car “[7]”. Additional are there four other key design principles requirements for voice interfaces to become the control interface of smart homes “[7]”:

1) *Creating ambient experiences* – communicating without paying attention to a specific node.
2) *Achieving human-like understanding and contextual abilities* – a) ability for a voice interface to reliably understand what is asked, and b) a voice interface’s ability to recognize who is speaking, and learn and become personalized with context acquired through prior interactions3) *Display human-like persona* – feeling of the voice agent being a companion rather than a device or tool. Characteristic of the interaction of the voice agent is just as important e.g. sound of the voice, gender, emotion etc.
4) *Demanding low-levels of concentration and focusing* - voice agents should appeal to the process of “fast thinking” which is quick, immediate, automatic, reactive and intuitive thinking, natural behaviors and avoid “slow thinking”.

With that said these technologies are still in their infancy and Google has taken a step forward towards the development and improvement of AI and speech recognition by making their technology public through several cloud services, sharing their knowledge with everyone interested “[16]” while challenges for voice agents can be divided into consumer challenges and functional chellenges (see Figure 25 on page 36).

More research and improved technology within each of the fields are required as their usage are limited and still have a lot of problems and challenges that might result in the user’s falling back to old technologies and interactions they know work “[7]” but they are technologies that have to be considered for possible future use.

Subconclusion

With the knowledge collected from the state of the art about the different communication method it is possible to compare and give an overview of the advantages and disadvantages of each of these methods which can be seen in Figure 26 on page 37. As already mentioned most people would prefer face-to-face communication but when that option is not possible, the majority of the people over 40 years old prefer communicating with a company through telephone while the younger generation prefers email and social media as they are used to the technology.

Face-to-face is more resource demanding compared to email as it needs all parties involved in the commu-

Customer Challenges	Functional Challenges
Detecting the boundaries of a voice interface – voice agents have limitations in regards to what they are able to do and not do as well as what it can understand and not understand. Because it is difficult to find these boundaries it might result in the users not wanting to use the technology and fall back to the interactions that they now work.	*Learn from experience* – the ability to learn from past interactions and draw contextual and personal information.
Lack of reliability result in user fatigue – unreliability and incomplete executions of voice agents such as "I'm sorry, I don't know the answer to your question" has shown to lead to user fatigue and irregular use. Again, this can result in the user-s falling back to known interactions.	*Voice detection* – the capability to be able to detect voices at different locations, select which one to be amplified and be able to separate the voices from two different speakers.
Voice presents challenges for use in instances that require high levels of security	

Figure 25: Customer challenges anf functional challenges of voice agents.

nication to be at the same physical location simultaneously. Not only does it cost money and time to get to the location but also planning. If disregarding the expenses and accessibility to this communication method, it can be said that everything else is positive. The fact that it is possible to see facial expressions, gestures, body language etc. makes it more personal and gives the perception of creating a relationship and develops more trust. Due to the more personal perspective that this communication method gives, many users prefer this method. That said this communication method will not be an option in the "communication system" for Kitchen Collective due to resources it requires for KC to use this method. In the case of KC this is an inconvenient communication method when taking into consideration the purpose of the "communication system" that is going to be developed.

Instead telephone is the preferred method for the communication system for more personal long distance conversations and when a customer looks for an immediate response. Though it is not as personal as face-to-face, this method is still personal as the voice and the way of speaking will influence the perception of who one is talking to. Telephone is usually only available within working hours but once the call is accepted by a staff member one will be able to get immediate response. Furthermore does it require some resources, less than face-to-face communication but often more than email and sometimes it happens that one has to stay on line, having to wait to go through which requires more resources and can easily lead to frustration and nuisance.

Email, text messages or social media are therefore a choice to consider when wanting to reduce the resources. Furthermore are they always available and great for long distance less personal communication that does not need an immediate response. Another method which does not require as many resources is webchat. Webchat which in the most cases will provide with an immediate response as it is real-time messages. This method can be seen as a communication option within social media such as Facebook, Twitter etc. and is the most used communication method within the field.

Reputation systems are an upcoming communication method mainly used to find out who to trust or what decisions to make. A new type of reputation system, rating system seems to be widely used especially HappyOr-Not (happy-or-not.com). This rating system focuses on

collecting customer feedback to a given question provided by the business. This means that the customers only can give theiropinion about the specific questions but not about other things. Together with voice agent, this method requires the least effort from the customer's side.

Voice agents is the future communication method that is going to change the way people are going to communicate with each other. They might not be personal at the moment but in the future it is expected that they can be partially personal.They might even take over the customer service department where they can reduce the resource costs and make the customer service available 24 hours a day. Furthermore will the customers be able to get immediate response without any further comments that might lead to frustrations or irritations. There are many possibilities with voice agents in the future which is the reason that voice agents should be taken into consideration as future possibilites when designing the communication system for KC.

	Distance	**Personal**	**Cost**	**Response Time**	**Availability**
Face-to-Face	Close	Very	Expensive	Fast	Rare
Telephone	Long	Semi	Expensive	Fast	Opening Hours
Email/Txt msg	Long	Semi/Low	Semi	Slow	Always
Social Media	Long	Low	Cheap	Medium	Always
Webchat	Long	Low	Cheap	Fast/Medium	Opening Hours
Reputation System	Long	Low	Cheap	-	Always
Voice Agent	Long	Low(Semi)	Cheap	Fast	Always

Figure 26: Comparison of the different communication methods.

CHAPTER

5

adaptation of information systems

Creating a new system that enables Kitchen Collective and their customers to communicate more is only useful if people will actually use it. It is therefore relevant to get an understanding of how it is possible to get the actors involved to accept and start using the new system and continue to do so. In order to collect this kind of knowledge a look into different adaptation theories will be conducted. This will include the Theory of Reasoned Action (Fishbein et al., 1975), Technology Acceptance Model (Davis, 1989) and Technology Acceptance Model 2 (Venkatesh and Davis, 2000) "[17]".

Theory of Reasoned Action (TRA)

TRA is a theory intended to understand and predict employee's behavior "[17]". It describes how an individual's actual behavior is affected by the individual's intentions which in turn is determined by the subjective norm and attitude toward the behavior (see Figure 27 on page 39). The subjective norm is defined as "*the person's perception that most people who are important to him think he should or should not perform the behavior in question*" and attitude as "*an individual's positive or negative feelings (evaluative affect) about performing the target behavior*" "[17]". In other words, to understand an individual's intentions a look into the attitude of that specific behavior and the subjective norms of possible influential people has to be made. The attitudes come from beliefs and evaluations while the subjective norms come from the environment and people around you.

Technology Acceptance Model (TAM)

TAM is a model is based on the Theory of Reasoned Action and used to understand what factors make people either accept or reject a new information system (see Figure 28 on page 39) "[17]". The theory states that perceived usefulness and perceived ease of use are the two most important behavioral beliefs which affect the attitude, intention and finally the actual behavior of system usage "[17]". This means that the more the new system is perceived as useful or easy to use, the more positive is the attitude towards the new system, which will result in the acceptance and use of the new system.

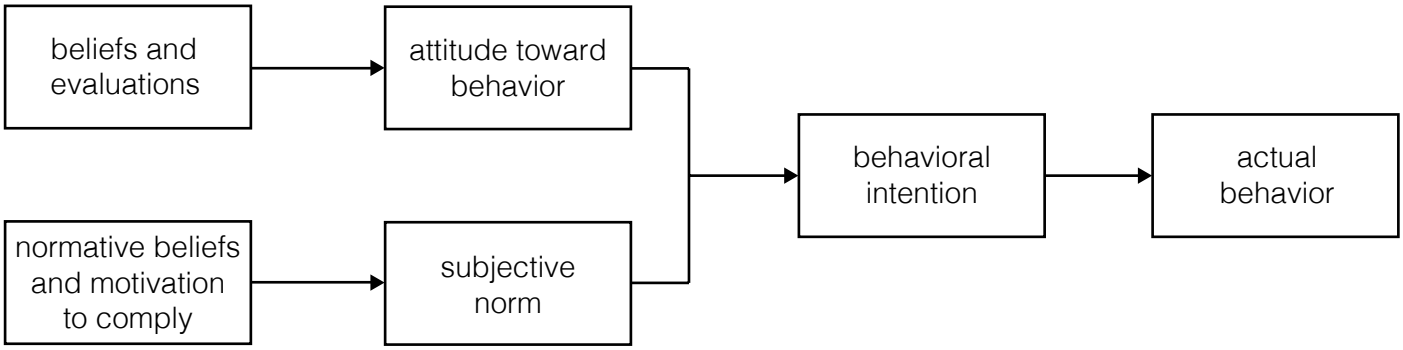


Figure 27: The Theory of Reasoned Action (TRA)

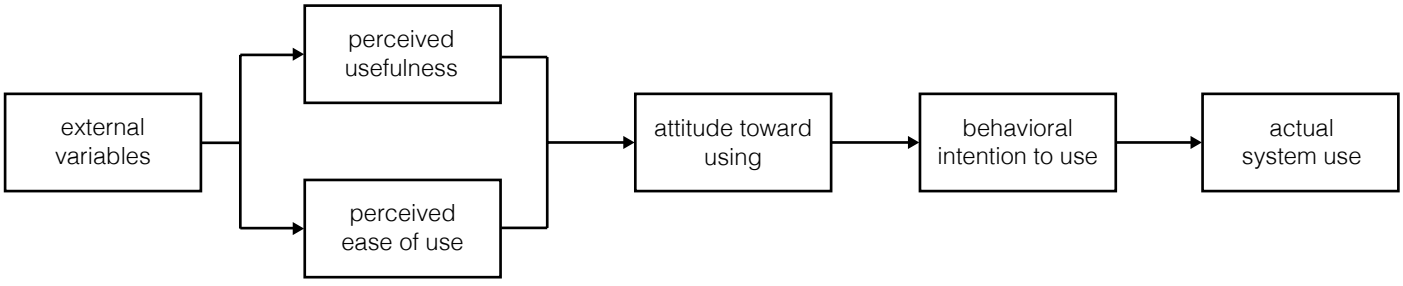


Figure 28: The Technology Acceptance Model (TAM).

The Extended Technolgy Acceptance Model 2 (TAM2)

In 2000, the TAM was extended with two additional processes: the Social Influence Processes and the Cognitive Instrumental Processes as they are seen as crucial processes in regards to acceptance of a new system (see Figure 29 on page 40) "[17]".
Social Influence Processes consist of subjective norm, voluntariness and image where voluntariness is defined as "*the extent to which potential adopters perceive the adoption decision to be non-mandatory*" and image refers to the belief of implementation of a specific behavior will increase the quality of e.g. work "[17]".

Cognitive Instrumental Processes consist of job relevance, output quality, result demonstrability and perceived ease of use "[17]". Job relevance which refers to the perceived effects or degree in which a particular system is usable on the job while output quality is about the degree in which one think the new system is able to perform the tasks. Furthermore is result demonstrability about the influence that positive or negative results have in the perceived usefulness of a new system "[17]". In other words if positive results are achieved with the new system, higher are the chances that the system is accepted by the users. It is defined as the "*tangibility of the results of using the innovation*".

Additionally it can be seen from the two new added processes that an additional factor, experience, is included as TAM2 states that people have different experiences with different systems and it is therefore possible that the acceptance of systems differs depending on their previous experience with that specific system "[17]".

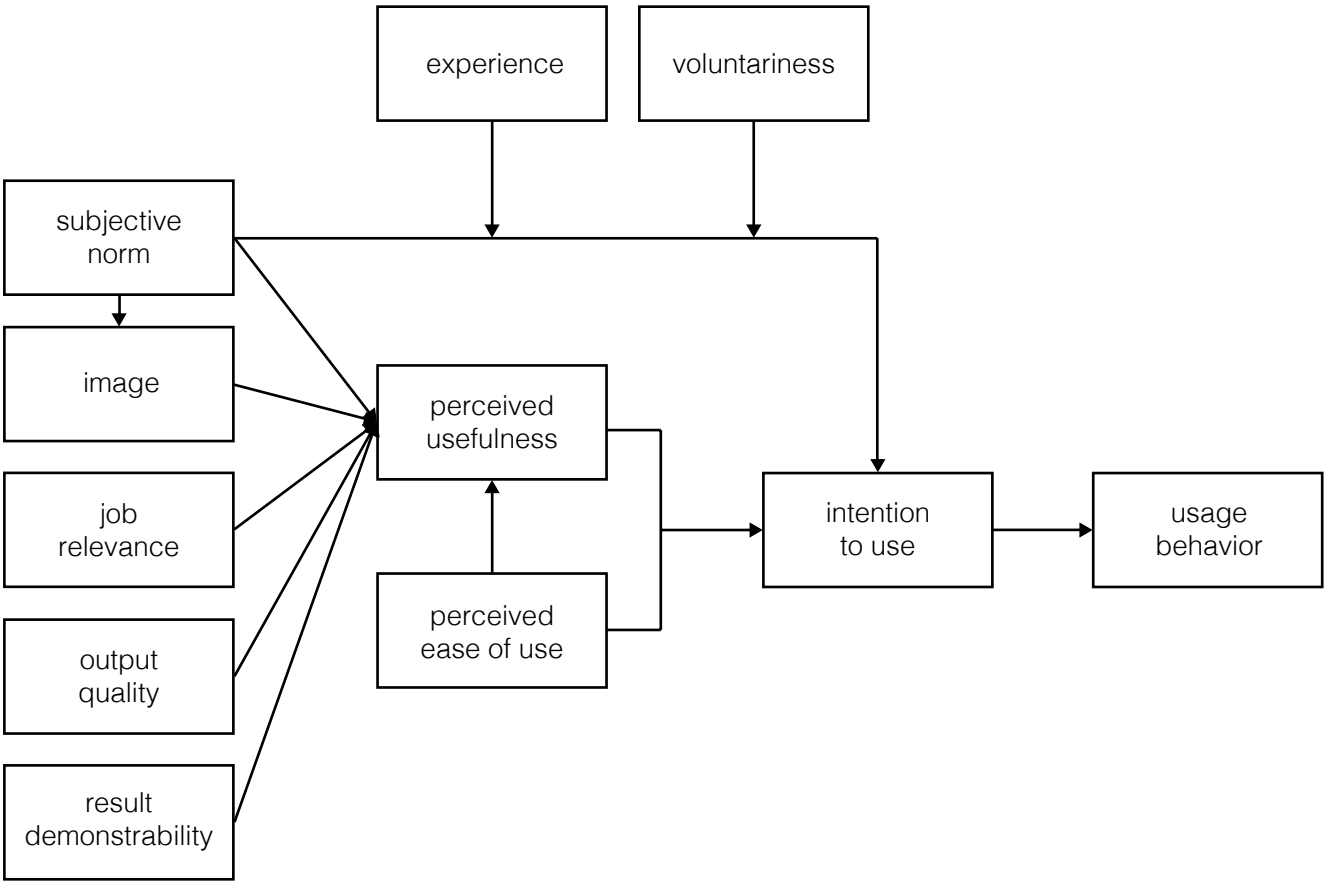


Figure 29: The Extended Technology Acceptance Model (TAM).

CHAPTER

6

requirements

42 Requirements

This section describes a series of requirements defined for the further development of the service offering. The requirements in part stem from conversations with Kitchen Collective about their needs for a service system, part from their descriptions of the needs of their users (kitcheneurs). Since improving communcation between kitcheneurs and between kitcheneurs and KC, the requirements were also considered in light of an enquiry into the various communication modalities avaible, ranging from anything from face-to-face communciation, through web-chat all the way to futuristic voice agents.

Another important factor when deciding on the requirements, was to ensure that any new solutions, technologic or not, would be welcomed by the existing customers and actually add value to the service offering. Theories of adaptation of information systems thus also played a key role when defining these requirements, and in particular the TAM2 model was considered when forming the requirements.

Last but not least, the requirements are general enough to keep a door open for the service offering to develop into a standalone platform, that might be useful for other actors than Kitchen Collective. That being said, Kitchen Collectives and their kitcheneurs pain points remained central in the requirements.

