

Designing Pleasurable User Experience

- From models to reality

Socio

Psycho

Physio

Ideo



Bachelor project
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Informatics
Group i601F12



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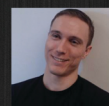
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Abstract

The report describes the use of Patrick Jordan's four pleasure model to help design a good user experience. The product is constructed by the method described in the book "Designing Pleasurable Products" combined with methods taught in various courses during the education. The focal point of the report is to use the model to design and evaluate a system with emphasis on user experience. The model and system is tested throughout different techniques and reflected upon before concluding what have been learned during the process.

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Preface

This report is made as part of a Bachelor project of Informatics at Aalborg University.

The timeline for the development is from February 1st to May 25th 2012.

The report is based upon Patrick Jordan's four pleasure model and method which is used throughout the whole process to develop a software system.

The purpose of the report is to get an insight on how to use the model for future researchers.

We would like to thank the participants of the interviews, mock-up session and the evaluation of the product.

The system can be accessed online at <http://www.moviedb.xtreemhost.com> with the username: camillarosenkrans@hotmail.com and password: [*bachelor*](#).

Reading Guidance

The structure of the report includes four main chapters which contains the theory used throughout the development, the methods that were included in the process, the findings from these methods and the reflection on the whole project.

When mentioning the group, it refers to the authors of this report.

“System” and “website” are used interchangeably to refer to our product.

Footnotes are used throughout the report, to explain certain words and concepts.

The report will use the Harvard-method as the source reference throughout the report.

Appendixes are found on the CD attached to this report.

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Chapter 1

Introduction

Since the very first semester at informatics, we have heard about usability. We have studied how important it is in the IT world and have had several courses related to usability: how to design a system with good usability, learned principles, rules and steps to pave the way towards an IT-system with good usability and applied various analytical and evaluation methods to measure the degree of usability in an IT-system. Even if a system is completely free from errors and instability, the usability is excellent and the system is rich in functions and features, it cannot guarantee that the end user gets a good *experience* with the system. How to create a product with a good user experience? – We have learned how important this topic is but we have yet to discover how to do this.

This projects goal is to develop and design an IT-system by realizing a theoretical model for user experience in an attempt to give the end user a good experience with the system and the interaction.

This report covers the work with the chosen theoretical model for designing an IT-system, the applied methods and the development process.

1.1 Problem definition

Search engines are ubiquitous and searching for information has moved out of its traditional domains of work and research and into the domain of leisure. We search for information to enrich our lives with new experiences using applications that no longer simply can be usable and functional, they must also be engaging for people to use or else they will lose interest. The challenge for developers in the private industry and for researchers in academia is:

What makes an application enjoyable to use, and how do we design an application with user experience as the focal point?

Patrick Jordan has developed the four pleasures model for user experience design in the book “Designing pleasurable products” and in this project we will design and develop a system using this model, test the user experience of the system and finally evaluate how well the model supports our efforts in designing a system that enables searching for information while providing a good user experience.

Chapter 2

Theory

The four pleasures model is developed by Lionel Tiger and described in the book "The pursuit of pleasure" published in 1992. Patrick Jordan makes use of the model which he base on the metaphor of Maslow's hierarchy of needs in computer systems. Firstly the basic importance of an IT product is functionality. The systems have to cover the users' basic needs. The next step is to give the system a good usability. It has to be easy to use and not only function well. This means that the human-factors are now taken into consideration in the creation of usable products, where a number of principles are added in order to make it easy to use. Having products on the market which covers these needs, the users of IT products are now becoming used to these, meaning that people will soon want something more, which requires products to offer something extra. It includes products that are not merely tools but also give the users emotional benefits when using them. This is a new challenge when it comes to designing IT products.

Before looking into the four pleasures it is important to know what pleasures are. The Oxford English Dictionary defines it as *"the condition of consciousness or sensation induced by enjoyment or anticipation of what is felt or viewed as good or desirable; enjoyment, delight, gratification"*. In this context pleasures can be defined as the emotional and practical benefits that are associated with products (Jordan, 2002).

2.1 The four pleasures model

The pleasure model contains four different pleasures: physio-, socio-, psycho- and ideological. The model is designed to help developers design pleasurable products.

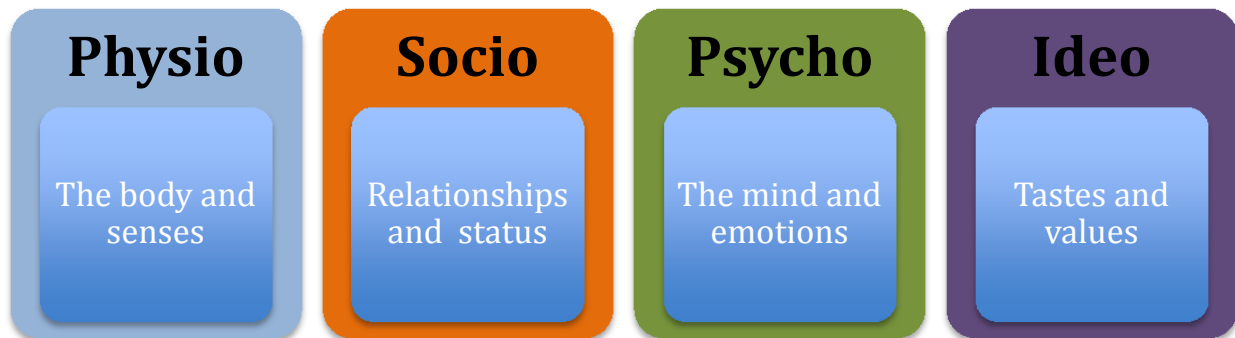


Figure 1: The four pleasures

2.1.1 Physio

The physiological pleasures cover the sensory organs which include touch, smell, sight, taste and sound. In a general context this concerns the feelings that exist when holding and interacting with a product. It also covers the smell of a brand new product which can be very important. For example, the smell of a brand new car is not just a random smell. It has been tailored to give pleasure to the user. The sound is also considered as an important aspect because it can give the user an even higher kind of pleasure when interacting with a product. An example of this can also be related to the car industry where some users want the sound of a fast racing car while others want the engine to be soundless. The aesthetical design of a product gives a visual pleasure to the user, as in most cases the look of the product is what the user will experience first. This means that the colors, shape and materials helps giving the user a better experience using it.

2.1.2 Socio

The sociological pleasure is derived from relationship with family, friends, colleagues and like-minded individuals or with society as a whole. This means that status and image are important factors. An artifact may provide socio pleasures if it functions as a place where people socialize, if it is an artifact that causes socialization, or if it identifies an individual as part of a social group. An example of this can be a coffee machine which can be a gathering point. The pleasure of such a product could be waking up to freshly brewed coffee and later in the day be the gathering point for the arriving guests. It can also be the product itself that creates a social interaction. For example a special piece of jewelry or an interesting household product that attracts comments from others.

2.1.3 Psycho

The psychological pleasures cover the cognitive demands and emotional reactions through experiencing the product. An example could be a word processor that facilitates with quick and easy accomplishments. If a product is more likely to make errors and make it difficult for the user it does not provide psychological pleasure. In this case the word processor should make it easier and faster which may give emotionally satisfaction.