Requirement (should do, should be...)	**Rationale** (because...)	**Attachment** (references...)
Let users report feedback (KC Reports)	Giving the customers the possibility to not only report about cleanness but also other topics makes the system more open and does not limit the customers in giving other types of relvevant feedback.	KC
Contain a news feed (KC Feed)	The KC Feed is to give the kitcheneurs the possibility to communicate with each other or KC about other topics than the kitchen. This includes e.g. recipes, tips, polls, KC messages, collaborations etc.	KC
Provide acces to KC reports and KC feed via an App and a Website	The app/website should function as the single official channel for communicating problems with equipment, cleanness etc. to KC, as it currently requires too many of KC's resources to manage various other communication channels (Facebook, e-mail, telephone etc). Futhermore is it possible to integrate both the report feature and the KC feed into the same application, keeping everything in one place.	KC
Encourage customer initiated content	Encouraging customer initated content, as opposed to e.g. a survey or reputation system, enables KC to get insights about things that they might not have thought of. Additionally it requires less resouces as KC do not have to prepare and plan to find out what information they what to get feedback on.	communication
Encourage customer to customer reports	C2C reporting saves KC resources. Rather than receiving a call, text-message or e-mail whenever a kitcheneur wants to complain about the cleanness or equipment, KC will be able to go through unresolved issues in their admin interface when they have time. This reduces the nuisance of reports interrupting KC while doing other tasks.	
Kitchen Collective indirectly involved	As mentioned in "customer to customer reports" KC is not directly involved in the report exchange unless the topic is about technical problems or new equipment. But KC is on the sideline and can follow everything that is sent and received and they even have statistical information that they can use for e.g. giving out fines to frequent "offenders". The reason for this is again to reduce the workload.	KC

Reports should appear anonymous to other Kitcheneurs	Senders and recipients of report should not be aware of one anothers identity in order to avoid direct confrontations. This is mainly due to the fact that nobody can be sure that it is a specific kitcheneur who does not clean unless that kitcheneur admits it. Only KC have access this information in order to moderate the communicatin, which could e.g. be in cases where a specific kitcheneur is rude towards other kitcheneurs.	KC
Pattern recognition of feedback	Pattern recognition will provide KC with more structure of the feedback they recieve. As a result the amount of resouces spend on going through all the feedback and getting an overview will be reduced significantly. Resources which can be used on somewhere else.	KC
Make it easy accesible and usable	The report system and KC should be easy accessible in order for the kitcheneurs wanting to take the initial step into using it. To take the next step and actually using it then it should be easy to use and the kitcheneurs should find it relevant and usable as this will increase the possibility for a change of behavior	adaption theory
Indirect reputation system	A simple reputation system should e.g. score users (negatively) if they have used the kicthen immediately before a complaint about an unclean kitchen. These scores could additionately feed into a simple pattern recognition system, alerting KC if some users e.g. often appear immediately before “bad cleaning” reports.	communication
Integrate report system, booking system and feed	Integrating with the booking system (and calendar) would enable looking up who used the kitchen immediately before a “bad cleaning” report was received. Integrating these systems might also enable users to get notifications about e.g.broken equipment in the feed when booking, or send out updates to next days users who might have planned to use the equipment.	
All kitcheneurs who used the kitchen before receives report	While a negative score might only be given to the user immediately before a report, all kitcheneurs using the kitchen that day before the time of the report will receive a notification about bad cleaning, broken equipment etc. The problem may have been caused one or more users earlier.	
Feed should be similar to the stream in Twitter	The feed should be a “public” feed, meaning that all kitcheneurs are able to listen and follow whats going on in the kitchen. This will hopefully create a “collective feeling” as opposed to relying on personal messages.	communication
All actors should be able to comment or make a post in feed	The communication platform should be open for everyone to participate.	communication

CHAPTER

7

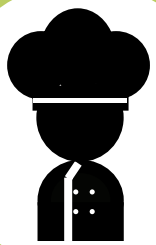
concept design

Personas

To illustrate what kind of people will be using the new communication system a total of three personas were created. Two of them ar kitcheneurs while the last persona represent KC (see Figure 30, Figure 31, Figure 32 on page 45). The purpose of the personas was to maintain the perspective and needs of the user in the design process at all times, hopefully resulting in the development of a communication system where the different users are taken into account. This knowledge was used as the foundation for the concept of the new communication system.

Persona 1

"I spend to much time of my paid kitchen time on contacting KC about problems and the only one to communicate with is KC not others kitcheneurs"



Name	Maria
Age	35
Location	Copenhagen
Smartphone	Yes
Type	Catering
Purpose	Cook food

Background

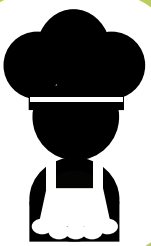
Maria runs a catering company on part time. When the company receives an order Maria needs to rent a certified kitchen to cook the food in. She uses her smartphone to go into the website to book a kitchen time but often when she needs the kitchen all the times are already taken as she needs 5-6 hours. Furthermore does it irritates Maria that there are gaps in the bookings which could have enabled her to use the kitchen but she has no way to get in contact with the other users to hear if it is possible to change times.

When Maria uses the kitchen it is often that problems occur which frustrates her as she needs to contact KC to let KC know about the problems so they can do something about them but everything in the service should be fine when providing such a service.

Figure 30: Persona 1 who needs to contact KC.

Persona 2

"when i am contacted by KC I am often very busy unable to take the calls."



Name	Thomas
Age	30
Location	Copenhagen
Smartphone	No
Type	Street Food
Purpose	Wash & Prepare

Background

Thomas runs a street food cart on fulltime on the streets of Copenhagen where he sells tacos. As the space and equipment in the cart is limited Thomas needs a place to wash his pots and pans after a day on the street as well as a place to prepare his food before going out on the street.

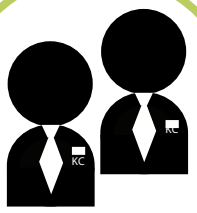
When he books a time for the kitchen it is only an hour and he uses a laptop to go into the website to book.

Sometimes he is contacted by KC who wants to ask if it is him who has not cleaned because the kitcheneur after has contacted KC and made a claim about it. When KC contacts him it is usually through telephone and when he is busy.

Figure 31: Persona 2 who is always busy when being contacted.

Persona 3

"going through all the claims received requires too many resources"



Name	KC
Age	29
Location	Copenhagen
Smartphone	Yes
Type	Owners
Purpose	Take care of KC

Background

Kitchen Collective consists of Mia Maja and Marie Vedel who are the founders of KC. They do their best to deliver a great customer experience but it is difficult. Claims and problems keeps occuring and they are often contacted by unsatisfied kitcheneurs. Not only is it a lot of claims to receive but it also happens through several different channels (email, social media, website, telephone) and this takes so many resources that it frustrates KC. KC have to first go through all the claims followed by getting an overview and lastly taking action.

Furthermore does all communication involves KC which at times is irritating because they are busy.

Figure 32: Persona 3 who needs to get an overview of feedback.

The concept

With the knowledge collected from the discussions with KC and illustrated further in the personas it seemed that the kitcheneurs are missing a communication channel where they can communicate about the kitchen as well as other topics, while KC needs a unified channel which could help create an overview of the claims and issues in the kitchen.

The communication system should therefore give the kitcheneurs the possibility to voice their opinions on the spot and feel like they are being heard and hereby hopefully solve misunderstandings between the kitcheneurs and KC as well as between the kitchenerus. Catching the problems at an early stage before they get bigger is a main aim of this system. Additionally it should help KC with collecting all feedback into a single place where they can get an overview and decide what actions to take. Not only should it be possible to communicate about the kitchen but also other relevant topics and create a possibility for the kitcheneurs to communicate with each other without having to always include KC to reduce load and free up time for other tasks.

The communication system should consist of two parts: a **report system** and a **news feed**. The report system should make it easier and more efficient to create claims, which will be send to not only KC but also other kitcheneurs who it might be relevant to, while the news feed will should be a common communication channel for all the kitcheneurs as well as KC where they can share e.g. tips, recipes, arrange collaborations or just communicate with each other.

Report system

To create a report system that is able to store customer content, analyze it and create visual representations for KC to get an overview of the claims, inspiration will be found in existing reputation systems. Many of those touch upon several of the needs of KC as it enables to store user content in the cloud and always make it available to all users who need to voice their opinions while allowing moderation of the content. Additionally reputation systems often include algorithms that makes it possible to analyze different patterns based on the user content. This could e.g. make it possible to retrieve statistical data about e.g. who the most frequent offenders are etc.

A reputation system can also be fast and efficient to use; if designed properly they do not require one to spend too much time reporting, which will hopefully increase the usage of the system. Different from traditional reputation systems, but similar to telephone, face-to-face and emails the proposed communication system will be focusing on reporting incidents and issues rather than finding out who to trust or what decision to make (where to spend my money).

In the end the kitcheneurs will be provided with a system that makes it easier for them to take the initiative to communicate with KC and each other. This means that the focus will be on “users telling something” rather than “company asking something”, as it is often the case with current reputation systems, where a company asks the customers to rate a statement formed by the business. This new report system should encourage the kitcheneurs the take the initiative to contact other kitcheneurs or KC about issues, compliments or complaints they might have. Such a system will hopefully not only make the kitcheneurs give feedback more often but it will also reduce workload, letting KC spend their time more efficiently, by routing all communication through a unified channel.

Traditional reputation systems or surveys, such as HappyOrNot, require a significant amount of preparation, deciding what question(s) to ask and exactly how to phrase them. This might give a fairly accurate measurement of the kitcheneurs opinions on a very defined topic, but might fail to capture the larger picture or issues not covered by the questions asked. By letting the kitcheneurs voice their opinions more openly, the company might even catch issues they wouldn’t have thought of otherwise.

The communication should primarily be between the

kitcheneurs involving KC as little as possible though KC should remain in the loop as they can see what is happening.

It should work as follows:
Each kitcheneur might have their own profile (based on their booking information, email etc.) and receive the reports through these profiles. When feedback is submitted through the system (written, oral or by using buttons), the receipient (kitcheneur) might get this report through a notification or the kitcheneur might be presented with it the next time he/she is booking the kitchen. Once the recipient has received and read the feedback, the system will automatically notify the sender by showing an icon indicating it has been read hopefully giving a sense of being heard (see Figure 33 on page 47).

The system should not specifically claim that the report is for that specific kitcheneur but it will indicate that it might be relevant to the kitcheneur since he/she used the kitchen earlier that day. This way the reports are sent and received anonymously with less risk of innocent kitcheneurs feeling targeted. Integrating the booking system with the report system will enable the system to look up earlier users that day.

The fact that the kitcheneurs are members and the same ones who to use the service regulaly makes it possible to make such a system with permanent profiles that can be kept at least for a year as they have to pay a year's membership before being able to take part in the service. Another important factor that makes it possible to make such a system is that the kitcheneurs do not have fixed days or times that they use the kitchen. This means that the time and days in which the kitchen is used for a particular kitchen changes from time to time. If the case was that some kitcheneurs had fixed days and times then it would not be possible to find out who the "real offender" because if a kitcheneur A is always cleaning but the kitcheneur B after is always reporting kithceneur A for bad cleaning then who to blame? It could be that kitcheneur B is the real troublemaker.

The system should enable KC to easily and efficiently get all the feedback without having to be directly

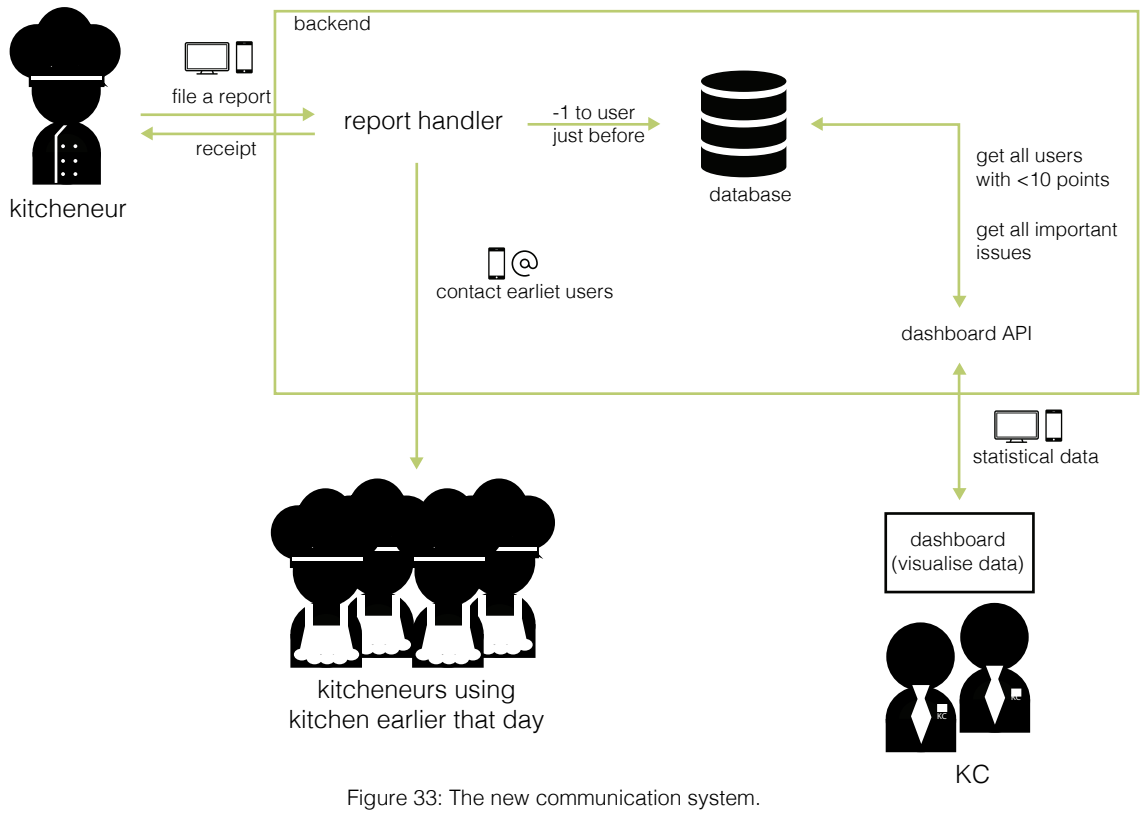


Figure 33: The new communication system.

involved, thereby requiring less resources. With help from algorithms and pattern analysis these reported complaints can be observed and monitored which gives a more structured overview for KC. If the same problems keep being reported then it is a sign for KC to do something about it. The monitoring of data could be visualized with e.g. graphs and tables to make it easier to understand and interpret. Making the findings public to the whole service community might lead the offenders to feel that their misbehaving are not going unnoticed and this could be an incentive for improving their behavior. Therefore it should be considered to make the findings public, while this could also backfire and make the kitcheneurs leave the service, which will of course only be considered backfire if the “good guys” are leaving too.

The downside of the whole report system is that it might create noise as the system will increase the number of trivial/unimportant complaints which means that there may be more complaints to take into consideration.

KC feed

Apart from a report system that will be used to communicate about events in the kitchen a Kitchen Collective feed should be featured. The purpose of the feed is to collect all communication between the kitcheneurs and KC into one single channel. Additionally it should enable kitcheneurs and KC to communicate about other topics than problems with the kitchen. It should give all actors the opportunity to talk about other relevant topics, make polls, receive important messages from KC, share tips and recipes, create collaborations etc. The feed will take inspiration from social media, Twitter, etc. and should be optimized for smartphone use due to the fact that most smartphone users always have their smartphones with them, meaning that they will always have the application at hand. The system should however also be available as a website for those without smartphones. The layout structure will be inspired by Twitter while the font and size will be inspired by the Apple’s guidelines, as these are well tried designs.

The feed will hopefully create value in form of more community feeling and a platform for easier collaboration. Instead of alwasy starting with involving KC, the kitcheneurs will be able to communicate directly with each other.

The whole communication system might also be adaptable to other services in the future, therefore is it important to take different factors into consideration such as wanting to make sure or at least reduce the risk of customers abusing the system. In this case the business’ will be given the option to choose if they want to moderate content before publishing it or if it should automatically publish the report directly to recipient without any moderation from the business. Additionally the users (KC and kitcheneurs) should be able to choose whether they want to get notifications from the system or not to avoid unintended nuisance.

Interplay between report system and feed

With the two features described individually, the interplay or connection between them will be considered to give a better understanding of the overall concept. The purpose is to create a communication system where the kitcheneurs and KC can communicate with each other to help KC to be able to take action before problems get unnescesarily large. To help with this, a report system was suggested. This should enable users to easily and efficiently report any kind of feedback whether it is about cleanness, equipment or other topics, while KC can monitor and retrieve statistics from these reports. However it should not all be communication about issues with the kitchen, but also allow more general topics which resulted in the KC feed.

Inspired by social media and emails, and the fact that most people always have it available through their smartphones resulted in the idea of receiving notifications about incoming reports through a smartphone app. Additionally Twitter inspired the idea of integrating the feed into the application where the reports are received in order to collect everything related to KC into one single channel. But why not just create a Facebook group? Because having one’s own channel add value in

form of branding and customization and features relevant for KC and the kitcheneurs such as integration with the booking system, report history, KC feed etc. which is not possible in the same degree using Facebook.

Service blueprint

The service blueprint helps illustrate who the actors involved in the service are and what role they play in the service "[23]". It helps giving an understanding of the process and the interaction between the front- and back office as well as what the user can see and cannot see when facing the service. Page 45 and 46 shows the service blueprint of the new implementation with the new two features: the report system and KC feed. In the service blueprint five components can be seen:

Customer actions are all the interactions and actions performed by the kitcheneurs from booking to using the kitchen, making a report, receiving reports, using the KC feed etc.

Onstage/visible contact employee actions are the activities that are visible to the kitcheneurs. These are activities like interacting with the application/website or report system.

Backstage/invisible contact employee actions are backstage activities which cannot be seen by the kitcheneurs. These activities are conducted in order to prepare serving the service to the kitcheneur such as validation processes or the process of sending and receiving.

Support processes are all the other backstage activities that supports the service in getting the service delivered. In this case it includes the booking system, payment system, keycard system, report system, Aalborg University etc.

Physical evidence which is seen at the very top of the service blueprint shows how the service is trying to be tangible. Making a service or a product tangible makes it easier for the kitcheneurs to perceive the quality of that specific product or service.

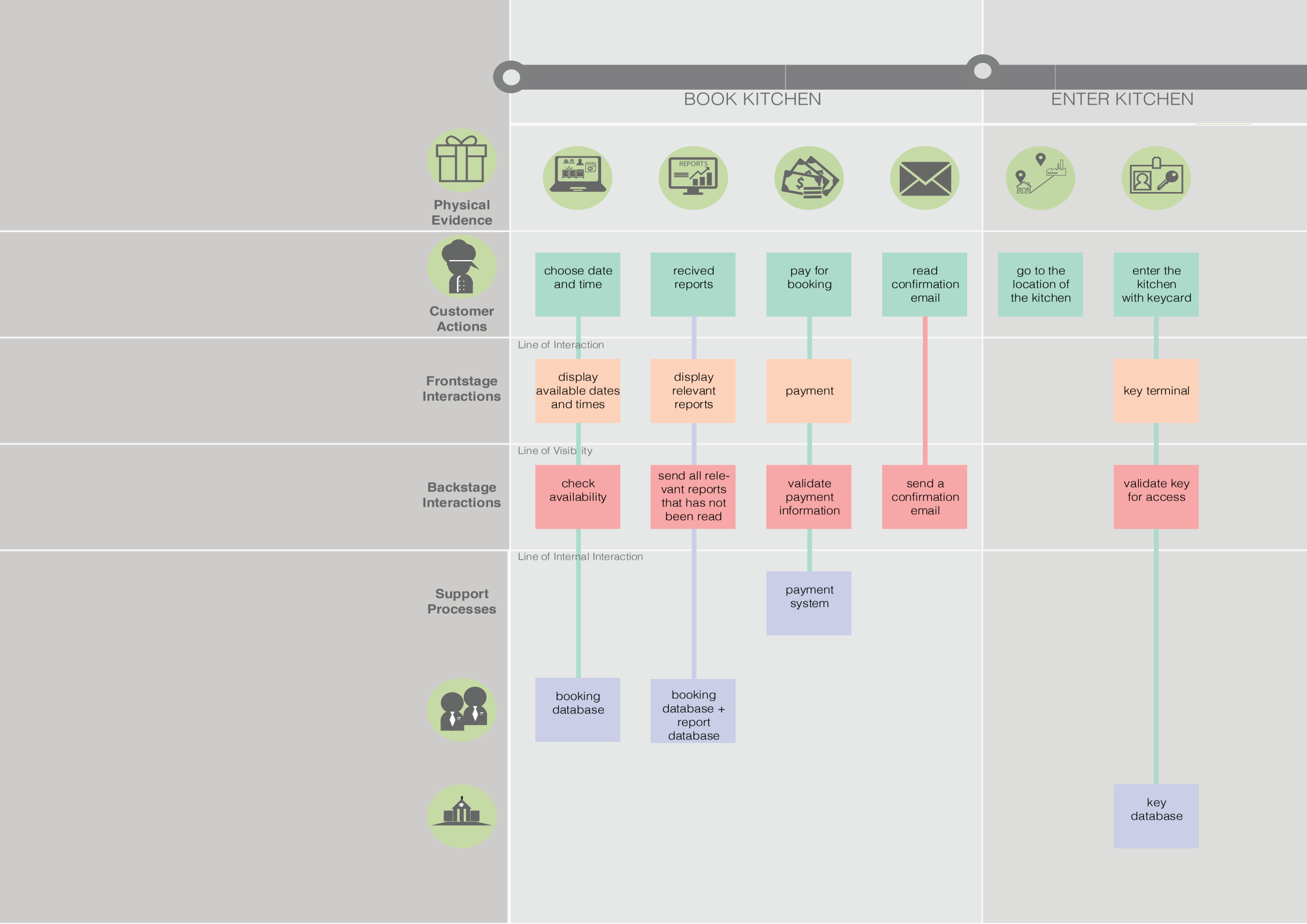
Scenarios

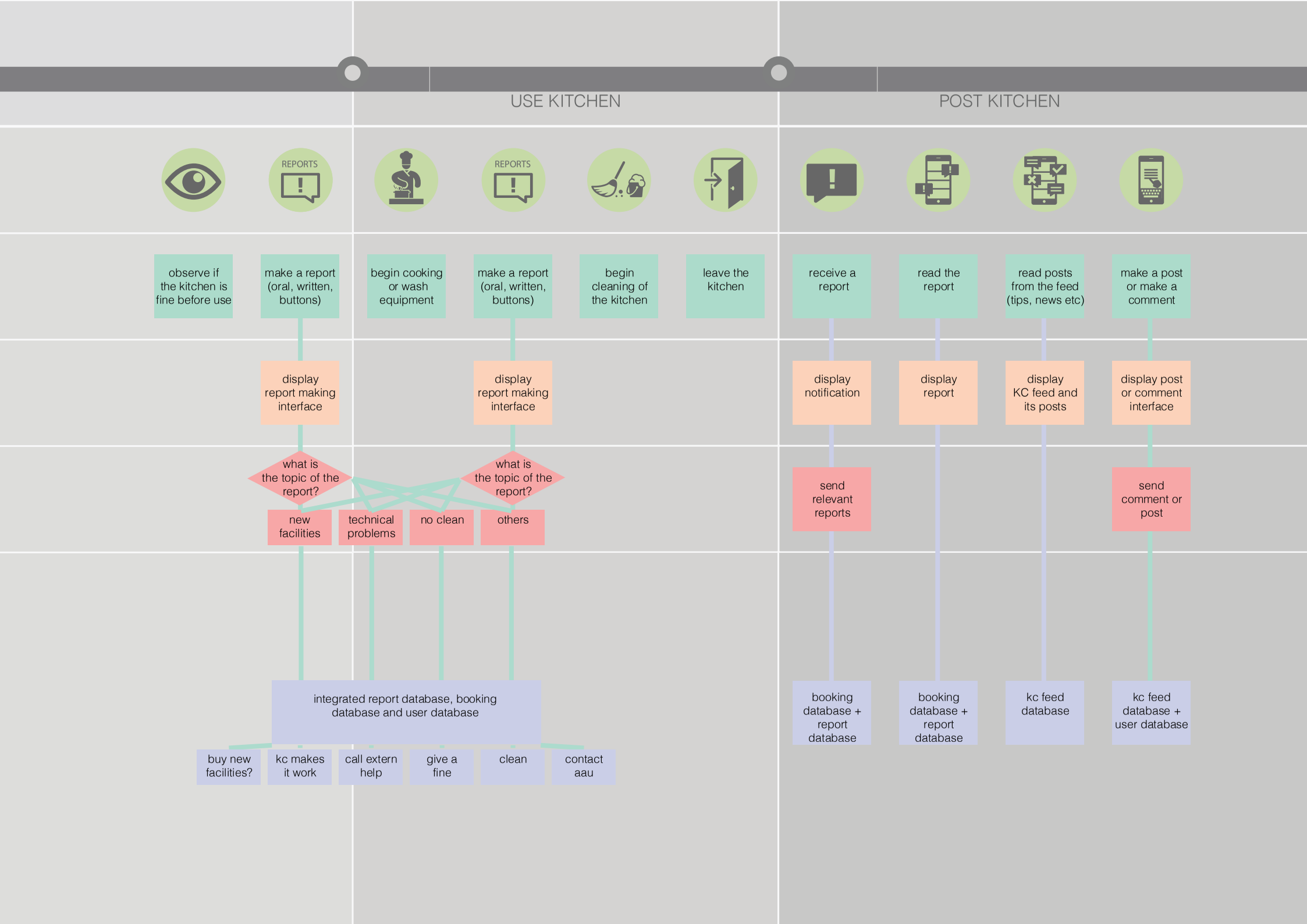
To get a better understanding of the context in which the new communication system will be used and how it should work in different situations, visual representations of three scenarios are presented (see Figure 34, Figure 35, Figure 36 on page 52). Each of the three scenarios are presented from the perspective of one of the personas (see "Persona 1", "Persona 2", "Persona 3" on page 45) and helps placing the personas in situations they might encounter in the envisioned service, imagining the workings of the service, and how the service will act as a solution to the problem(s) addressed. Scenarios are especially great communication tools to explain the concept to other stakeholders as it is a narrative method which is easily understandable as most people are familar with the concept of narratives from childhood.

1 The first scenario illustrates how the new communication system would solve the problem of a kitcheneur who needs to contact other kitcheneurs and file a report (complaint) because the kitchen is not clean enough.

2 The second scenario illustrates how the new communication system would help a kitcheneur who is always busy and cannot take the calls from KC because of work but still wants to get information when someone has something to say.

3 The third scenario illustrates how the new communication system would reduce the resources KC spend on receiving and getting an overview of the claims in order to take action.


BOOK KITCHEN
ENTER KITCHEN
Physical Evidence
REPORTS
Customer Actions
choose date and time
recived reports
pay for booking
read confirmation email
go to the location of the kitchen
enter the kitchen with keycard
Line of Interaction
Frontstage Interactions
display available dates and times
display relevant reports
payment
key terminal
Line of Visib ity
Backstage Interactions
check availability
send all relevant reports that has not been read
validate payment information
send a confirmation email
validate key for access
Line of Internal Interaction
Support Processes
payment system
booking database
booking database + report database
key database


USE KITCHEN
POST KITCHEN
REPORTS
REPORTS
observe if the kitchen is fine before use
make a report (oral, written, buttons)
begin cooking or wash equipment
make a report (oral, written, buttons)
begin cleaning of the kitchen
leave the kitchen
receive a report
read the report
read posts from the feed (tips, news etc)
make a post or make a comment
display report making interface
display report making interface
display notification
display report
display KC feed and its posts
display post or comment interface
what is the topic of the report?
what is the topic of the report?
send relevant reports
send comment or post
new facilities
technical problems
no clean
others
integrated report database, booking database and user database
buy new facilities?
kc makes it work
call extern help
give a fine
clean
contact aau
booking database + report database
booking database + report database
kc feed database
kc feed database + user database

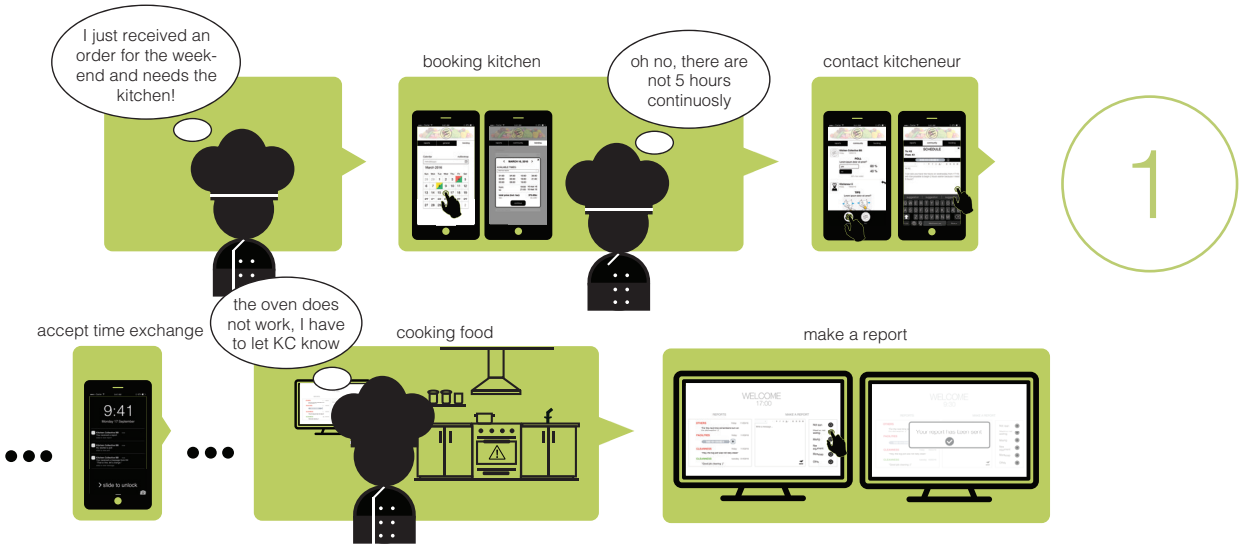


Figure 34: Scenario illustrating how the new communication could work to solve the problem of having to file a complain while in the kitchen without having to spend too much time.

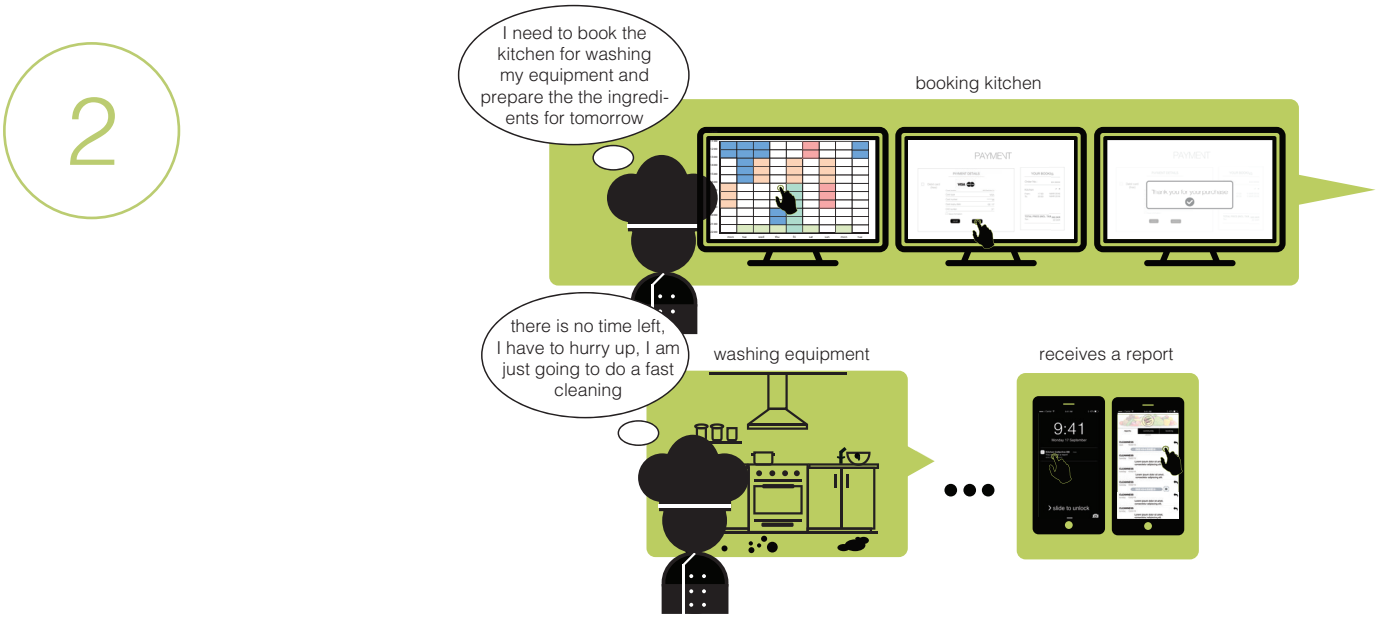


Figure 35: Scenario illustrating how the new communication could work to solve the problem of receiving information from KC when busy.