2.1.4 Ideo

The ideological pleasures are derived from the aesthetics of a product and the values that it embodies, e.g. an environmentally friendly car or something that is well designed. An example of ideo pleasures could be a product made from bio-degradable materials which may be seen as embodying the value of environmental responsibility that gives pleasure for the people who prioritize this. The ideo-pleasures also include the ideo of product as art. An example could be a flat screen TV that is not only a functional item but also a product that the owner sees every day when entering the room. The ideo pleasure can cover the history and tradition in a product. When buying a Rolls Royce, the customer is not only buying a car but also the traditions and memories behind it.

When designing pleasurable products, it is not important to cover all of these because there will be situations where it is not possible. Furthermore the user does not always need every aspect to be covered in a product.

2.2 Patrick Jordan's method

The method to develop pleasurable products defined in the book contains the following four steps.

2.2.1 Step 1: Gain a holistic understanding of the people for whom a product is being designed

Because this method tries to go beyond the usability mindset, a more detailed picture of the user is required. With traditional approaches to usability, if the interaction with a product falls within a user's cognitive and physical abilities, it is considered usable, and hence the information required about users is limited to things like age, gender, education, cognitive and physical abilities or disabilities.

Patrick Jordan argues that this view of people is too limiting, and that a more detailed view is required to design the next generation of products that take all the factors that make us human into consideration. Therefore, the information required about users includes the abovementioned parameters and is expanded to include things like lifestyle, values, hopes, fears and tastes. (Jordan, 2002)

Patrick Jordan suggests no particular method for gathering the information needed to construct this holistic view of the target audience of the product being designed, but points to the methods private camera conversation, questionnaire, interview and laddering as helpful tools designers can use to gain this insight.

Once data about the target audience is gathered using one or more of the above methods, the four pleasures are used to structure the analysis of the user characteristics by considering what is known about the users that could be interpreted as a physio-, psycho-, social- or ideo-characteristic.



Figure 2: The four pleasures

It may not always be clear which category a characteristic belongs to, and it may belong to more than one category, but the important part is that the characteristic is acknowledged and recorded. The result is a list of characteristics of the target group that should be compiled into a simple bullet point list which can be referenced later, as it is foundation upon which the product development rests.

This activity is described by Patrick Jordan as requiring a degree of empathy and intuition rather than a scientific mindset where characteristics are deduced, and furthermore it is described as "...looking for clues in order to piece together an overall picture of the people for whom the product is being designed". (Jordan, 2002)

2.2.2 Step 2: Create product benefits specification

A product benefits specification is a list of benefits that the product should deliver to the target group to be considered pleasurable to use by them. It makes use of the target group characteristics from step 1, and is constructed by considering the characteristics of the target group holistically and identifying what benefits they may want from the product in question. The identified benefits should be treated as assumptions that must later be evaluated which is done in step 4.

The four pleasures are used to structure the creation of this specification by having each pleasure work as the starting point of the effort to identify the benefits that relate to that particular pleasure.

2.2.3 Step 3: Specify product design properties

The goal of this step is to work out a design that delivers the benefits in the product benefits specification of step 2. This is done by taking each of the benefits of the product benefits specification and identifying what properties the product should have to enable the users to experience that particular benefit.

Patrick Jordan defines a product by its experiential and formal properties. **Experiential properties** are a way to define the properties a product should have, without yet deciding on specifics. The purpose of the experiential property is then to interpret what the product needs in order for the target group to experience a certain benefit, which helps guide designers in the process of going from a benefit that a product should deliver to an actual design specification, and as such experiential properties are an intermediate step between benefits and formal properties.

Color, form, graphics, materials, sound and interaction design are the **product elements** from which a design is created - Very concrete aspects of the product that a user can sense or interact with.

A **formal property** is the result of the manipulation of one or more of these elements with the goal of creating a specific experiential property.

What this means is that when deciding what properties a product should have, designers should take into consideration what they know about the target group and come up with product properties that would enable a particular group of people to experience a particular benefit when using the product. That is they must identify the experiential properties of the product. This process is called establishing a link, because it links a product benefit to an experiential property of the product, and it is the first step of the design process.

The second step is to establish a link between an experiential property and one or more formal properties and in this step the abstract experiential property is transformed into a concrete formal property that clearly defines some aspect of the product. This is done by considering which of the six product elements that can be manipulated to create the desired effect described in the experiential property. Whenever a link is established, the context of the product must be considered along with the defining characteristics of the target group and when all product benefits have links to experiential properties, and those in turn have links to formal properties the product design specification is ready for evaluation.

2.2.4 Step 4: Evaluate design for pleasureability

An evaluation is necessary to test whether the developed design enables the target group to experience the benefits of the product benefit specification. This can be done by building a prototype and doing an evaluation of it with either representatives of the target group or by expert evaluators. The prototype can either be the product benefits and properties in written form, a visual mock-up or prototype, model, screen-based interactive prototype or a semi or fully working prototype.

The prototype should be evaluated against criteria that are based on the product benefits, by generating a series of evaluation goals that are derived directly from these benefits. A goal should be defined as "80% of the test subjects should feel that they are able to experience this particular product benefit". Depending on the prototype and the various formal properties it may not be possible to set goals for all product benefits, so care should be taken when selecting which prototype to build, and if need be, some goals may need to be approximated. The percentage of test subjects that should feel they are able to experience a certain product benefit should be changed depending on how important a benefit is estimated to be by the designers - 100% may be unrealistic, but if set very low it may indicate that the benefit is unnecessary.

Chapter 3

Method

To examine the issue outlined in the problem definition, we will make use of a modified version of the method described in designing pleasurable products. In steps 2, 3 and 5 we make use of the method developed by Patrick Jordan.

1. System definition and target group identification.
2. Gain a holistic understanding of the target group.
3. Create product benefits specification.
4. Generate design based on design properties.
5. Evaluate design for pleasureability with target group.
6. Implementation of system.
7. Evaluate the system with representatives of the target group.

3.1.1 Step 1: System definition and target group identification

The initial step is to decide on the purpose of the system that is to be built and write a short definition that is the foundation of the following design process. Ideas are generated by means of a brainstorm session governed by the four principles of a traditional brainstorm (Osborn, 1963).

- Focus on quantity
- Withhold criticism
- Welcome unusual ideas
- Combine and improve ideas

The goal of the session is to develop an idea that the designers consider suitable for a pleasure focused development process and that can be converted into a concise and descriptive system definition.

The primary target group for the system must then be defined in such a way that it is possible for the designers to identify individuals of the group so information about them can be gathered for later use. The target group must not be too broadly defined, so that almost anyone would be a member of the group, because this would make it difficult to do the pleasure analysis.

3.1.2 Step 2: Gain a holistic understanding of the target group

To gain a holistic understanding of the selected target group, we will do as described in the method from designing pleasurable products and gather information about the target group through interviews and analyze the resulting data with the four pleasures model.