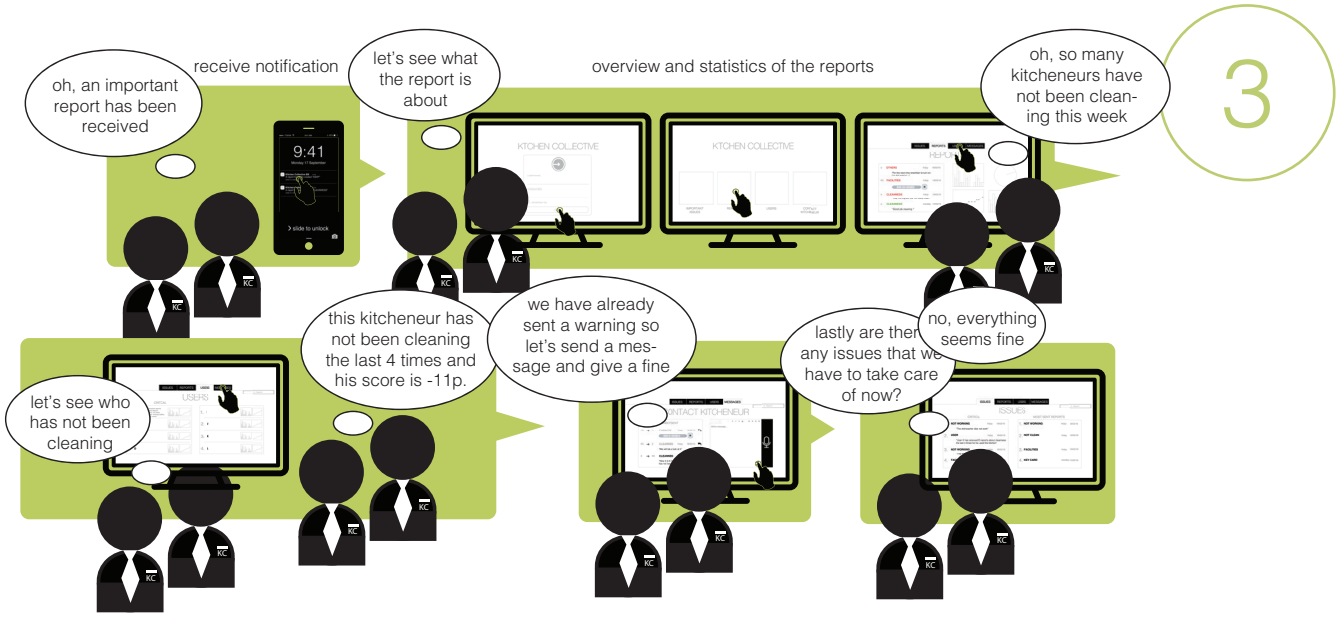


Figure 36:Scenario illustrating how the new communication could work for KC to receive all feedback on one channel and get an overview.

Current vs. new communication

This new concept will not change a lot seen from the perspective of the kitcheneurs apart from giving them a tool to make it easier and more efficient to communicate complaints and the possibility of communicating and sharing knowledge with other kitcheneurs.
Instead the biggest changes will be to KC's workflow, as they currently receive the claims through several channels as described in (Description of present system) which requires KC to spend a lot of resources to go through each of them. Through this new system all these claims should be collected into one single channel (see Figure 37 on page 53). Furthermore the new system should allow KC to be less involved in smaller issues such as claims about the kitchen not being clean enough. When a claim like this occurs the new system will sent out a notification to the kitcheneurs who it might be relevant to, namely the kitcheneurs using the kitchen earlier, which is exactly what KC would have done. When receiving a dirty kitchen report, KC currently contact the other kitcheneurs to ask if it was them, and find out the reason why they did not clean after themselves. Directing the claim towards the possible "offenders" would thus save resources for KC.

A kitcheneur is likely to feel more intimidated if KC contacts them personally because of authority, but KC just do not have the resources to contact every single kitcheneur whenever such a claim is received.

The new system should help KC in getting an overview of the claims and knowing when and what kind of actions to take. Through analysis of the claims the system should visualize information about e.g. who does not clean, what are the most reported claims, what claims have to be solved right now etc.
Lastly, the new system gives the actors involved the possibility to claim or read the received claims whenever they want. It does not require the actors to always be ready and available to receive the calls from KC. This way the actors can do what they are supposed to do without having to think about being distracted due to the possibility of KC contacting them and vice versa.

In Figure 38 on page 54, a comparison of the current vs. the new sequence of actions from the perspective of the kitcheneurs can be seen. The grey line refers to the current process while the brown refers to the new process. It might look like the current process includes less steps and thus appear easier and more efficient compared to the new process, but the new journey the kitcheneur will go through is almost the same. The difference and optimization of the customer experience lies in the application and the two features: backend of the report system and the new feed which is the reason for the extra actions seen in the figure.

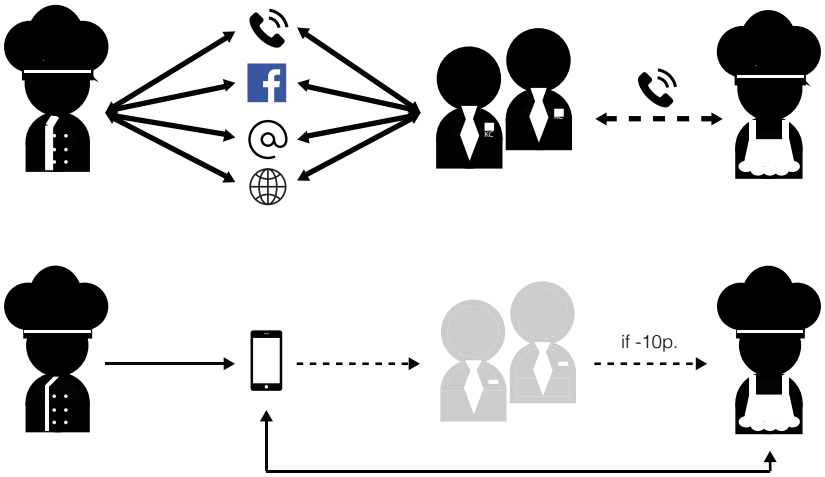


Figure 37: Current vs. new communication channels used between kitcheneurs and KC.

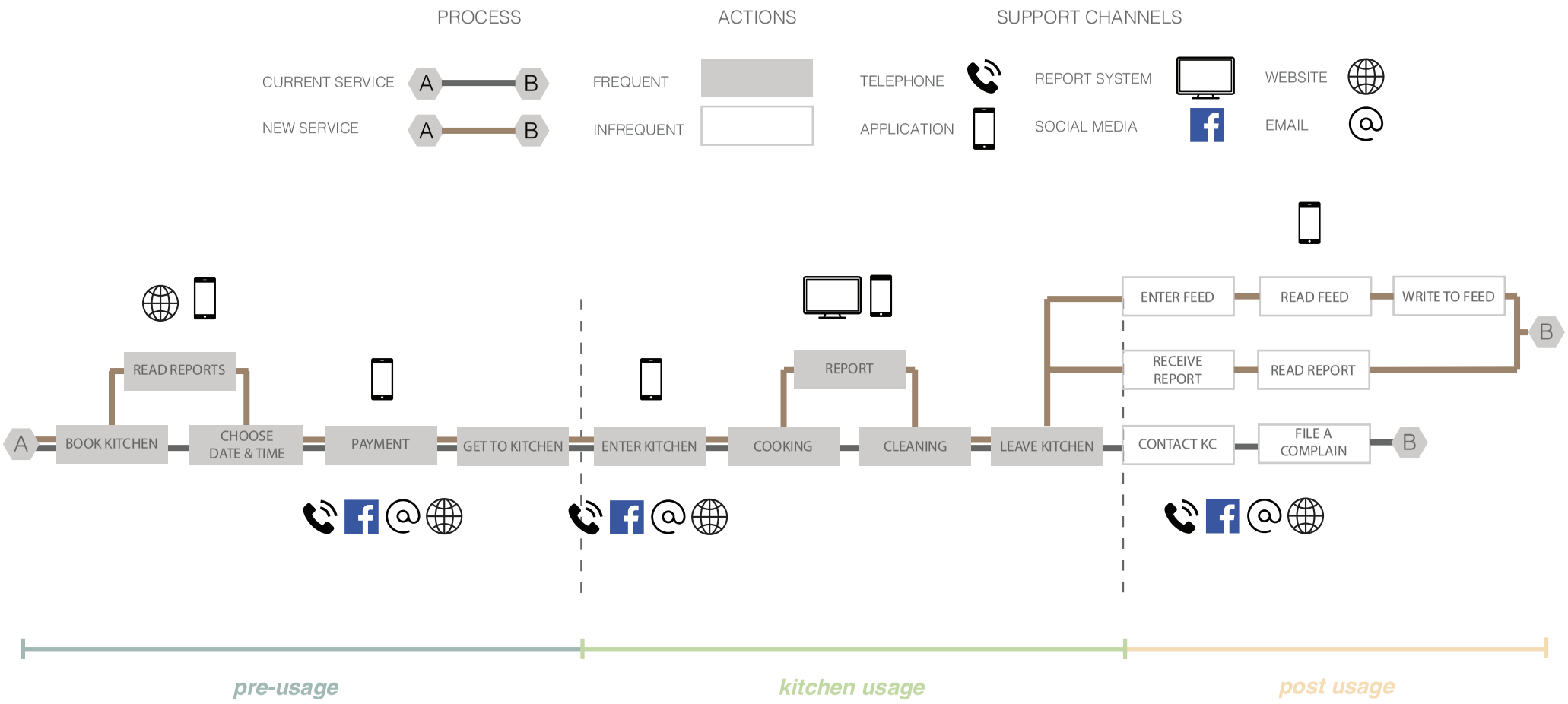


Figure 38: Current vs. new sequence of action and communication methods used.

CHAPTER

8

implementation

This section describes the implementation of three wireframe user interfaces based on the concept design (see “Concept design” on page 44). These wireframes were used for testing and exploring flaws in the interface that should be modified to improve the quality and customer experience. The wireframes were implemented using Adobe Experience Design, which is great at quick and dirty UI prototyping.

Wireframe 1 - Kitcheneur board

The first wireframe illustrated the “kitcheneur board” which is the kitcheneurs’ interface to the report system. This is what the kitcheneurs would be interacting with when filing a complain or giving feedback. The wireframe is a static representation of how the interaction flow of giving feedback is intended to work.

In Figure 40 on page 56 and Figure 41 on page 56, images representing the kitcheneurs interface of the report system can be seen where the layout structure of the kitchceneur board can be seen in Figure 39 on page 56.

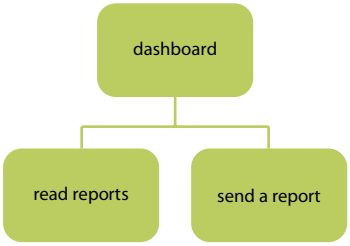


Figure 39: Layout structure of the kitcheneur board.

Looking at Figure 40 on page 56 starting from left, the stream of reports which may be relevant to a specific user will be shown. This has the purpose of making the kitcheneur aware to follow the guidelines of KC e.g. remembering to clean. The right side is where the kitcheneurs can file a complain or give feedback. Here the kitcheneurs are given several options in form of a written message, speech message or by using the buttons. The way to write a message is standard while speech messages will be by holding in the buttons. This is inspired by Siri where the user has to keep pressing the home button. If the buttons instead of holding it in are pressed quickly this will be what is referred to as “using the buttons“.

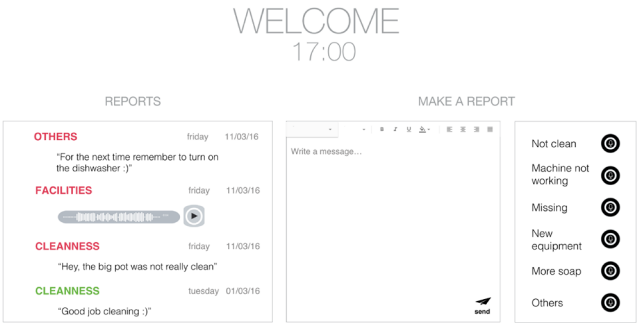


Figure 40: The interface when a kitcheneur want to give feedback.

In Figure 41 on page 56 a popup message telling that a feedback has been sent will appear which works as a confirmation for the kitcheneurs to know that the feedback has succesfully been created and sent to the relevant people.

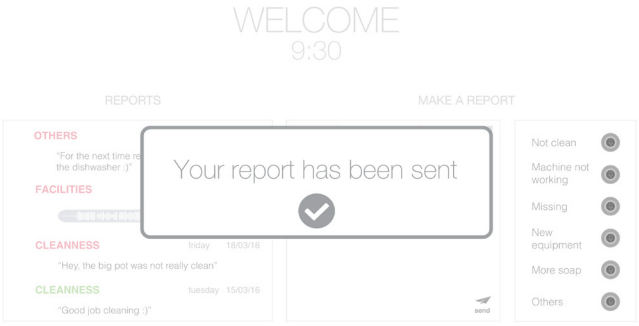


Figure 41: The interface feedback has been succesfully sent.

Wireframe 2 - KC board

The second wireframe is the user interface of the “KC board“, which as implied in the name is provided for KC. The wireframe has the purpose of collecting all feedback in one place helping KC getting an overview of all the information that the feedback contains so they are able to know when to take what actions.

In Figure 42 on page 57 the layout structure can be seen. This gives and overview of how the KC board is build. Starting with having KC to login in order to confirm their identity. Once the KC has been succes-

fully logged in, they will be given four options, to go to “important issues”, “reports”, “users“ or “contact kitcheneur”.

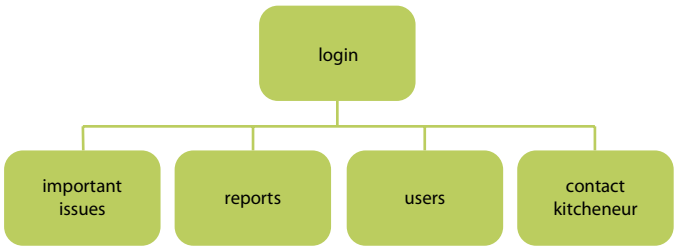


Figure 42: The layout structure of the KC board.

The first option “important issues“ consists of two parts: an overview of the most critical issues that has been reported (left) and an overview of the most frequently reported issues (right) (see Figure 43 on page 57). The reason for having these two is because the most critical is different from the most frequently. To know how critical an issue is, each topic will be adressed points which enables an algorihm to calculate what issues that are most critical so that KC can priortize to take actions to these issues.

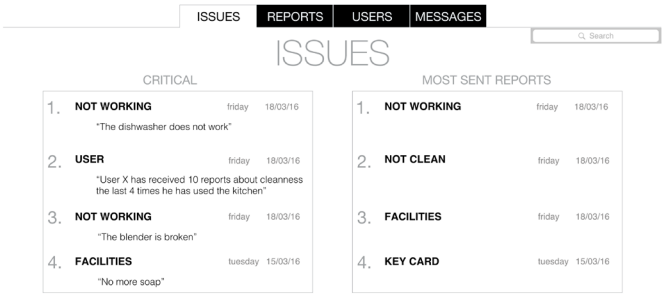


Figure 43: The “issues“ interface.

The second option “reports“ is a stream of all the reports the kitcheneurs have sent (left) (see Figure 44 on page 57). This gives KC the opportunity to monitor what happens in the kitchen. On the right side visual representations of the report content will be shown to help KC get a quick overview. These visual representations will be in the form of statistical graphs (see Figure 44 on page 57).

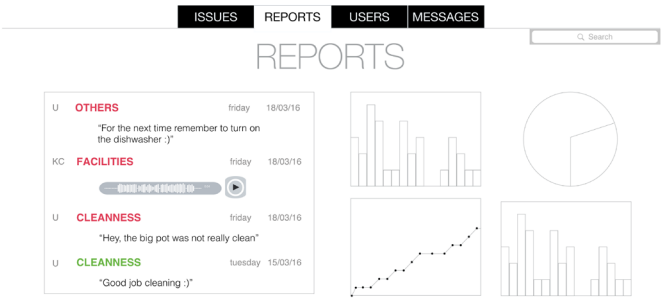


Figure 44: The “report“ interface.

Not only does the KC board give information about the content of the reports but it also gives information about the kitcheneurs, who is the sender and who is the receiver. This is the third option “users“ which aim is to point out the “offenders“. Through a point system the report system should be able to identify possible offenders.

Similar to “important issues“ this part of the KC board consists of two parts (see Figure 45 on page 57): critical kithceneurs and best kitcheneurs where the critical kitcheneurs are those who receives most negative reports or if it can be noticed that a specific kitcheneur always sends negative reports after having used the kitchen. The best kitcheneurs are those who do a great job whenever using the kitchen. And similar to “reports“ statistical data are visualized to help KC get an overview of the data.

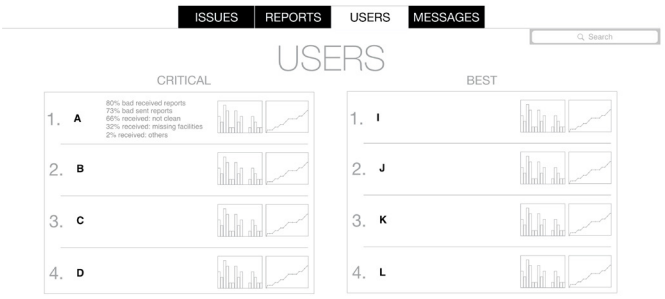


Figure 45: The “users“ interface.