As designing pleasurable products does not specify how to do the interviews, we have devised the following method to gain this insight: Each interview is conducted with one interviewer and one participant and it is recorded and transcribed for later data analysis. The interviews will be semi-structured, where which questions to ask is decided beforehand and written down in an interview guide. However, the interviewer is free to pursue interesting topics brought up by the participant that are outside the scope of the question asked. (Rogers, et al., 2011)

The questions of the interview should be designed to gather demographic related information and to generate insight into the participants' values and their views on subjects that relate to the defined system.

Data from these interviews will be analyzed with the use of the four pleasures model, as suggested in designing pleasurable products. This analysis is carried out by going through each transcript and making notes of what can be interpreted as a physiological, psychological, sociological or ideological characteristic of that person. The result of this activity is a list of characteristics of the target group, which designing pleasurable products suggests is sufficient for the following design activities. However we have decided to organize the characteristics further, to make the data more usable, with the aid of a table divided into four squares, each with a heading with the name of one of the four pleasures. Characteristics that relate to physio are placed in the physio square of the table and so forth for the three other pleasures. This categorization of the data is then used to look for patterns and common traits amongst the participants and the reoccurring ones are combined to build a persona. (Rogers, et al., 2011)

The persona is used as a tool to aid developers in the design of the system, as it is a representation of the target group that can be referred to in discussions, brainstorming and other creative processes where the needs and characteristics of the user are taken into account.

3.1.3 Step 3: Create benefits and properties specification diagram

To develop the specifications for the design of the system we will do as suggested in designing pleasurable products, by first identifying what benefits the system should provide to be pleasurable to use for the target group represented by the persona. To do this we have devised the four questions below that must be considered:

- "What physio related benefits should the system provide to be pleasurable to use for the user represented by the persona?"
- "What socio related benefits should the system provide to be pleasurable to use for the user represented by the persona?"
- "What psycho related benefits should the system provide to be pleasurable to use for the user represented by the persona?"
- "What ideo related benefits should the system provide to be pleasurable to use for the user represented by the persona?"

To organize the results of this activity and the next, we have elected to use a diagram to show the product benefits and their links to experiential and formal properties. The purpose of the product benefits and properties specification diagram is to give an overview of the benefits and their related properties that can be easily referenced both in the design specification steps and in the later steps where the specification is put to use.

The system design properties are also developed like prescribed in the theory chapter, where the benefits of the product benefits specification are used to specify the design properties. This is done by identifying what experiential properties the system should have to enable the users to experience the benefits of the product benefits specification, and then deriving formal properties from the experiential properties by manipulating the six product elements.

Designing pleasurable products does not go into detail on how to do this, so it was decided to work out the experiential properties by answering the question: "What property or properties should the system have to provide this benefit to the persona?" Designers must rely on both their empathy and previous design experience to answer this question and try and understand what the target group thinks and feels and what the consequences are for the design of the system. The resulting properties are added to the product benefits and properties specification diagram with links to the benefits they belong to, so that it contains the benefits that the target group may want from the system and the experiential properties that describe how the system should deliver those benefits.

In designing pleasurable products the formal properties are created by taking an experiential property and then manipulating the product elements (color, form, graphics, materials, sound and interaction design) of a product to achieve the effect prescribed in the experiential property.

However, when developing software these elements are not suitable and we have elected to use our own set of elements; functionality, appearance and interaction, to accomplish the goal of creating formal properties from the experiential properties.

The formal properties are then created by considering the question of each of the experiential properties of the product benefits and properties specification diagram: "How can the system elements be manipulated to implement this experiential property?" and the resulting formal properties are added to the benefits and properties specification diagram, with links to signify which experiential property they aim to implement.

3.1.4 Step 4: Generate design based on design properties

In designing pleasurable products the design activities end with the creation of the formal properties, but to complete the activities we have decided to use sketching for two reasons: First, to allow for further exploration of how the system could be implemented. Second, because a mock-up based on a sketch serves as a useful tool during development by visualizing that system that is to be built (Buxton, 2007). The formal properties of the benefits and properties specification diagram are used to generate sketches on paper to enable both fast creation and easy sharing that depict either features of the system or full or partial implementations of it. The best sketches are refined and combined through a co-operative process involving all designers until a single sketch emerges that represents what the designers believe to be the best solution - A sketch that features the formal properties implemented in a, what the designers believe, satisfactory manner for the target group of the system. The final sketch is made into a paper mock-up that depicts the features of the system in such a way that it can be easily explained to, and understood by representatives of the target group.

3.1.5 Step 5: Evaluation design for pleasureability

Like suggested in the method in designing pleasurable products, an evaluation is conducted to test whether the developed design enables the target group to experience the benefits of the product benefits specification.

We opt for an evaluation with a focus group, consisting of representatives of the target group, and to use the abovementioned paper mock-up as the representation of the system and the pivot of the discussion. In the session the features of the mock-up are thoroughly explained and the focus group members are asked questions from an interview guide that relate to the theme of the system, the system benefits and how they are implemented in the system via the formal properties.

The audio recording of the session is analyzed using the critical incident technique that is guided by two principles: Reporting facts is preferable to interpretations and reporting should be limited to observations that are considered significant to the activity. (Rogers, et al., 2011)

Critical incidents in this case are statements that confirm that the design delivers the benefits of the product benefits specification, and if consensus amongst the focus group members is that they feel they would experience a benefit it should be noted as a confirmation of the validity of the formal property that is linked to the product benefit in question. Statements that confirm the validity of the benefits themselves

should also be noted, as the correctness of the product benefits specification is also important to evaluate. Any benefit that is not confirmed to be well implemented should have its links to experiential and formal properties examined and redone, along with any benefit that the focus group cast doubts about, before commencing with the implementation of the system. New ideas or suggestions for improvement of the design from the focus group should also be made a note of, as they may have valuable insight that can improve the pleasureability of the design.

3.1.6 Step 6: Implementation of system

The system is implemented by doing the fundamental framework first followed by an incremental implementation of features using the benefits and properties specification diagram and the mock-up as a requirements specification. The system is being developed using the traditional waterfall method and by the use of methods previously taught in a database course at Aalborg University.

3.1.7 Step 7: Evaluate the system

The user experience is to be evaluated by having members of the target audience complete tasks that are designed to give a thorough understanding of the system, followed by a questionnaire session and the interview session. Present at the evaluation is a test participant, a main interviewer and a supporting interviewer. The tasks are solved on a laptop pc and documented on video and screen recordings for data analysis.

The questions from the questionnaire are phrased like "On a scale of one to five, how well do you feel that the system provided you with this benefit?" and the goal is to evaluate how well the design provides the user with the specific benefit. During the session the test person is asked to justify each rating, and if the benefit in question is one that they consider important.

Questions of the interview session are designed to engage the test participant in a deeper, more meaningful conversation about the various aspects of the system, its fundamental theme and purpose. The questions are prepared beforehand and written down in an interview guide.

The video and audio data from the evaluation is analyzed along with the questionnaire answers to enable us to discuss the issue outlined in the problem definition. From all the questionnaire ratings combined, an average score will be calculated that will help determine the pleasureability of the system and conclusions will be drawn from the interview session.

Chapter 4

Applying the method

This chapter contains the analysis of the target group and what product benefits the system should have to be pleasurable to the target group.

The chapter includes the results from the interview that will lead to a persona that represents the target group whom the system will be designed for. Furthermore, the chapter contains an analysis regarding the product benefits that the system should cover. At the end of the chapter the system is described and evaluated with members from the target group.

4.1 Step 1: System definition and target group

We all watch movies, some more than others, but what kind of movies do we enjoy and what make us chose a specific movie.

Watching a good movie can be a good entertainment, help to light up our stressing everyday and support to get a relaxing time. If the movie is extremely bad and boring, it can feel like pure waste of time. Choosing a good movie that suits our taste is not always easy, as the number of existing movies is becoming huge. It could be interesting to design a system, that helps the users to find and chose interesting movies.

The concept of the system is to change the way people search for movies. The system should enable the user to be more exploratory when looking for movie information.

Our assertion is that searching for information can be made a more pleasurable experience by changing the way the search is carried out by enabling people to better explore a topic.

The motivation of a user is that he or she wants to see a new movie, but instead of just randomly choosing one or watching trailers of the latest movies, the system shall help the user decide by presenting choices that facilitate 'gut' decision making.

The system will be a web-based application designed for desktop computers.

The following sums up the target group chosen for this system:

- Female student
- 20-30 year old
- Interested in watching movies

4.2 Step 2: Understanding the target group

The following sections contain the interview questions, findings and a summary which is used to make a persona which can be seen in the final section.

4.2.1 Initial interview

The initial interview is conducted with four participants. At the beginning of the interview, the participants are given a short introduction to the purpose and the structure of the session. The following questions are used during the session.

The questions are worded to get enough information from each participant in order to create a holistic persona of the target audience. The questions will also cover the area of which the system will be created on, which is why there are questions related to movies and which devices the participants use.

Questions for the interview

Demographical questions

- Age
- Gender
- Job
- Education
- Civil status

General questions

- Tell me about your everyday life.
- What do you spend your spare time on?
- What interest do you have?
- What is important to you?
- Tell me some things that make you happy.
- Tell me some things that make you angry.
- Where do you see yourself in 10 years from now?
- How do you plan social events with your friends?
- How big are the social groups you arrange social events with?
- What do trends mean to you?
- Where and how do you get information about movies?
- Are other people's opinions about movies important to you when you pick a movie and why?
- Is your view on culture and trends affected most by the media or by friends?
- What is most important when you tell people about something that had happened, the details or the overall story?
- On a scale with aesthetics and functionality on each end, where would you place yourself?

Device specific

Computer

Do you have a computer?

What do you use it for?

What do you like about your computer?

What is important to you when it comes to computers?

Smartphone

Do you have a smartphone?

What do you use it for?

What do you like about your smartphone?

What is important to you when it comes to smartphone?

Tablets

Do you have a tablet?

What do you use it for?

What do you like about your tablet?

What is important to you when it comes to tablet?

App/Programs

Do you have a favorite app or program?

What do you use it for?

What do you like about this particular app or program?

What is important to you when it comes to apps and programs?

Website

What is your favorite website?

What do you use it for?

What do you like about this particular website?

What is important to you about this site?

Findings from interview

The table on the following page shows the findings of the initial interviews. The characteristics for each participant are categorized according to the categories in the model used for the project. Following the table each characteristic will be explained in depth.

Transcripts from the initial interviews can be found in appendix 1.

Pleasure/Interviewee	1	2	3	4	5
Physio	- Easy readable screen - Portability of devices	- To exercise			- To exercise Portability of devices
Socio	- Friends are prioritized	- Friends are prioritized - Family is prioritized - Community is valued	- Friends are prioritized - Family is prioritized - Community is valued	- Friends are prioritized - Family is prioritized - Community is valued - Status through products	- Friends are prioritized - Family is prioritized - Community is valued Educational status prioritized
Psycho		- To relax - Listening to music - Reliability Overview	- To relax - Reliability - Security - Fast interaction - Ability to be creative - Ability to access content anywhere	- Easy interaction - Ability to access content anywhere	- Helping other people To relax
Ideo	- Values her own opinions - Products working perfectly	- Values her own opinions - Good aesthetics - Products working perfectly 3	- Values her own opinions - Good aesthetics - Products working perfectly - Traditional and modern cultural	- Values her own opinions - Good aesthetics	- Helping other people - Responsibility towards fellow people - Career prioritized - Traditional and

Figure 3: Findings from interview

Physio

Easy readable screen

The participant wants the screen to be easy readable, it means she does not have to strain the eyes or move closer to the screen to be able to see the content.

Portability of devices

The participant likes the idea of portability. With portability the users of the system will be able to access information anytime and anywhere.

To exercise

Some of the participants exercises and they like doing so as it makes them feel healthy. These exercises can for example be activities such as running a couple of times a week.

Socio

Friends are prioritized

The participants value their friends a lot. They do social activities such as going shopping, visit a coffee-bar, watching a movie. Furthermore they use social networks on the internet to be connected with distanced friends and keep track of what they have been doing.

Family is prioritized

The participants also view their family with a higher priority within their lives. In their eyes, they enjoy visiting their families and creating memorable experiences with them when they find the time to socialize and connect. As such, the participants also use Facebook as a communication medium to stay connected with their close circle of family and friends, which enables them to stay updated with their family and family events when it is not otherwise possible to physically see each other due to time limitations and constraints.

Community is valued

The sense of community is a valuable to the participants as it gives them a common platform and trigger for discussion amongst themselves. The communication of various opinions from other participants also provides a springboard from which the development of one's own opinion may be influenced, developed or changed.

Status through products

The participants highlights a strong emphasis on the value of expressing themselves via the products they use and the clothes they wear which help define them; it does not need to be something that is seen as very 'popular' or mainstream but rather something they like or represents themselves as individuals.

Educational status prioritized

The value and esteem associated with completion of higher education often enhances one's social status - e.g. a PhD recipient becomes a 'Doctor' - an esteemed title that everybody recognizes and acknowledges.

Psycho

To relax

When the participants have spare time on their hands, they like to take some time to relax. This is done by for example watching a movie, spending time with friends.

Reliability

Reliability in a product is fundamental to its success - so that it can do what the participant requires without slowing the process due to errors. Successful reliability thus ensures the participants confidence in using the product.

Security

The participants needs to feel that the system they use is secure, this means that when they log on to a system or handle sensitive information with the system, they want to be sure that their data is not compromised.

Fast interaction

Fast interaction with a system is being able to quickly reach a set of goals. The participant(s) doesn't like to have to wait for the system to respond or that they have to use a lot of time to learn how to use the system properly.

Ability to be creative

Some of the participants like to do creative things. They like it when they are able to express their creative side.

Ability to access content anywhere

The participants like the idea of always being able to access ones content. This can be done by making the system online. This will give the users the ability to always retrieve the information, as long as they are online.

Easy interaction

The participant wants easy interaction. They like systems that are intuitive and easy to use, so that it is possible to quickly begin interacting with the product without any instructions.