When KC has noticed a possible offender through their KC board, they might have to take action by contacting the kitcheneur to get more information and reason

behind his action. This happens through the fourth and last option “contact kitcheneur“ where earlier messages can be seen and new ones can be sent (see Figure 46 on page 58).

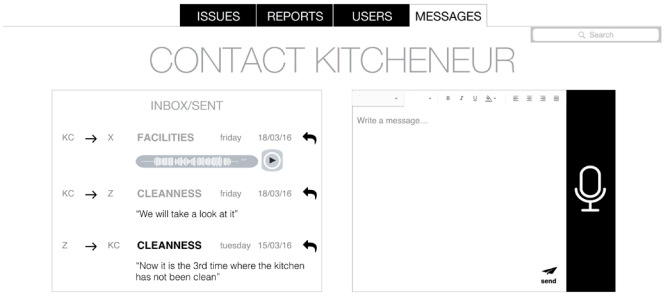


Figure 46: The “contact kitcheneur“ interface.

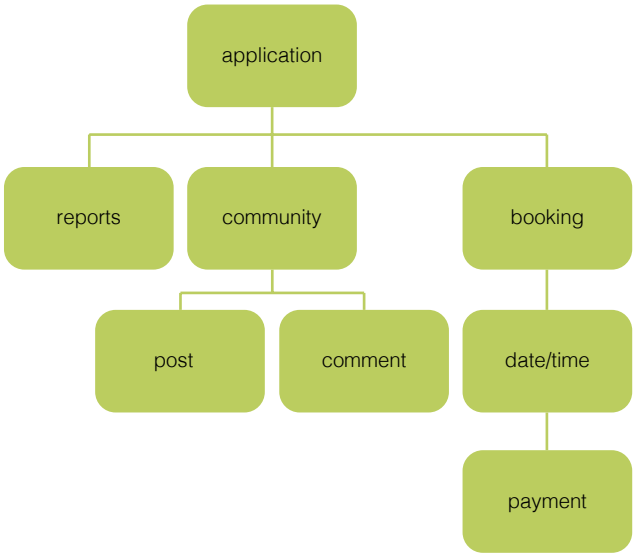


Figure 47: The layout structure of the app.

Wireframe 3 - Application

The third wireframe is the second user interface provided for both the kitcheneur and KC called “application“. This user interface is for the application that both the kitcheneurs and KC will be able to use though the interface and features will be a bit different depending on whether one is a kitcheneur or KC. The images presented in Figure 48 on page 58 to Figure 52 on page 59 are the user interface for the kitcheneurs as the page “reports“ and possiblity to contact KC is included. The application has three purposes: to receive reports, take part in the community feed and booking of kitchen. As the only wireframe, it is semi-working as a limited set of interactions have been made possible for the purpose of testing.

Figure 47 on page 58 illustrates the layout structure of the application. This application is intended to collect all KC communication in one place. This way there should be no misunderstanding of where to look, find or ask about anything related to KC. It is divided into three pages: “reports“, “community“ and “booking“.

The first page “reports“ is where the kitcheneurs can see or hear the reports they have received depending on what kind of message has been sent. The purpose of receiving the reports is to be reminded and be aware of the guidelines of KC as well as act as a motivator the next time the kitchen is used. The page will work as a stream of reports where the newest report will be placed on the top and it will be possible to answer back to the sender (see Figure 48 on page 58).

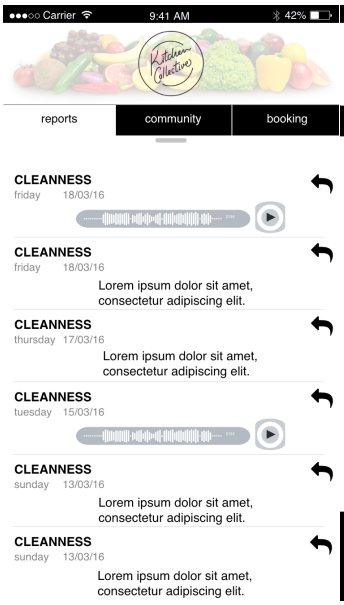


Figure 48: The “report“ feature where the kitcheneurs receives their reports.

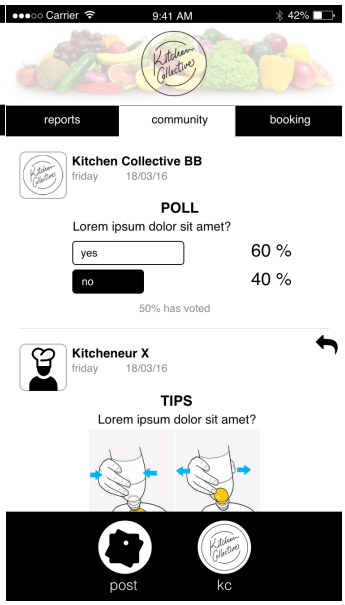


Figure 49: The “community“ or KC feed feature where all actors can communicate openly to each other about other topics than the kitchen.

The next page is the so called “community“ where both kitcheneurs and KC are able to communicate openly with each other about other topics than the kitchen. Here it gives the opportunity to share tips or recipes, create polls or collaborations, exchange times etc. It is inspired by Twitter and how the feed flow works as well as all content will be public (see Figure 49 on page 58). Apart from sharing tips, creating polls, exchanging times etc. thorugh posts, it should also be possible to comment on posts or privately contact KC (see Figure 50 on page 59).

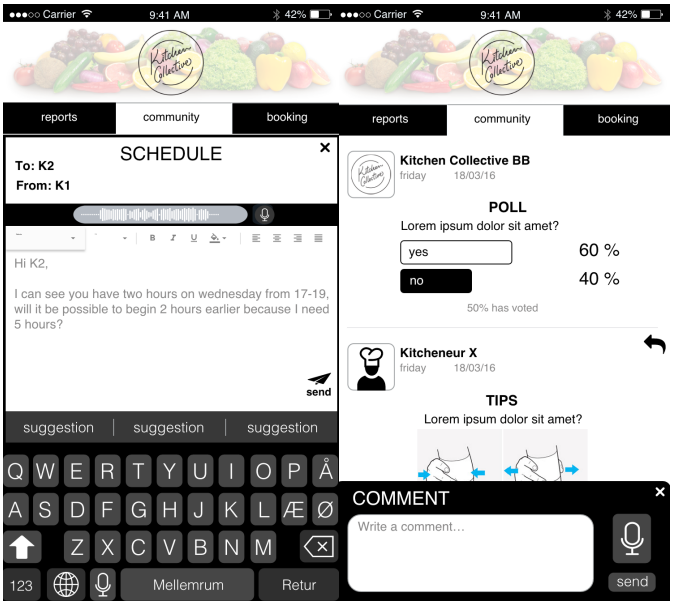


Figure 50: The two actions of making a post (left) or a comment (right).

The last and third page which is not that important for the purpose of the project is the “booking”. The reason why this has been included is to show the opportunities an application has, to collect all relevant features in one place.

The flow of the booking will be as in most other applications for buying or renting, starting with having to choose a date and time (see Figure 51 on page 59). To make it more efficient for the kitcheneurs to book, the amount of availability will be shown visually. Additionally should the kitcheneurs be able to see available times on a specific date once a date has been chosen but if the kitcheneur knows that e.g. 2 hours are needed a filter could be used to make it more efficient. This filter should filter all hours that do not have two available hours after another (see Figure 51 on page 59).

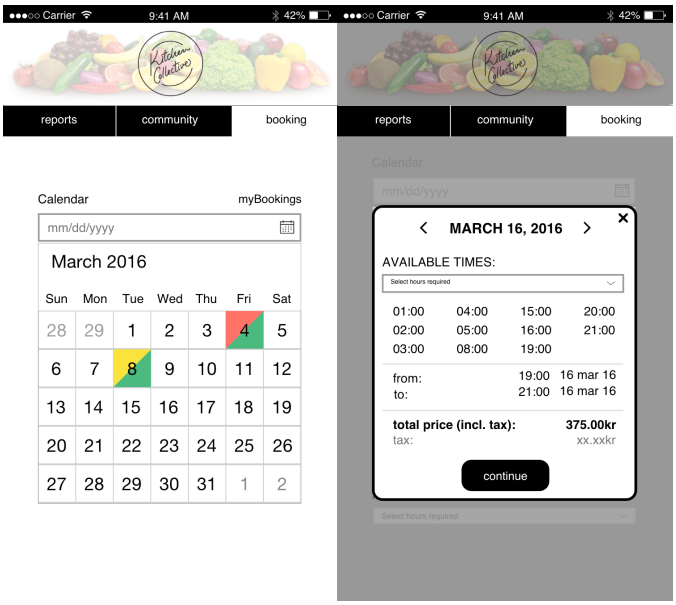


Figure 51: Booking system on the application - Chossing date and time.

Once the date and time has been chosen, payment has to be conducted and confirmed (see Figure 52 on page 59). If the kitcheneur choose to “remember this card“, only the first time has to be used on filling out payment information and then the payment will be automatic.

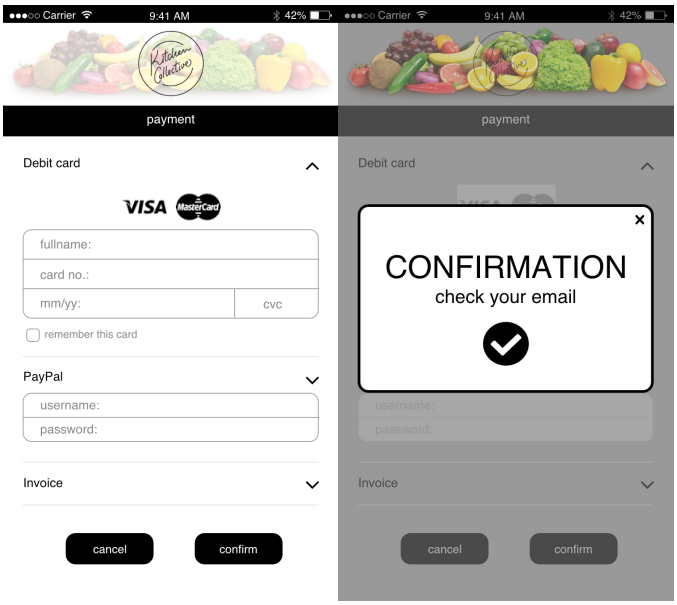


Figure 52: Payment and confirmation of booking.

CHAPTER

9

testing

With the development of the concept in the process, it was time for a meeting with Kitchen Collective to present the concept and get feedback on the current knowledge of how the report system is would function and look like.

To support the service blueprint in explaining the concept to Kitchen Collective, the wireframes were presented as well to help visualize how the structure of the user interface could work and look like. Having a wireframe to present to Kitchen Collective gave a better understanding of the flow and perception of quality. Additionally it was an easy and quick way to get feedback for changes compared an already programmed and implemented system where changes are usually significantly more expensive. Not only were the wireframes created due to the fact that it has to be presented to Kitchen Collectives to get a better idea of the concept but it will also be useful for the development team tp get an overview of all the interactions. Showing instead of describing is almost always easier to understand for all parties.

The meeting with Kitchen Collective consisted of four phases:

1. a semi-structured interview to confirm how the kitcheneurs and Kitchen Collective currently communicate.
2. the movement from the initial idea concept (previous semester) to the new concept idea, how they differ and why.
3. presentation of the new concept more in-depth with the help of the customer journey, service blueprints and wireframes.
4. semi-structured interview about their thoughts of the new concept, wireframe and further development.

Phase 1

In this phase a semi-structured interview was conducted with the purpose of making sure that the findings from last semester still were still relevant. This included the knowledge about lack of communication which is the reason behind the problems getting bigger than necessarily. It was therefore important to go more in-depth regarding how they currently communicate as well as what they communicate about and what they get out of the current way of communicating. To get these answers, a list of questions were prepared as a guideline to make sure that the necessary answers were collected (see “Appendix A” on page 77), but without imposing a strict structure on the interview. It was closer to a normal conversation with the questions incorporated and if anything interesting during the conversation was mentioned, a more in-depth conversation about that specific topic would be initiated.

The questions asked during this segment were:

- What other request do you get other than the kitchen not being clean?
- How do you receive these request, through what channel(s) do you receive the requests?
- What do you do to solve these problems?
- How fast are you able to do something about the problem from the moment you are contacted by a user?
- Has there been any cases where the users have contacted you because they wanted to get in contact with another user?

Phase 2

This segment was short and consisted of an explanation of how the concept had changed from the initial idea of a rating system to communicate about possible problems to the current idea of a general reporting and communication system. KC was informed about the process and reason for modifying the concept, more specifically pointing out that the former idea already exists “HappyOrNot”. This was followed by a short introduction to the new concept mentioned and a comparison of the former and current system made.

Phase 3

A more in-depth explanation of the new concept was conducted in phase 3 starting with a presentation of the customer journey for Kitchen Collective to understand the context in which the report system is going to be used in as well as the touchpoint of interaction. Following the customer journey, the service blueprint was pre-

sented to help giving Kitchen Collective a more in-depth understanding of the process of actions and interactions between front- and backend and those involved in the process. This will help give an understanding of how the whole report system work and is connected to the rest of the service.

After the presentation of the customer journey and service blueprint, KC was presented with a wireframe to create a more clear picture of the content of the report system, how each interaction is connected to one another and how the flow and layout might look like. A total of three wireframes were presented:

- the report dashboard of the Kitcheneurs placed in the kitchen,
- the observation dashboard of Kitchen Collective, and
- the application in which the notification of reports are received and where the general communication of the community is going to take place.

2/3 of the wireframes were presented through static images whereas the last wireframe was partially functional.

Phase 4

Now that Kitchen Collective had the knowledge and better understanding of the new concept, it was all about collecting feedback on not only the overall concept but also what was presented in terms of the features included, layout and interaction flow.

This data was collected through a semi-structured interview which included questions about what their thoughts about the new concept were, if it was something they can use and if the system is a system that they have any intention to use. These initial questions were to find out whether they were interested in the concept or was more skeptical or maybe not interested at all. After the initial questions more specific questions were asked such as what they thought about the possibility to choose between writing, speaking and use of buttons to report. Additionally did the conversation serve to collect answers as to what kind of data they wanted to receive from the system and if there was anything regarding the report system that they might find undoable due to lack of resources or just as an obstacle which have to be taken into consideration when developing the "final" report system, moving towards the deliver phase of the Double Diamond design lifecycle.

Evaluation

The evaluation was conducted in KC's office at AAU and Mia Maja was the only person to evaluate the concept and wireframes.

In the first phase all questions were answered and confirmed the knowledge from last semester about the problem regarding communication between the kitcheneurs and KC. They confirmed the fact that they are communicating through several channels which requires a lot of resources and having to take actions are as well expensive. The actions they are able to take are as well limited not only due to resources but also due to the competences they have. Additionally they are only able to take action and solve problems on week days during normal business hours as they also need to take a rest in the weekends. If it happens that KC are not able to solve the problems e.g. technical problems then they will call for external assistance. The complains KC usually receive are limited and focuses on technical problems and cleanness.

In regards to communication between the kitcheneurs themselves, they never use KC but they neither use the KC Facebook group where it can be seen that most posts are made by KC concerning information relevant to the kitchen or events. Participation from the kitcheneurs is limied. Therefore were they interested in the KC feed as they stated "*I quite fancy the idea of being able to talk together and post stuff. It is cool.*" and "*we really want to work with how to create a better community between the kitcheneurs because the day we get competition then the only component we are able to win with is the component that is unique and differs from the other competitors.*" (Mia Maja, KC)

Not only were the presentation of the KC feed a succes,

so was the report system. They were exicted about the idea of being able to collect all complains at one place and being able to get an overview of the content of the reports which they thought as very useful. Upon hearing the concept they stated "*Cool, it looks great. It is something that is very useful for this service.*"

When the questioning about possible aspects of the concept that may not be possible, KC did not mention anything as they thought it would all be possible. The biggest obstacle though, was mentioned to be "*getinng the kitcheneurs to use it.*" The option of it being mandatory was mentioned but KC do not like the idea of making it a requirement to use the report system as it might intimidate/scare some kitcheneurs away from using the service. Instead they preferred that the report system was easily noticable and accessible ensuring that-that the kitcheneurs cannot avoid seeing and use it as they stated "*I think if that is the case then, I can almost image an iPad holder with an iPad that had balloons all over so that you would almost walk into the balloons and iPad when on your way out*". Furthermore did they ask to make it possible to make reports through the application as well. This was not the only addition KC mentioned as they saw other opportunities by having their "own" application that could be customized. For instance did they mention their manual that each kitcheneur receives physically every month. Now they saw the opportunity to make it digital and the possibility to add videos that supports the manual as part of the application so that the kitcheneurs always have it available.

With this go from KC, it was now possible to move on to the next step where a usability test of the wireframes would be onducted to find out what more experienced people within the field of UI thought of the user interfaces, including the overall concept idea, the interaction flow and the layout structure to find flaws.

This section describes the second of two iterations. In this iteration a usability test of the user interface and interaction flow was conducted with the aim of finding out if the user's first of all understood the interface and were able to navigate around. Secondly was the test used to find possible flaws to improve the quality and make it more usable and thus a better customer experience. The test included two static wireframes and an interactive semi-functional wireframe for the subjects to interact with. The test was conducted on a laptop as an informal hallway test.

Procedure

The subjects were recruited by inviting passers bys at the University. The 15 subjects were randomly paired with one of the three wireframes and tested only one wireframe each. This means that a total of 5 subjects tested each wireframe which according to Nielsen "[20]" "[22]" is sufficient to catch the majority of usability issues. Making one subject test only one wireframe was decided to prevent possible biases between tests. Having one wireframe per subject was also chosen to decrease the time required per subject in the hope of easing the recruitment of test participants. Each test was estimated expected to take 5-10 minutes.

Before each test every subject was informed about the project and the purpose of the project so that they could relate the wireframes as much as possible to the kitcheneurs perspective hopefully increasing the relevance of the feedback. The subjects were informed that the project is a collaboration with Kitchen Collective who has a rental kitchen service and that the project is an attempt to ease the communication between KC and their customers regarding problems that might occur in the kitchen, such as receiving a dirty kitchen or broken equipment. Furthermore they were informed that the aim was to encourage the customers to report about even the smallest problems to address them before they got bigger than necessary and for Kitchen Collective to keep an overview of the state of the kitchen and help them know what actions to take and when in order to improve the overall customer experience.

Each test consisted of three tasks. The subjects who have been paired with the same wireframe was given the same tasks to reduce possible biases in terms of e.g. difficulty of tasks if given different tasks.

During the tests, the subjects were observed and asked to think out loud to collect knowledge about what they were thinking while interacting with the interface. Any comments or questions were addressed and noted down as possible improvements for the next design iteration.

After the test the subjects were asked to speak freely about any feedback they had in mind: what they liked and what could be improved regarding graphical layout and interaction flow.

In short the procedure was as follows:
1. Briefly explain about Kitchen Collective and their service followed by what the project is about and what the system is going to be used for.
2. Give out tasks in terms of scenarios that the subjects had to conduct:

Wireframe 1 - Kitcheneur Board:

1. You want to read what reports you got, where would you do that?
2. You want to see how many "bad reports" you received
3. You want to use the fastest way to report about the kitchen not being clean

Wireframe 2 - Kitchen Collective Board:

1. You want to see the reports that have been created
2. You want to see who are the worst problem makers
3. You want to see what problems that are critical to take care of

Wireframe 3 - Application:

1. You want to take a look at a report you just received
2. You want to know if anything is happening in the community

3. You want to make a post to the community

3. **Observe how they interact with the interface.**
4. **Ask for further feedback.**

Evaluation

The tests were performed in an open hallway space to get in touch with people and get them to test the wireframes. A total of 15 subjects evaluated the non-functional wireframes, 5 for each wireframe. All participants were students at Aalborg University with the majority having a background in either Medialogy or Service Systems Design (see Figure 53 on page 65). The last student studied ITCom. The distribution of gender was 1:3, 5 females and 10 males and 2 out of the 15 subjects were a bit older than the rest of the subjects.

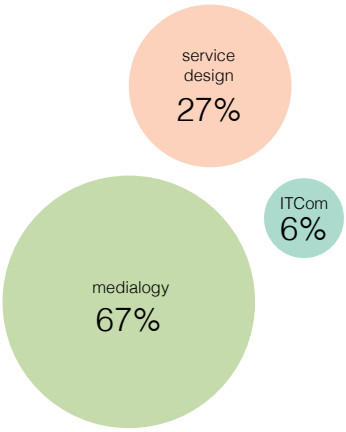


Figure 53: Subject demographics.

The average test time was 20 minutes, well over the estimated 5-10 minutes due to the feedback session taking longer than expected. The test time for each wireframe differed as well as the test time of the *app wireframe* took longer compared to the test of the kitcheneur board. The test duration of the KC board was between the app and kitcheneur board. Apart from this, the test followed the procedure described in the previous section.

General

During the tests, general feedback which applied to all three wireframes was received. For instance it was mentioned by one subject that the name “reports” or “report system” should be considered to be replaced with “status update” or “status of kitchen condition” because it is not reports that are being created and sent through the system but more or less a status update of the kitchen condition. A report was considered a longer description which this system does not provide.

7 subjects encouraged that it should be mandatory for the kitcheneurs to use the report system in order for Kitchen Collective to be able to actually get data and know when they have to take action; how would KC be able to take care of even the smallest problems if not reported? One subject though, did not want it to be mandatory but instead make it so it become a (in-direct) requirement. “*it should not be a requirement, it just have to be right in front of them so that they are always using it.*” (Make it as visible, accessible and easy to use as possible for the users that they cannot help but use the system.)

Furthermore it was told that the idea behind including speech is great but just not at the moment. In the future it could be a great integration but with the current technology and amount of people using it, then it should not be included as people would not use it. One subject even asked “*think about it, would you use the speech yourself?*” and mentioned the cost of resource it will require to transcribe the speech messages to written messages and further from written qualitative data to quantitative data in order to make statistics. Another subject thought more in-depth about the size of the data requires for a speech message and how to make it usable for both the international and Danish users.

Apart from speech, buttons and written messages it was proposed to include the option for users to attach or include an image. This will be helpful for evidence or to support the message as it will make the message more thorough, plus it fits well with the fact that most smartphone users have their device with them always.

Lastly the layout or interaction flow would be better if the interface included more colors for the interactive buttons/icons to make the interaction flow more clear as one subject stated “*in regards to the layout then it is only black and white, maybe put some colors for the*

actions that will help." and "*maybe green for forth and red for back or gray for back, that would help direct the flow.*"

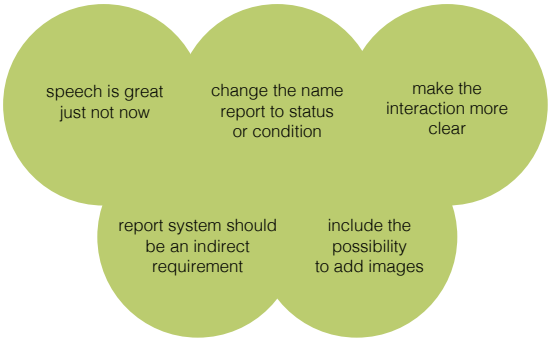


Figure 54: Genral findings.

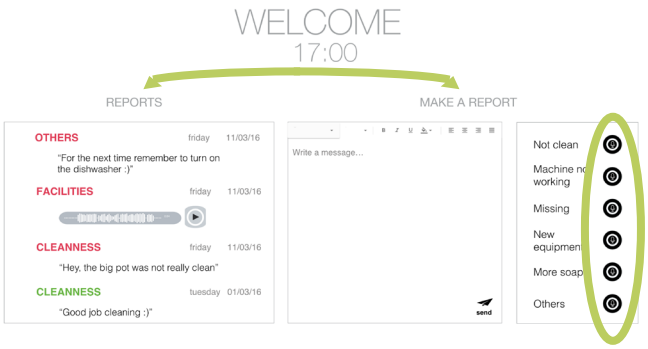


Figure 55: Subject feedback on the kitcheneur board in regards to switching around the report stream and make a report as well as difficulty in understanding the buttons.

Wireframe 1 - Kitcheneur board

With the given test scenarios, several points were observed which have to be taken into consideration for future development. One of the most important observations during the test was that all five subjects did not understand the buttons at the interface correctly. 3 out of 5 thought the purpose of the buttons ("Concept design" on page 44, "Implementation" on page 53) was to choose the category in which the written message would belong to while the 2 other subjects did not understand it at all (see Figure 55 on page 66).

Once the purpose and function of the buttons were explained during the feedback session, 2 subjects thought it was a good idea while the other 3 did not. They understood the purpose and the thought behind the idea but if they had to take the perspective of the owners (Kitchen Collective) then using the buttons would not be thorough enough. As one subject stated "*I thought the buttons were there to be able to choose a category, like what category in which the written message would belong to.*" and "*generic, standard may be a good idea to include if wanting to get an overview but as the provider then it is great to know that this is not clean and this is not clean etc.*". The subjects would rather have a bit more detailed message which provides knowledge about for instance what is not clean or what has been broken. Instead the buttons were suggested to be used as a check list one subject said while another suggested that a new menubar could appear with a list of possible reasons to choose from. This way the buttons could still be used while at the same time more thorough messages would be created.

Additional was is suggested to flip around the two boxes, Reports and Make a report as it would make most sense to place the most important or used feature on the right because that is what attracts the eyes at first ("Implementation" on page 53). Also it was asked to enhance the boxes and headlines from gray to something more powerful as it fades to the background compared to the red and green color used in the interface.

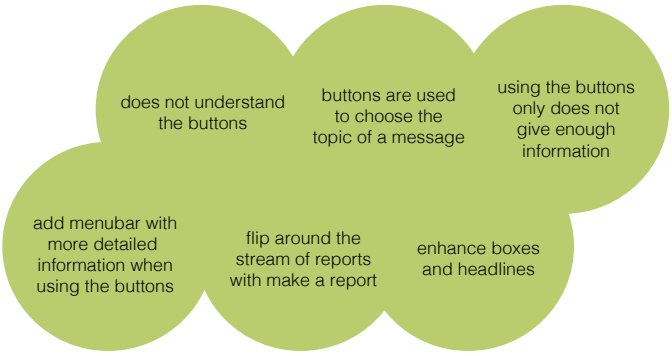


Figure 56: Kitcheneur board findings.

One subject kept asking for the easy solution of hiring for instance cleaning staff to clean and make sure everything was alright before a user would use the kitchen and could not understand why it was not possible. If cleaning had no cost, KC would most likely implement it into their service offering without hesitation.

Wireframe 2 - KC board

During the test of the Kitchen Collective Board it was observed that the subjects generally were fast conducting the scenarios given. This was also confirmed during the feedback session where one subject stated "*everything was clear and understandable, it makes sense.*" while another stated "*I think it makes great sense. The interface is just standard so I don't think there are any problems.*"

Still a few things were mentioned for possible improvements. For instance the graphs which did not explain anything and were not understandable could have had included some more information such as numbers so that the subjects were able to get an idea of the purpose of the graphs and what kind of information they would create and how it could be useful for Kitchen Collective to know.
Furthermore did one subject search for the possibility to be able to enter the reports in the streaming to get further information such as if entering cleanness then information about how many cleanness reports on that specific day would appear. Or maybe attach

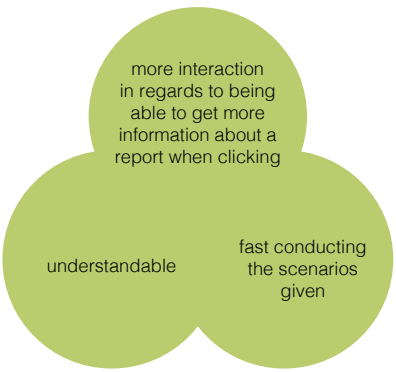


Figure 57: KC board findings.

tags to the reports so that filtering and sorting could be conducted.

Wireframe 3 - Application

The test of the application was the test which took the longest and received most feedback. A notable observation during the test was that all five subjects had a significant difficulty in conducting the third scenario where they had to make a post. The reason was that they could not find where to make the post (see Figure 58 on page 67). One subject commented "*I did not see the "making a post" probably because it is black. Maybe making the contrast the other way around or something.*" This statement was supported by another subject who stated "*I ignored the black bar at the bottom where the options of posting, commenting or writing to KC could be conducted because it was black.*"

Due to the small screen size, it was also suggested to increase text remove the KC logo placed at the top of each screen (see Figure 58 on page 67). Furthermore was it suggested by one that the "contact KC" should be a page itself (see Figure 58 on page 67) and that spam should be considered in the sense that maybe the content which is possible to be posted

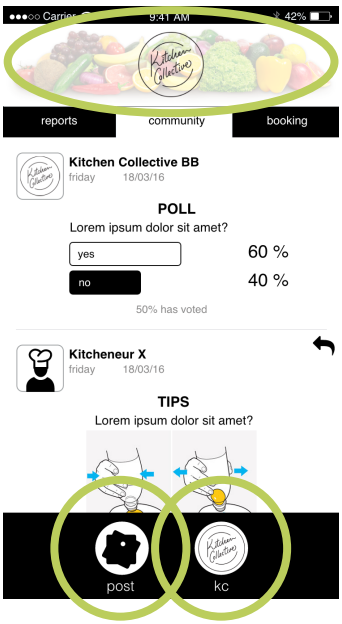


Figure 58: Subject feedback on the KC board regarding deleting top to have more space, contacting KC should be a page itself and make posting more visible.

should be limited to tips, KC messages, recipes and polls for instance. There should as well be a filter or sorting function to help users users filter out irrelevant content.
Although a lot of feedback and possible improvements were collected, there were also good points: Two subjects stated that it was easy to use, understandable, fast and not complicated while one even stated that the experience was great and that she liked it.

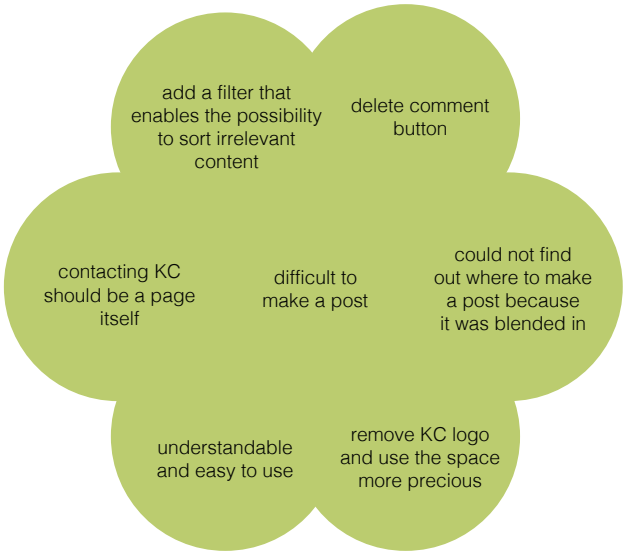


Figure 59: App. findings.

Future

Not only did the tests include feedback about the current interface but future suggestions was also generated through these tests. One subject considered the possibility of the service scaling up and therefore recommended to take into consideration the possibility of several kitchens and came up with ideas of how to do it. For instance was it mentioned that a map would be great for the users to get an overview of the kitchens affiliated to Kitchen Collective and check available times at these kitchens. Additionally it was mentioned that some of the current design of the layout would probably change once the service scales up but that it is difficult to adapt to at the moment when the knowledge is very limited about the future.

Discussion

A lot of feedback was collected during the tests: Much of it useful when re-designing the interface for the next iteration, and some of it less relevant for the scope of the project and therefore with less influence on the further result. In some sense all feedback is relevant to customer experience but some feedback is of higher priority and likely to have more influence on the customer experience. It can be said that the general feedback is important because the number of users who agree that these points have to be improved while future feedback is less important at moment for this project but nonetheless should be kept for later iterations.

10

CHAPTER

discussion

The project has two kind of users: the kitcheneurs who are Kitchen Collective's customers and Kitchen Collective who would also be users of the proposed service. It can therefore be said that this project has been focused more on one of the users, Kitchen Collective, and less on the kitcheneurs. The level of participation from the kitcheneurs has been limited, and it would have been great to involve them more in e.g. a co-creation process. This was however not practically possible as there were not big enough a support from the kitcheneurs, who are generally busy. As their participation in the project has been limited, some aspects of the concept might not be as end-user friendly yet as requirements from the users are limited if not non-existing. Therefore it can be questioned whether they are actually going to use it even though easy access and usability is a focus.

Furthermore the concept of nudging could be interesting to investigate in context of KC and encouraging their users to clean up after themselves, and encouraging them to report incidents in the kitchen. Nudging is about trying to direct a person in a certain direction without it having to be a requirement, which fits great with KCs preference towards making the report system overly visible to the user, by e.g. placing it on an iPad near the exit, ensuring that they can not avoid noticing it. The majority of the subjects who participated in the usability test wanted the report system to be a requirement in order for the purpose of the system to actually work, but making it a requirement is not wanted by KC as they are afraid that it might hurt the service and prevent potential customers to take part in the service. Instead they prefer nudging, making the report system a requirement without it actually being a requirement. With this is meant that making it as easily accessible and usable as possible, thereby making it more likely that the kitcheneurs would use it is the way to go.