Helping other people

To help other people with problems or to give them recommendations is something one of the participants likes, because it makes her feel good about herself.

Ideo

Values her own opinions

The participants like to hear other people's opinions about different topics, but they still follow their own opinions.

Products working perfectly

The product's functionality should work perfectly, and cover the needs of the user. This gives a feel of quality to the product.

Good aesthetics

The participants appreciate the aesthetics of a product. The aesthetics could help them define themselves.

Traditional and modern cultural values

Many of the participants live by traditional values in their culture. But they still want to express themselves as being modern and up to date.

Works to live

One of the participants expresses that she "works to live", which means that she does not see work as the most important aspect in her life, but rather that she uses her work in order to do the things she enjoys.

Helping other people

To be a better person by helping other people is something one of the participant values, which express her personal values both to herself and others.

Responsibility towards fellow people

One of the participants feels that it is important to be responsible and nice to people in general as she feels this makes her a better person.

Career prioritized

The career is prioritized to achieve the higher goals and status in life.

Summary

The analysis shows that there are some common characteristics of the participants and the following summarizes the most notable common characteristics.

The social life is a very important and a key aspect to the participants. They like to be with their friends and family, they are mentioned as an important part of their life, and they like to be a part of a community. They value to have their own opinion about different subjects, but they also appreciate to listen to their social relatives' opinion when making decisions.

Because it is so important to be a part of a social community, it is also important to have some kind of social status and to stand out and be unique.

The results from the interviews also indicate that education and work is very important to the participant, and they have a busy everyday life. The importance of education and work states that their career is a significant part of their life goals, and that they think a lot about their future. When not being busy the participants enjoy relaxing and having a good time either by themselves or with someone they care about. Exercising and working out are also a part of their spare time which makes them feel good about themselves.

Furthermore, the result shows that the participants' choice of products is not trivial. They want their products to look good and the design should reflect the quality for the product.

The following section describes a persona created by combining these characteristics a persona.

4.2.2 Persona

Camilla is 25 years old and studies International Business at Aalborg University on her 9th Semester and is therefore nearly done with her education. Camilla is very career minded and because of this she spends a lot of time studying. Camilla lives in an apartment in the middle of the city and with living costs, it costs a bit more than the SU she gets for studying by the government; therefore Camilla has a job as a cashier at the local super market near her apartment. With both the studying and the job it means that Camilla has very little spare time on her hands.

When Camilla does have spare time, she spends it on the things she likes. She spends a lot of time with family and friends as they both mean a lot to her and offer her a lot of support in general. When with family and friends Camilla also feels like she can sit back and relax. She can also relax when she is all alone as it gives her time to clear her head. Because she is socially minded, she uses Facebook to follow her friends and family, planning events and keep in contact. Camilla wants to know what is going on in her surroundings



Figure 4: Camilla

and like commenting on them. She listens to what opinions people have about certain topics and makes her own statement about them. This also shows that Camilla is an independent person; she has shared opinions and taste with family and friends but does not necessarily agree with them on everything. When Camilla have spare time on her hand, she likes going to the gym to work out as it makes her feel like she is in shape, which in return gives her a good and satisfied feeling when she is done with her session. She also spends time shopping whenever she has the time, she likes buying clothes and other products. She feels that the products and clothes she buys heightens her social status, and is therefore careful with what she buys, as she wants to emit the right image.

When it comes to electronic devices, it is important that it looks simplistic and is easy to use. The products both have to look good and have a good functionality. It is important that the things she buys works the way she expects, because she does not have time to solve problems and the devices. The devices have to be ready to use the same day she gets it, so she can get moving without spending much time on having to understand the product and get access to the functions she needs.

The following table summarizes the characteristics of Camilla, which also gives a quick overview of the target user.

- She is a woman
- She is a Dane
- She is 25 years old
- She is single
- She lives in Aalborg
- She studies at Aalborg University
- She studies International Business
- She works part time as a cashier
- She lives in an apartment in the middle of the city
- She likes being in shape
- She enjoys being social with friends and family
- Her outward appearance and image is important to her
- Because of her otherwise busy schedule, she values relaxing in her spare time
- She is trend aware
- She enjoys using Facebook as it allows her to keep in contact with friends and family
- She values the opinions of family and friends
- She requires that IT related gizmos are easy to use
- She values being able to use IT related gizmos on the go
- She values a good mix of aesthetics and functionality

4.3 Step 3: Product benefits and properties specification

The following describes the product benefits and properties specification design constructed by studying the characteristics of the persona described in the previous section. The physio pleasures are not applied to this system as the findings from the initial interviews on this specific area were inadequate.

4.3.1 Socio

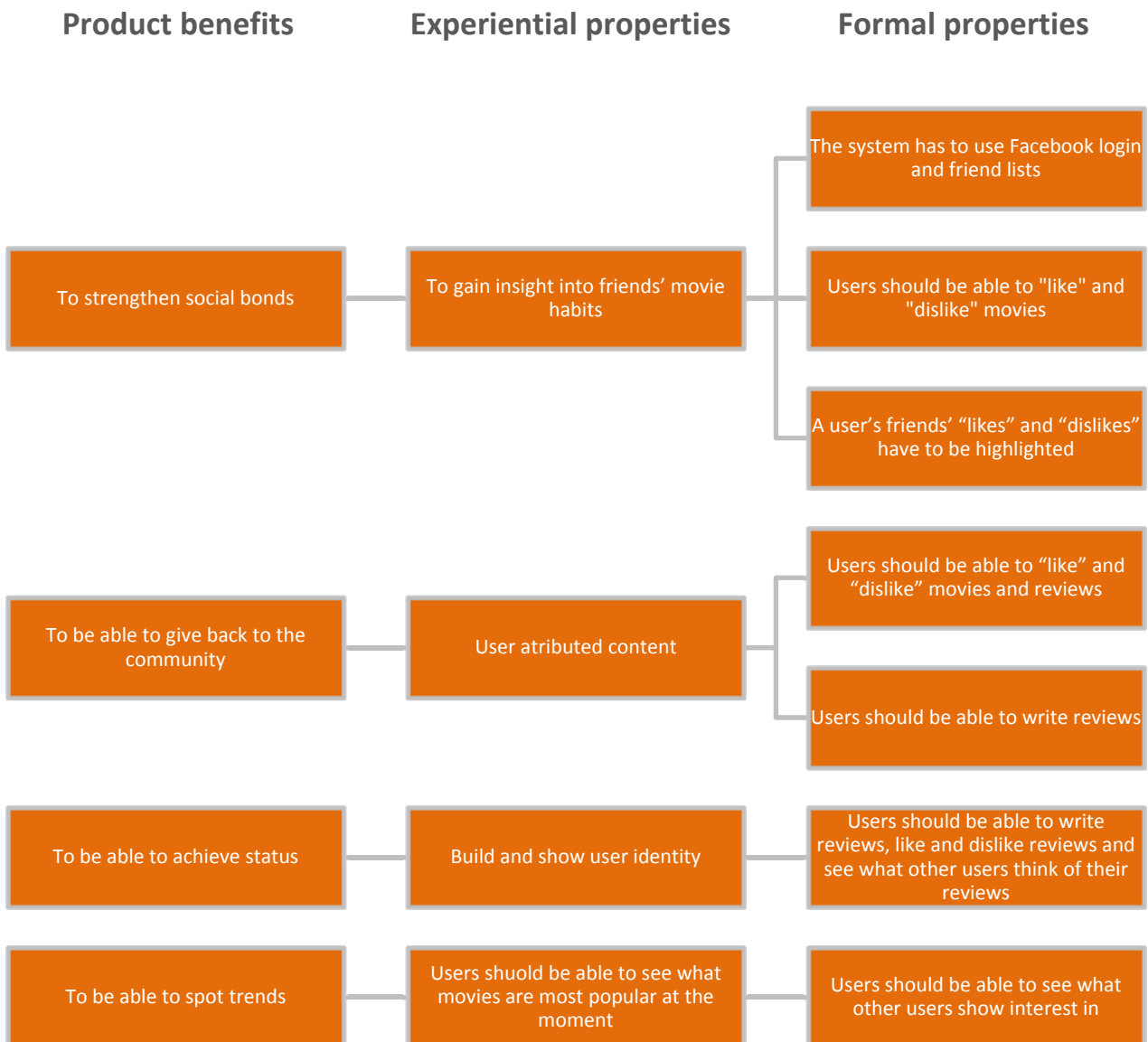


Figure 5: Sociological benefit properties diagram

To strengthen social bonds

BENEFIT

Extracted from the persona it is clear that the social part is very important to Camilla. She is a person who cares about her social life with friends and family. She tries to keep in touch with them and likes to spend time with them whenever it is possible, even though she has a busy schedule with school and work. Therefore, it is important for her to keep and strengthen these social bonds.

To gain insight into friends' movie habits

EXPERIENTIAL

A person's taste in movies may tell something about that person's general interests and maybe even something about the personality. Therefore, knowing someone's movie preferences may give the feeling of getting closer to that certain someone. Knowing these preferences, interests and habits in relation to movies, is a good foundation to great discussions which can help people getting even closer to each other.

The system has to use Facebook login and friend lists

FORMAL

Facebook is a site where you are connected with many of your friends and relatives and Camilla is a person who uses Facebook a lot to keep in touch with her friends and relatives. It would therefore be a good solution to use Facebook login as identification in the system. By importing Facebook friends to the system it will automatically add your friends who also use the system. It will be easy to start using the system since you do not have to create a new user account, find friends and add them. By using Facebook details and profile pictures it will also be easy to recognize your friends.

Users should be able to "like" and "dislike" movies

FORMAL

An important thing to know about someone's movie habits is which movies they like and does not like. Liking and disliking movies in an IT-community, communicates the taste of movies to friends in the community. This knowledge of movie taste may help people getting closer to one another.

A user's friends' "likes" and "dislikes" have to be highlighted

FORMAL

Highlighting the liked and disliked movies, helps friends of that particular person to quickly see whether they have the same taste in movies. This helps giving a quick overview of the people who might have the same taste in movies, which can lead to interesting conversation subjects.

To be able to give back to the community

BENEFIT

Because it is important to have a good social life, to Camilla there is a pleasure in giving something back to her social surroundings and share her experience, opinion and interest with them. It is a way to remind the others that she exists, and it helps to give her the feeling that she is an important and socially active person.

User attributed content

EXPERIENTIAL

One way to give back to a community in an IT-system is to be able to contribute to content. Then the users of the system have the responsibility of keep the activity running. The more the users contribute to the content the more activity there will be in the system.

Users should be able to "like" and "dislike" movies and reviews

FORMAL

By expressing whether or not Camilla likes certain movies and reviews, she contributes to the content and helps her friends in choosing the right movie. The more she likes and dislikes, the more visible she will be in the system to her friends and thereby get their attention. This can give both Camilla and her friends the feeling of being socially active.

Users should be able to write reviews

FORMAL

Another way to contribute to content of the system and give back to the community should be by writing reviews. It gives the opportunity to write and express opinions about a movie. This way it is possible to share knowledge, attitudes and feelings with friends and help them choose the right movie. When writing a review, it will be made visible to friends and opens the opportunity to start a discussion. This can lead to a social activity such as watching the movie together.

To be able to achieve status

BENEFIT

Camilla is an independent career-minded person. It is important for her to stand out and feel that she is unique. It is also important for her to get social acceptance and develop a good social image, therefore there is a pleasure for her to achieve social status.

To be able to build and show ones identity

EXPERIENTIAL

To be able to achieve status, it is important that the system can help building an identity. By doing this the users can decide by themselves how present they want to be.

Users should be able to write reviews, like and dislike reviews and see what other users think of their reviews

FORMAL

In a film system the user must be able to showcase their identity by writing and sharing their opinions and views by writing reviews. These reviews should be highlighted to the user's friends so that their opinion reaches others. When these opinions and attitude affects others and when others like the review one has written, it can cause a feeling of having achieved social status and can support to increase the self-confidence.

To be able to spot trends

BENEFIT

By combining the status pleasure and the social needs, it can also be noticed that Camilla is a person who wants to know what is happening in the world. This is the reason why trend spotting is important so that the user is aware of the tendency both from their social life and world around them. This can give a feeling of being a part of something bigger than oneself and the feeling of being up to date.

Users should be able to see what movies are most popular at the moment

EXPERIENTIAL

Spotting trends in the movie world is about getting insight into what movies the general public is showing interest in at the moment and not just what friends like.

Users should be able to see what other users show interest in

FORMAL

The system should save all the information about likes and dislikes of every users of the system and use it to highlight the movies that got most likes recently. It will give an indication about which movies that are popular among all the users recently and make it possible to spot the actual trend.