Furthermore, the course of the project encompassed a diverse and interesting set of design disciplines. While Service Design remained the central discipline, it can be said that service design has been used mainly till the development of the concept in the double diamond design process while interaction design started to play a larger role towards the end of the development phase, where prototypes were implemented, tested and iterated upon. The service designer and interaction designer roles have thus been used interchangeably during the iterative design-test phases.

CHAPTER

11

conclusion

This project was initiated with three objectives, which in the end should help answering the problem statement (“Motivation” on page 6):

1. Analysing the current communication methods used between the actors
2. Investigate state of the art communication methods
3. Facilitate easy communication about issues in the kitchen between kitcheneurs and KC

The analysis showed that several communication channels are being used between the kitcheneurs and KC which is resource demanding for KC to go through all the different channels. Not only is it difficult to go through all the channels to receive the feedback from the kitcheneurs but getting an overview is as well a resource requiring task and as there is only one person, Mia Maja to conduct these task it is a large workload to handle. It was therefore identified as a need and a goal for Mia Maja to get a tool which will help receiving all the feedback and getting an overview of the feedback without spending too many resources.

Different communication methods were investigated to find the most appropriate communication methods for the kitcheneurs and KC. As they are usually at a long distance when they have to communicate the methods of email, telephone, web-chat, social media, reputation system etc. were all considered and the proposed system ended up including a combination between several of those.

This resulted in a report system and KC feed which should be available through an application and report system in the kitchen as well. During evaluation KC agreed upon the findings from the research and were interested in for further development of the report system and application as they saw many opportunities e.g. integration of the booking system and digitalization of the manual (“Evaluation” on page 62). The usability tests showed great potential too, though, as expected, with several suggestions for areas in which the UI could be improved in future design iterations.

Considering the vastly positive reaction towards the proposed service from the perspective of KC, together with the fact that KC asked if it was something the author could implement for them, it can be concluded that the proposed service holds great potential as a future platform for Kitchen Collectives communication platform.

CHAPTER

12

future perspective

The next step is to go to the deliver phase, which though require more iterations in form of more testing and proof of concept. The first step is for the report system to be implemented and tested in the real environment by the real users, the kitcheneurs and KC. This test would ideally be a long term evaluation to be able to see if the kitcheneurs and KC are actually using it and what impact it has on the service. Do the kitcheneurs actually feel they are being heard and are the number of complains directly to KC reduced? Does KC use the administration module as a tool for helping them to know when and what actions to take?
Additionally should the implementation of the application be conducted as well as the integration of the three features of KC feed, receiving reports and booking system be integrated with each other to get the most optimal performance of the concept. Not only is the report system important but so is the KC feed and the ability for the users to have everything related to KC in one place.

Furthermore could it be interesting to see the implementation of voice agents once they are developed to a more usable and stable state, to see what impact and influence it could have on the report system and the users. Would it end up being the prefered communication method or would that be placing too much function on the technology just because it is available, perhaps at the cost of the well-being of the human actors, as stated in Human Centered Design (“Human centered design” on page 14).

It could also be interesting to pursue a stronger integration with the concept of nudging in the report system, hopefully resulting in even more user involvement. One way is to make the report system more accessible and easy to use as stated in Discussion (“Discussion” on page 68), another way is to integrate the booking system with the report system and application and letting the system know when people has finished using the kitchen and then send a notification or message to that user asking about today’s experience - were there any issues or was everything just fine?

CHAPTER

13

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CHAPTER

14

appendicies

KC semi-structered interview

How it works at the moment

Hvilke andre henvendelser får I udover rengøring?

- får I henvendelser om ting I ikke har I køkkenet?
- eller ting som ikke virker?

Hvordan får I disse henvendelser? (telefon, emails etc.)

Gør I noget for at løse de her problemer som I får henvendelser om?

Hvornår beslutter I jer for at gøre noget ved det?

Henvender brugerne sig til KC for at få fat I andre brugere?

Præsentation af konceptet

Ratings → generelt reporterings system (kommunikation)

Formål: Fange problemerne hurtigt så de ikke bliver et unødvendigt større problem og følelse af at man bliver hørt

System: Lettere (færre resourcer) for både brugere og KC

Fokus: Community & Anonymitet (- KC)

1) User journey

2) Blueprint

3) Wireframe Kitcheneur

4) Wireframe KC

5) Wireframe notification

Feedback

Pros og cons?

Vil det være noget KC kan bruge?

Vil det være noger brugerne gider at bruge? (Hypotese: hvis det er let at bruge systemet, er der

større chance for at de gider raportere selv de mindre problemer)

Hvad synes KC om at man kan vælge mellem at bruge interfacet, indtale en report eller skrive?

Vil der være nogle forhindringer ved dette system?

Har KC noget de gerne vil have information om?

Er det nok med data omkring:

1. hvem der gør rent og ikke gør rent
2. hvilke reports der bliver lavet
3. hvad for nogle problemer der er de vigtigste som skal løses asap

Har KC noget at tilføje?

Wireframe

Hvad synes de om wireframet?

Hvad er deres indtryk af designet?

Hvad synes de om en applikation tilknyttet?

Hvad er deres mening om den generelle “news feed” hvor folk kan give tips og starte afstemninger?

Senere

Vil det være muligt at kunne tsætte det op I køkkenet og teste det for at se om brugerne overhovedet gider bruge det, samt få deres mening om systemet?

Hvordan kan man få brugerne til at tage del I testen?

- Præmie: lodtrækning?

Iteration 1: teste om brugerne kan finde ud af at bruge interfacet og om de får noget ud af det

Iteration 2: teste det I forhold til KC og mønster genkendelse

KC semi-structered interview

How it works at the moment

Hvilke andre henvendelser får I udover rengøring? De eneste henvendelser KC kan komme I tanke om de bliver kontaktet om er hvis der ikke er rent nok eller hvis der er tekniske problemer. Men disse tekniske problemer er oftest små problemer såsom mangel på sæbe ti I at få en maskine til at køre eller lukning af døren fordi alarmen går af eller strøm afbrydelse eller hvis keycard ikke dur osv. I de to sidste tilfælde er der ikke så meget at gøre.

- får I henvendelser om ting I ikke har I køkkenet?
- eller ting som ikke virker?

Hvordan får I disse henvendelser? (telefon, emails etc.) KC får henvendelser vis telefon, emails og SMS

Gør I noget for at løse de her problemer som I får henvendelser om? Det afhænger af henvendelserne og hvornår de modtager disse henvendelser. Hvis der er noget der ikke dur fredag aften har de ikke mulighed for at gøre noget ved det før mandag morgen. KC tager sig selv af tekniske problemer dvs. De har ingen eksterne tilknyttet udover rengørings dame. Men når de får stablet andre køkkener på benene så vil der selvfølgelig være brug for en ekstern som kan tage sig a køkkenet der ligger det andet sted.

Hvornår beslutter I jer for at gøre noget ved det? Afhænger af problemet

Henvender brugerne sig til KC for at få fat I andre brugere? Brugerne henvender sig kun til KC om andre bruger hvis det er virkelig galt, ellers er der ikke noget.

Presentation of the concept

KC arbejder på en anden applikation som forbinder brugerne med fødevare partnere. Om det skal være en del af “min” eller en seperat applikation ved de ikke.

De er også I gang med at finde folk der kan lave deres booking system “automatisk” således at min idé kan lade sig gøre.

Ratings → generelt reporterings system (kommunikation) – de har inklderet “positive rating feedback” som var min “initial idea” for servicen hvor man rater køkkenet og tilstanden. Men denne idé blev som sagt frafaldet da jeg indså at servicen jeg ville lave I princippet bare ville være “HappyOrNot”. Hvad gør denne idé anderledes fra HappyOrNot er at brugerne kommer til service provideren og ikke omvendt som I HappyOrNot.

Formål: Fange problemerne hurtigt så de ikke bliver et unødvendigt større problem og følelse af at man bliver hørt – det er KC enig I og med på.

System: Lettere (færre resourcer) for både brugere og KC – KC tror helt sikkert det vil kræve mindre resourcer og de synes det er godt at de bare are på sidelinjen og kan følge med og kun skal tage stilling når systemet siger til.

Udover det bruger de Facebook, Booking system samt telefoni til at kommunikere med hinanden. Ved at have et enkelt "forum" hvor al kommunikation kan foregå vil gøre det hele lettere.

Fokus: Community & Anonymitet (- KC) – KC kan rigitg godt lide ideen med anonymitet da det ikke anklager nogle som det måske ikke er.

1) User journey

2) Blueprint

3) Wireframe Kitcheneur

4) Wireframe KC

5) Wireframe notification

Feedback

Pros og cons?

Vil det være noget KC kan bruge? Ja det ville det

Vil det være noger brugerne gider at bruge? (Hypotese: hvis det er let at bruge systemet, er der større chance for at de gider raportere selv de mindre problemer)

Hvad synes KC om at man kan vælge mellem at bruge interfacet, indtale en report eller skrive? De synes det er rigtig godt at brugerne får disse tre valgmuligheder specialt indtale og "push buttons" da det er hurtige måder at rapportere på og at måske nogle brugere ikke er så vant til a bruge ipad som gør det svært for dem at skrive en report.

Vil der være nogle forhindringer ved dette system? Den eneste forhindring de kan komme I tanke om er at 50% af deres brugere er internationale og at de resterende 50% der er danskere har svært ved engelsk.

Har KC noget de gerne vil have information om?

Er det nok med data omkring:

1. hvem der gør rent og ikke gør rent
2. hvilke reports der bliver lavet
3. hvad for nogle problemer der er de vigtigste som skal løses asap

Har KC noget at tilføje?

Wireframe

Hvad synes de om wireframet?

Hvad er deres indtryk af designet?

Hvad synes de om en applikation tilknyttet? Fedt

Hvad er deres mening om den generelle "news feed" hvor folk kan give tips og starte

afstemninger? FEDT

Det kunne være fedt hvis manualen som de på nuværende tidspunkt får fysisk, kan blive digitalt og måske I app'en I en “fane” for sig selv.

Udover det ville det være godt hvis man automatisk kunne blive logget ind via sin mobil når det var ens tur således at man også kunne bruge mobilen til at rapportere på. Men samtidig vil de også have en I køkkenet for de brugere som ikke har smartphone til at bruge systemet.

Possibilities of testing the concept

Vil det være muligt at kunne sætte det op I køkkenet og teste det for at se om brugerne overhovedet gider bruge det, samt få deres mening om systemet? Chancerne for at få flere brugere til at tage del I projektet og testen vil være ved at finde ud af hvornår jeg har tænkt mig at teste og give lyd fra mig til KC som vil kigge på hvilke brugere der kommer til at bruge køkkenet på det tidspunkt og give dem personlige beskeder som forhåbentlig vil få dem til at føle at det er ekstra vigtigt de tager del I det.

Hvordan kan man få brugerne til at tage del I testen?

- Præmie: lodtrækning?

Iteration 1: teste om brugerne kan finde ud af at bruge interfacet og om de får noget ud af det

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Transcription

Phi KC

Så mit projekt det har ændret sig lidt fra det jeg kom med sidst. Og det er fordi jeg har fundet ud af at der faktisk findes en service som jeg havde tænkt mig at lave. De hedder HappyOrNot.

Altså som kan rate tilstanden eller hvad med det?

Ja. Det er sådan at I som service provider har mulighed for at stille spørgsmål og så kan brugerne så rate I forhold til det spørgsmål. Det kan være alle slags spørgsmål.

De bruger det rigtig meget… har du været I IKEA?

Ja.

Der har de, de der fysiske ratings.

Og de har det også I Elgigaten.

Ja, præcis – det er HappyOrNot.

(Ej, hvor ser han irriterende ud, ham der)

Så når du går ud af butikken så har de, de fire buttons som du kan trykke på alt efter hvordan din oplevelse har været.

Det er jo præcis, når, ej hvor skægt.

Ja, så det gik jeg lidt væk fra fordi det ikke rigtig ville give nogen mening at lave det samme system som allerede findes og fungerer.

Så hvis det var kunne I, I princippet bare tage del I den service og så var det, det.

Så jeg kom op med noget andet som er mere et generelt reporting system. Hvor brugerne ligesom er fokuset her. Hvorimod I (KC) ville have fokuset I HappyOrNot, for I ville stille dem spørgsmål og så ville de tage stilling I forhold til det spørgsmål der bliver stillet. Men her der er det mere fokuseret på brugerne, så I stedet for at I kommer til dem så er det dem der kommer til jer.

Og det er en platform som gør det nemmere for jer Kitchen Collective men også for brugerne at kommunikere med hinanden.

For sådan som jeg har forstået det så hvis de har et problem så ringer de til jer og så I ringe rundt til andre og høre dem ad.

Ja det er rigtigt.

Hvor imod det her system det er... hvis vi tager mht. cleanness, så er det anonymt. Der er ikke nogle der anklager hinanden. Men stadig vil I kunne få et overblik over hvem f.eks. I lige skal holde øje med eller hvornår på dagen der typisk ikke er rent eller hvilke andre problemer der f.eks. er.

(WIREFRAMES)

F.eks. på en ipad ville de få den her platform hvor de så kunne se hvilke reports der måske er tilknyttet til dem. Den siger ikke direkte at det er den kitcheneur de her reports er til men den kommer med mulige eller relevante reports som kitcheneuren måske er tilknyttet til. Fordi system kigger på booking systemet og kalenderen og kan se at den her kitcheneur som bruger køkkenet nu han brugte også køkkenet for en dag siden, og dem efter ham de rapporterede noget. Så på den måde kan…

Ja det forstår jeg godt.

Så på den måde har jeg valgt at gøre det anonymt uden at beskylde nogen.

Og de kan så lave en report og det kan de gøre I form af at skrive, via speech eller via nogle knapper.

Smart.

Så hvis det bare er simpelt. Fordi jeg kiggede meget på speech fordi er “upcoming tehcnology”, så det synes jeg også var interessant.

Ja, det er også nemmere for dem. Der er mange af dem der ikke er akademikere eller ikke er vant til ipad technlogien eller at skrive noget overhovedet.

Jeg har også undersøgt de forskellige kommunikationsmetoder som der bliver brugt allermest og det er telefoni. Grunden til det er telefoni er fordi det er hurtigere at få respons og hurtigere at bruge. Så derfor tænkte jeg at speech kunne være en god idé.

Men hvis det var sådan nogle, lad os sige… hurtige ting som man måske ikke behøver at sige noget omkring som f.eks. At det ikke er rent eller der er maskiner der ikke virker så kan man bare trykke på knapperne hvoraf det bare går direkte.

Ja, fedt.

Så det kræver ikke mere for kitcheneurs at gøre noget der.

Det minder mig om jeg skal lige, hvad hedder det. Vi skal på et tidspunkt så skal vi have lavet vores helt eget system, helt fra bunden af, programmeret det fra bunden af. Og der har jeg snakket med nogle udviklere som har hjulpet mig med at lave en kravspec til det. Men den kunne jeg jo sende til dig så du kunne se, bare se.

Ja, så kan jeg tage det I betragtning når jeg laver mit hvis der nu er noget som overlapper eller noget.

Ja.

…

Og så for jer ville det være lidt I samme stil som det tidligere wireframe. I starter med at have et login og så ville I så kunne se rapporterne som bliver sendt.

I ville bare side på sidelinjen og følge med. I kan følge med I hvad der sker.

Users er f.eks. en oversigt over hvem gør ikke rent og hvem skal I måske holde øje med. Hvor reports er sådan noget som hvor mange rapporter er blevet send, hvad handler de om, hvor mange er gode og hvor mange er dårlige. Og important issues er de problemer I skal overveje at gøre noget ved her og nu.

Ja.

Så der kommer sådan et system som finder ud af at de har slags rapporter er vigtigere end de her andre rapporter og herved kan man så rangere hvilke der skal tages hånd om nu. Og det vil bliver fortalt I form af en liste over rapporterne samt nogle grafer.

Ja.

Det ser flot ud, er det en app?

Ja det er en app.

Så den her app som jeg tænkte på også kunne være tilknyttet.

Så de får en notifikation når de modtager en rapport, så går de ind på den og kommer ind I appen. Og så kan de se de rapporter som de har modtaget eller de rapporter de har sendt. Også har jeg også overvejet at lave sådan en general “feed” hvor de ligesom kan snakke sammen. Hvor I f.eks. Kan stille dem spørgsmål eller når I har noget at sige til dem eller de kan give hinanden tips omkring madlavning. Eller hvis I havde events så kunne I “post” det. Og derudover kan du som bruger “post” eller skrive kommentarer til andre “posts”

Ej hvor er det smart.

Det ville være noget som allesammen ville kunne se, hvor rapporterne vil være mere private.

Så vil jeg også have booking systemet I appen som samler det hele for brugeren et sted.