4.3.2 Psycho

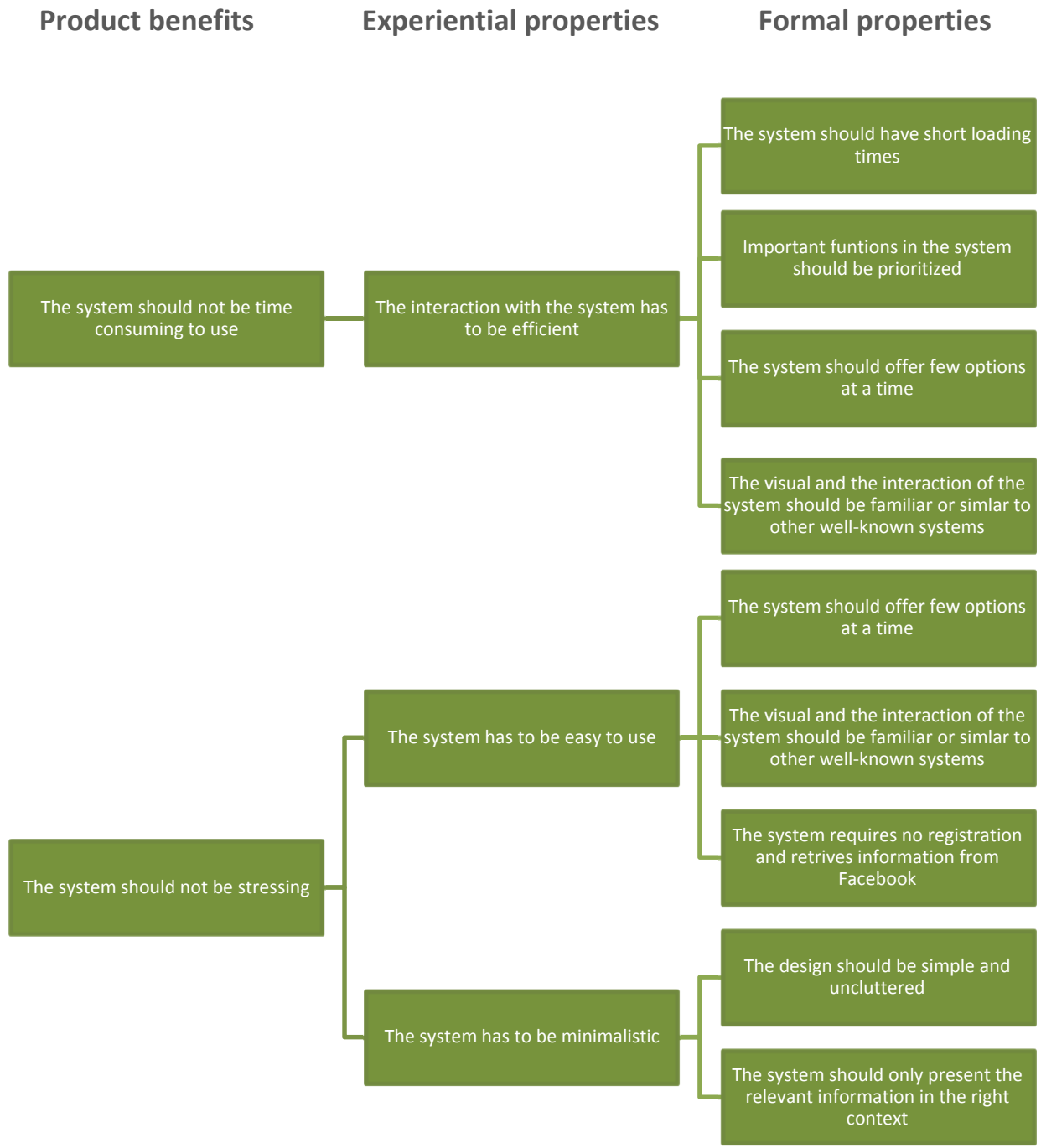


Figure 6: Psychological benefit properties diagram

The system should not be time consuming to use

BENEFIT

A typical day in Camilla's life includes going to university, going to work, exercising at the gym and being with friends. This leaves very little space in the calendar for spare time. So when Camilla is doing something relaxing, she does not want it to take too much time. Her activities in her spare time have to be something that she knows will not take up much time. Otherwise, doing things that takes a lot of time will just be another thing in her calendar, rather than something she comes up with in her spare time.

The interaction of the system has to be efficient

EXPERIENTIAL

Making the interaction efficient will help Camilla use the system quickly. The exact definition of efficiency in human-computer interaction design is "*Resources expended in relation to the accuracy and completeness with which users achieve goals*" (International Standard ISO 9241-11, 1998). This means that the system should not require much effort to use, but still give a good user experience which is wanted in an explorative system like this.

The system should have short loading times

FORMAL

Making the system in such a way that loading times will be cut down to the bare minimum, will help the efficiency wanted in this system as time, or resources, spend on it would then be less.

Important functions in the system should be prioritized

FORMAL

Important functions in a system would be those which the user will be using most of the time. Prioritizing these functions will mean putting them in the top and make them accessible at the front instead of hiding them in menus and pull downs. Again, doing so will help keeping up the efficiency as the user will not have to search for the most used functions every time using the system.

The system should offer few options at a time

FORMAL

Making the system simple with few elements at a time will give the user an easily understandable overview. Combined with the above, the few elements shown at a time will be those important to the current situation in the system. This way all unnecessary options will not be shown and therefore not be able to confuse the user.

The visual and the interaction of the system should be familiar or similar to other well-known systems

FORMAL

Using similar visuals and interaction principles as well-known systems to the user, will make it easier to use as the most common and important functions will work the same way. This contributes to the efficiency of the system.

The system should not be stressing

BENEFIT

This product benefit is connected to the above which states that it should be fast to use. As this system is something that Camilla will use in her spare time, it should not be something that will make her feel stressed, as this is for her to calm down from the stressing everyday life. A stressing system would not be relevant to her as this would just feel more like another to-do on her list rather than something she does because she wants to.

The system has to be easy to use

EXPERIENTIAL

Making the system easy to use means designing it in such a way even a new user will have no problems using all the functions. So the optimal situation will be with a flat learning curve. It also means designing an intuitive system that user will have no hard time using.

The system should offer few options at a time

FORMAL

Showing only few elements at a time ensures that the user will not be confused by too many options to choose between. To a new user, many elements and possible ways to navigate could be overwhelming which could lead to a confused, stressed or irritated user.

The visual and the interaction of the system should be familiar or similar to other well-known systems

FORMAL

Designing the system similar to other well-known system helps the user navigate through it. Making the menus and main elements look like systems the user already knows means that they do not have to learn yet another system before using it properly.

The system requires no registration and retrieves information from Facebook

FORMAL

Being able to login on a system using one's existing Facebook profile means there's one step less for the user before being able to use it. It also means that the user do not have to remember yet another login for the system.

The system has to be minimalistic

EXPERIENTIAL

Factors that would make a system stressful in many situations would be if there were many elements to consider when navigating through it. So to make this system as stress-free as possible, it has to be minimalistic, meaning that only important elements and information will be shown.

The design should be simple and uncluttered

FORMAL

Graphical noise can be an unnecessary distraction which does not have any purpose to the content, ads, multimedia which pops up or starts playing without the user clicking or just a very bad layout for the

content. This system will only contain necessary information and graphics which will result in a clean look of the system which will give the user a stress-free experience.

The system should only present the relevant information in the right context

FORMAL

Displaying only the relevant information will help give the user a good overview of the functions and information which helps form an uncluttered system.