Så de kan vælge dato og her er f.eks. Et eksempel på en dato som viser hvor stor en procent del der er ledige og hvor mange der optaget. Og hvis brugeren så gerne vil se hvilke ledige tider der er for en bestemt dato så trykker de også står der så de her available tider. Og hvis det nu er man ved det tager to timer at lave mad så kan man filtrere det ved at vælge to timer og så ville systemet så vise de tider hvor der var to timer I træk ledige.

Ej hvor er det smart, kan du høre det Rasmus?

Jeg fulgte ikke lige med.

Det er Sandy som har "udviklet" en app.

Okey.

Hvad hedder sådan noget, men det kan vi lige snakke om bagefter. Vi er ved at udvikle en app til noget andet og vi vil gerne lave en app der forbinder fødevareproducenter med forbrugerne ude på gaden. Så man kan gå ind og se hvor man kan finde noget mad.

Jeg skal lige finde ud af hvordan vi får tilknyttet det men det kan være jeg gerne lige vil snakke med dig om det og finde ud af hvordan vi får det videre.

…

Jeg er ret vild med den der snakke sammen og man kan poste ting. Det er fedt.

Ja, men kommunikation er også en vigtig ting.

Ja, vi vil I hvert fald rigtig gerne arbejde med hvordan vi kan få skabt større fællesskab mellem brugerne. For den dag vi får en konkurrent så er det eneste vi vinder på at der er noget unikt herude.

(FORKLAR JOURNEY)

(FORKLAR SERVICE BLUEPRINT)

Formålet er at tage fat I problemerne før de bliver et større problem fordi ellers er der stor sandsynlighed for at der bliver lavet en domino effect hvilket resultere I at problemerne bliver større en nødvendigt.

Ja, præcis.

Og det er det jeg prøver at undgå ved at gøre systemet så let at de gider at rapportere de mindste problemer.

Og så kan vi se hvem der har fået flere anmærkninger?

Ja, det ville I.

Fedt, det ser rigtig godt ud. Det er I hvert fald noget der vil være meget brugbart herude.

…

Jeg vil lige høre ad, for jeg er lige så småt begyndt at prøve at programmere det og har tænkt mig at lave en meget simpel test hvor jeg vil teste om brugerne kan finde ud af at bruge det og forstår det, om det er muligt? Så jeg vil gerne sætte det op I køkkenet, give et shout out til de her kitcheneurs og bede dem om at prøve det og se om de forstår det.

Det kan vi godt finde ud af.

Det er bare første iteration og så kommer der lige så stille og roligt mere på.

Hvad hedder sådan noget… Når du ved hvornår det er så tror jeg det er smarteste at gøre er at vi kan se I booking systemet hvem der skal have køkkenet de dage du tester og så kan vi kontakte dem personligt, om de ikke vil være søde at teste det her af. For så tror jeg du får den største feedback. Hvis du bare skriver en mail ud til alle så er der ikke nogen der…

Ja. Jeg vil helst ikke have det ender som sidste gang hvor jeg sendte et spørgeskema ud

og fik 2 svar.

Nej, men jeg tror når du skriver personling til den enkelte “dear...” så ender det ofte med respons.

Det var egentlig det jeg ville præsentere, men så har jeg lige nogle ekstra ting jeg gerne vil have afklaret.

Ja.

Er der nogle ting I det her system som I måske tænker ikke ville være muligt?

Over for brugeren?

Både over for brugeren men også jer.

Nej jeg tænker det vil tage… Det er mest det der med at få folk til at bruge det.

Ja.

Men jeg tænker hvis det står sådan, altså man kunne næsten forestille sig en holder hvor ipad var I og man kastede med balloner så du nærmest gik ind I den når du gik ud.

Nu snakker jeg længere fremme men skal den så også stå dernede fast?

Jeg tænker kan det ikke både være en der står der og en de har som app?

Eller også skal det være en app hvor det automatisk popper up når de kommer ind I lokalet fordi det kan gøres på IP adresse. Sådan rate nu på appen.

Men det er så ikke alle der har en smartphone.

Det er jo det.

Så begge steder,

Ja, jeg tænker også bare det kunne være ret smart at have manualerne (guidelines) for kitchen collective digital så kitcheneurs ikke skal have den fysisk men at den er digital. Man kunne have manualen som en fane I app'en som hele tiden blev opdateret så de hele tiden havde adgang til den.

Ja det er en rigtig god idé.

Ja, og så kunne man bruge app'en til at uploade film altså f.eks. Er det ret svært at forklare hvis nu der er noget der ikke virker f.eks. Ovnen eller andre tekniske ting. Så er det nemmere bare at vise billeder eller film som forklare det end over telefon.

Så det kunne være ret fedt hvis man kunne det.

…

Får I andre henvendelser udover rengøring?

Så er det meget sådan noget hvis ting er gået I stykker.

Hvis keycard ikke virker.

Hvor sker de her henvendelser?

Telefon, email og sms sent om aftenen.

Henvender brugerne sig nogensinde til jer omkring andre brugere?

Ja hvis det er rigtig galt

Det er derfor jeg godt kan lige at det er forholdsvis anonymt.

Hvor hurtige er I til at gøre noget ved problemerne?

Det kommer an på problemerne men forholdsvis hurtige. Dør opvaskemaskinen og det er fredag nat så kan vi ikke gøre noget ved det før mandag morgen. Men som regl så er det fordi den mangler sæbe og så kan vi sige til dem hvor de kan finde sæben og at de skal fylde den. Så det er sådan nogle ting.

Så I har ikke oplevet sådan nogle store problemer?

Nej, altså der har været strømafbrydelser men der ikke så meget at gøre der.

Men lad os nu sige at vi ikke havde et køkken beliggende her på aalborg universitet, så ville vi jo blive nødt til at have en service aftale med en elektriker eller et eller andet.

Men jeg ville aldrig turde lade brugerne selv ringe efter en elektriker for så ville de gøre det hele tiden ved de mindste problemer.

Så reporten skal gå til os først og så bedømmer vi om der er brug for nogen.

Så I kan godt lide ideen omkring anonymitet?

Ja, det synes jeg er rigtig fint.

Tror I at systemet vil gøre det letter for jer og brugerne at kommunikere?

Ja for lige nu kommunikere vi noget via en Facebook gruppe, noget via vores booking system og noget via mail. Og hvis man bare kunne have en app så tror jeg det kunne løse rigtig mange ting.

Eller en hjemmeside som var responsiveness.

Og hvad synes I om at der er tre måder at kommunikere på (skriv, tale, knapper)?

Det synes jeg er fedt, det er jeg spændt på at se. Det der speech der det giver total god mening.

Det tror jeg også folk bedre kan forholde sig til.

Og så synes jeg også det er rigtig fedt det der med at der er pre-skrevet valgmuligheder så man bare kan trykke på.

Der er en udfordring og det er at 50% af vores brugere er internationale og dem der ikke er internationale der ligger det ikke lige for at tale engelsk.

Observation/Statements

Det er ikke rapporter men status, så ændre navnet.

Kitcheneur dashboard:

speech er måske ikke noget man vil bruge hvis man er lidt ældre

forvirring ved knapper & speech. Brugerne tror at når man trykker på "speech/buttons" så bliver det en del af meddelse beskrivelsen.

At kunne tilføje billeder ville være godt

Kun kan sende via tekstbesked da det vil give et mere omfattende billede af hvad der bliver rapporteret af

Find en struktur over hvordan rapporterne skal "skrives".

Buttons er slet ikke omfattende. Kan I stedet bruges som "hak af" når man checker ind og ud af køkkenet eller der kan dukke en ny menubar op med mere omfattende beskeder som man kan vælge fra.

Det skal være et requirement uden at være et requirement at lave en report.

Det er som om buttons er en skabelon til "written message".

Måske bytte rundt på Reports og Make reports da make reports er vigtigst og det der bliver brugt oftest. Det ville give bedste mening.

Fremhæv det grå I farver da den grå falder I baggrunden.

KC dashboard:

everything is clear and understandable

graferne kunne ikke forstås

At man kan klikke på reporterne og få mere information f.eks. Hvis man trykker på cleanness så kommer der info omkring hvor mange cleanness reporter der er modtager

Tilknytte rapporterne til tags

APP:

Black and white is ok but maybe more colors for the interactive buttons/icons to clear the interaction flow like for instance red for back and green for next.

Overså den nedre bar hvor man kunne poste, kommentere eller skrive til KC fordi den var sort.

Comment skal slettes da det ikke giver mening – hvad skal man kommentere? I stedet for så gør det muligt for brugeren at vælge den post man vil kommentere på og en funktion der gør det muligt.

Overvej spam I “community”. Måske skal det begrænses således at kun Tips, KC og Opskrifter f.eks. Kan postes for at reducere spam.

Overvej om der skal laves et filter I “community” således at man kan filtrere hvis man f.eks. Kun vil se beskeder fra KC, eller kun vil se opskrifter.

I stedet for at have både “speech” samt “text” på samme side af applikation (POST) så start med at have to options: 1) Speech, og 2) Text og så vil det gå videre til den side man vælge. Dette er bedre da det er begrænset hvad man kan have, se og bruge på en smartphone da skærmen er lille. Hellere at der er et ekstra trin I processen end at det er svært og besværligt interagere med.

Overvej at implementere et kort som inkludere og giver et overblik over andre køkkener som der kan bruges (adresser og placering).

Slet header med KC logo og billede da det tager en masse plads som man kan bruge til andre ting.

Gør teksten større, det er for småt. Man vil ikke kunne se hvad der står når det ryger på smartphoen.

Nu hvor der kun er et enkelt kitchen så er det OK at headline for fanen hedder Reports men I fremtiden når der kommer flere køkkener til så skift headeren til Kitchen og så have en oversigt over de forskellige køkkener hvoraf man så kan gå ind på det køkkenet man vil se sine reports fra.

I stedet for at have Contact KC knappen I Community fanen så lav en seperat fane hvor brugerne kan kontakte KC.

Booking: Slet “linen og kalender ikonet” hvor man manuelt kan indtaste datoen man gerne vil booke. Det er for svært at ramme og derfor er der ingen der kommer til at bruge det.

MyBookings kan være placeret lige ovenover kalenderen så man med det samme kan se om man har nogle bookings I forvejen eller ikke har. Hvis man ikke har skal der stå “*no current bookings*”.

MyBookings skal inkludere adresse, tid, dato.

Eftersom KC kommer til at indrette køkkenet I to således at de har en “afdeling” til vask op og en “afdeling” til at lave mad så kan man I fremtiden vælge mellem vask op eller lave mad I bookingen.

Statements

APP

“*What if the user after me reports about for instance a machine not working, will that report also go to me? Because there is no use for me to get it when I am already done.*“ [i]

“*it is like checking the state of the facilities*”

“*in regards to the layout then it is only black and white, maybe put some colors for the actions that will help.*” “*maybe green for forth and red for back or gray for back, that would help direct the flow.*”

"*you have some colors at the booking screen, but I don't know what they mean.*"

"*I would recommend to flip around the calendar and available times screens so that people can go in and say I need this time is the kitchen available. Instead of choosing a day and finding out that it is not available at the time needed so the user will have to go back. It just have less steps, but try both approaches and see what people prefer.*"

"*when thinking of the size of the data of speech messages and people receiving the data. Also language who uses the kitchen and if they are international and receives a message in danish then it is difficult.*"

"*does it have a rating system that says for instance the kitchen is 5 stars clean? So when people arrives there is like a questionnaire that they will have to fill. It can be part of the agreements between KC and users to answer three questions about the state of the kitchen.*"

making a post took a bit of time to find.

"it is very good. It is easy to use, I like that."

"I think it is fine, it is good. You do not have to need the graphical aspect. You need to know more about the process and the experience."

"I think the experience was really clear. I like it is clear and fast and not that complicated to see things. I did not see the "making a post" probably because it is black. Maybe making the contrast the other way around or something. Maybe gray and this on black so I can see them, the icons."

"I did not image that there would be speech, but maybe also the possibility to add pictures?"

"pictures is good to use as evidence."

"in general it is quite good."

Person 2 – KC

"*der mangler noget grafik, men det kommer ikke? Ellers er det meget lige ud af landevejen.*"

"*jeg synes måske, jeg kan selvfølgelig godt forstå det er sådan en feed men måske ja, da du spurtge hvem der var problemet så synes jeg… jeg vil gerne have noget klik her så du kan dykke ned I hvem har skrevet det her f.eks. men det ved jeg ikke om er relevant at vide.*"

"*jeg forstår godt feedet og forskellen på farverne men på en eller anden måde mere interaktivt. Jeg ved ikke lige hvordan man kunne gøre det eller hvad der skulle gøres mere interaktivt.*"

"*tags ville være en god idé at inkludere.*"

"*hvordan ved du at a har fået dårlige rapporter?*"

"*Lad os sige jeg er engel, jeg lejer altid køkkenet tirsdag morgen men der er også en djævel som altid er en spade og han er der næst sidst tirsdag. Så kommer den sidste som altid melder der aldrig er rent tirsdag aften, smitter det så af på mig?*"

"*hvordan ved du? Du siger alle får rapporten, men hvordan ved de (KC) at det er djævlen og ikke mig der ikke gør det rent?*"

"*hvis de ikke bruger køkkenet regelmæssigt så kan det godt lade sig gøre at systemet virker på denne måde. Det er en rigitg vigtig pointe.*"

"*jeg synes det giver god mening. Selve interfacet det er bare standard så det synes jeg ikke der er noget problem med.*"

"*farvekodning er godt til at gøre det klart på.*"

(grafer) "*prøv at tag 2-3 måneder bagud lad os sige hele 2016 indtil nu og lav statistikken på det. Det vil være meget mere overbevisende og du vil meget nemmere kunne teste om det egentlige pattern giver mening for folk at læse.*"

"*så kig tilbage og lav. Du er I den gode situation at det allerede kører så du kan teste bagud og ligesom sige maj, marts måned 2016, hvordan vil det her system have fungeret fordi du har allerede dataen. For nu beder du brugerne om at forestille sig noget, og det er svært. Men hvis du havde nogle tal kunne man bedre sætte sig ind I det.*"

"*jeg har ikke noget imod man kan indtale det, men ville du nogensinde selv gøre det – lægge en telefonbesked.*"

"*men du kender det selv, det tager meget tid. Så skal du også transkribere det får a føre statisik.*"

"*også med hensyn til transkribtion, f.eks. Siri når du siger noget til den så forstår den meget af det men så er der ofte også noget den ikke får fat på.*"

"*lige nu kan man ikke tro alt for meget på det, men snart kan man.*"

"*for nu behøver du ikke featuren I appen. Den kan komme I future perspective.*"

"*bed folk om altid at rapportere så de ikke kan vælge.*"

"*nej for så får du netop. Hvis du beder folk om at forholde sig til oplevelsen så får du også de gode med. Som I de almindelige journeys så husker du peak og slutningen. Alt imellem det ser du stort på. F.eks. Hvis du går I et supermarket og der er en eller anden der står og pisser ud over frugten det er peak af lort det husker du, men hvis supermarkedet så har gjort noget dårligt så husker du det ikke fordi du tænker "årh det er fint nok". Du vil gerne have at vide om folk har en god oplevelse ikke? Jeg tror den der domino effekt kan du også stoppe ved at bede folk om at tage stilling til det først fordi hvis der er lidt… Hvis du tager en bil og sætter den et sted og knuser en rude og en uge efter så er den helt smadret fordi så har folk ikke respekt for det men hvis du begynder at rapportere de små ting også... Det er derfor det er vigtig at du får folk til at tage stilling til det hurtigt for ellers ser de bare stort på det."*

"*det skal ikke være et requirement, det skal bare være lige foran dem at de altid gør det.*"

"*du kan jo godt lave et requirement uden det er et. Der er f.eks. En fabrik, når du havde været på toilettet. Det var sådan en automatisk vandhane. Når du kom ind og går på toilettet så låser døren og låser først op når du har stået I to minutter. Så det er et requirement uden du siger de skal.*"

"*jeg ved ikke helt hvad graferne er til for.*"

"jeg synes det giver fint mening"

Person 3 – Kitcheneur

"*kan ejerne ikke bare gøre rent hver gang der har været en bruger?*"

"*hvis jeg var ejerne ville jeg gerne have mere detaljeret info omkring f.eks. Hvad der ikke var rent.*"

"*så skrive den hurtigste besked? Jeg ville skrive en besked og trykke på "not clean" knappen.*"

"*jeg troede bare knapperne var der for at vælge kategori, altså hvilken kategori beskeden ville være under.*"

"*generic, standard er måske en god idé til at få et overblik men som producent så er det meget godt at vide det her er ikke rent og det her er ikke rent.*"

"*hvis folk ikke er så glade for at skrive så kunne man lave en masse knapper så kan du sige not clean og så kommer der nye knapper op hvor du kan præcisere hvad er ikke rent.*"