4.3.3 Ideo

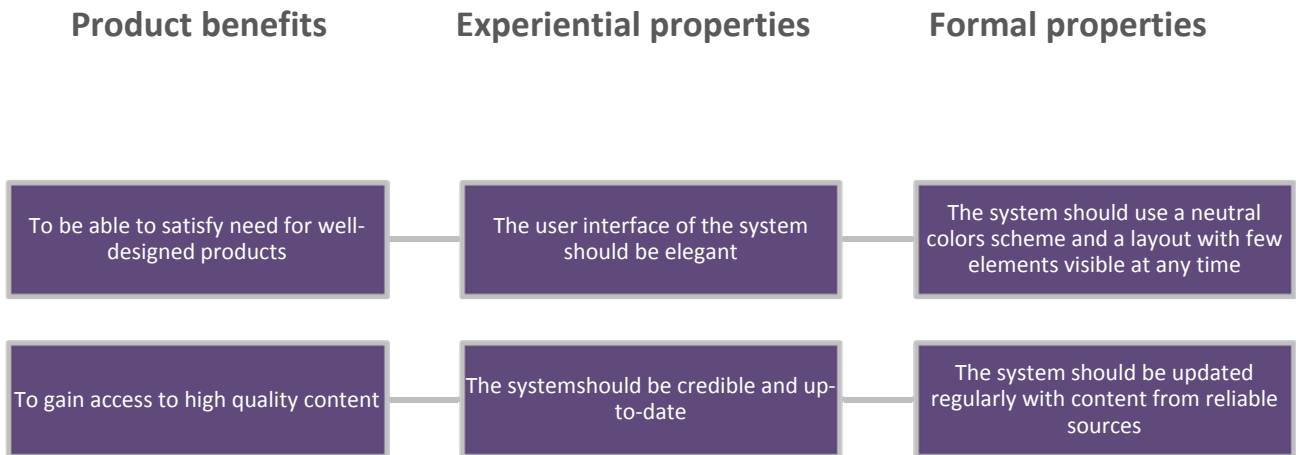


Figure 7: Ideological benefit properties diagram

To be able to satisfy need for well-designed products

BENEFIT

Camilla is a person who is not indifferent about the design. How things look can sometimes be as important as the features. When she has to choose between different products, design is a significant criteria. To give a good user experience and to keep a person like Camilla using the system, it is important that the system is aesthetically pleasing.

The user interface of the system should be elegant

EXPERIENTIAL

When it comes to IT-products, Camilla thinks that elegant design is superior. Many of the websites she finds pleasant and the interface of the IT devices she owns is elegantly designed. Therefore, when it comes to the user interface, an elegant design fit very well with Camilla.

The system should use a neutral colors scheme and a layout with few elements visible at any time

FORMAL

Elegant webdesign is often a site with few neutral colors sheme that is not exhausting to look at, such as colors sheme used on facebook, apple, google and other well-known webpages. Futhermore, an elegant interface design should exude simplicity by making only few important elements visible at any time.

To gain access to high quality content

BENEFIT

Camilla is a quality-conscious woman. She thinks carefully before she buys a product, and it is important to her that it exudes quality and will not spend money on the wrong products. Camilla is a busy woman who has many things to look for when it comes to work, study and leisure. Therefore it is important to her that

the content has a high level of quality and the time spend in front of the computer does not feel like being wasted.

The content should be credible and up-to-date

EXPERIENTIAL

When it comes to an IT system that contains lot of information, it is important that the content of the system is trustworthy to be perceived as a high quality system. The person who uses the system must not doubt whether the information found in the system is true or not. This will reduce the feeling of quality and can prevent the person from using the system in the future. It is also important that the information one searches for exists in the system. Therefore, the system should contain all the necessary information that is essential to choose a movie.

The system should be updated regularly with content from reliable sources

FORMAL

To create a credible movie system the data must be fetched from a trustworthy source, such as IMDB's movie database.

4.4 Step 4: Design based on product properties

This section describes the system design that is developed based on the product benefits and properties specification diagram of the previous section and a series of sketching sessions.

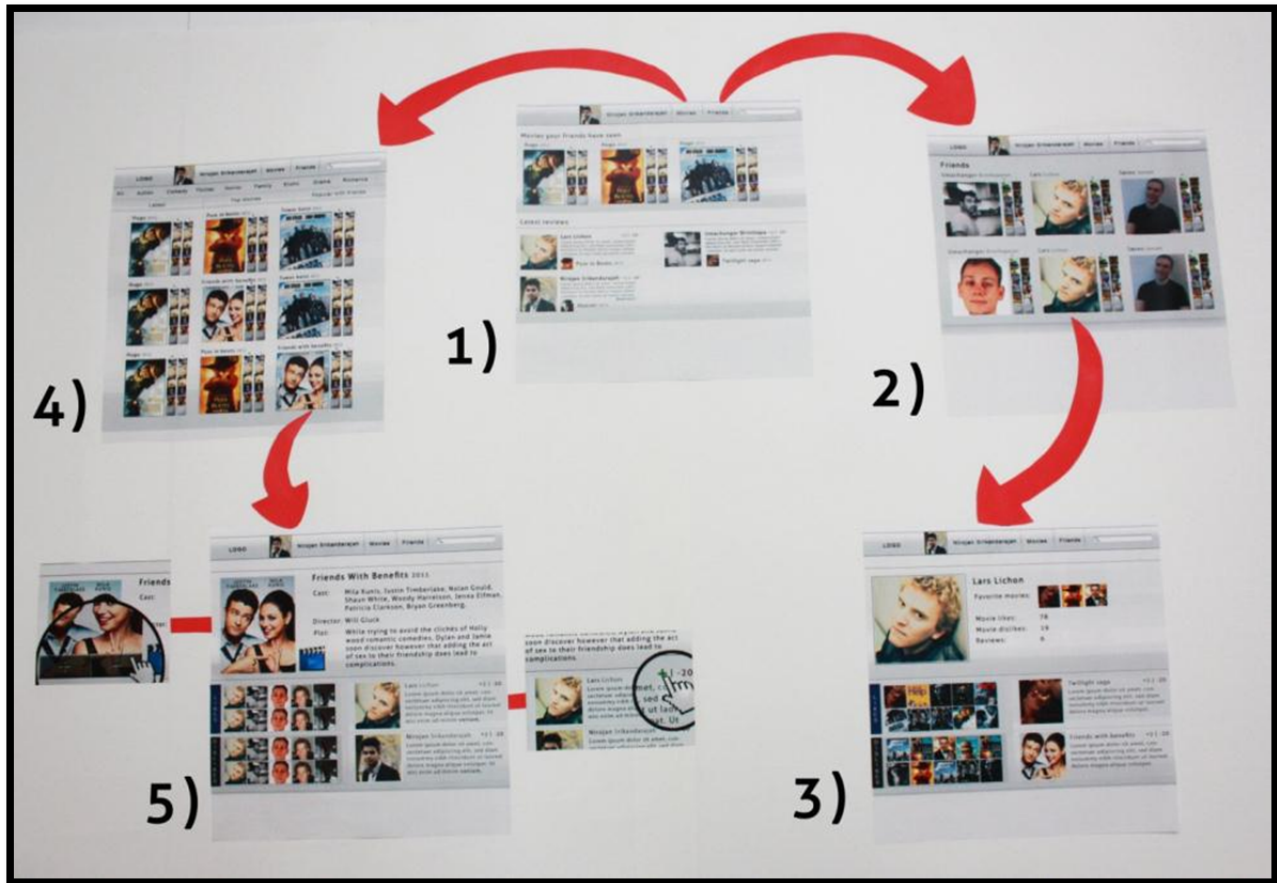


Figure 8: Mock-up

General

The website theme makes heavy use of images and it features a neutral color scheme and simplistic layout inspired by products from Apple, a manufacturer of IT systems, which the target group considers as elegant designs. The simplistic design of the website should help prevent the user from getting stressed. The website navigation is traditional with main navigation elements at the top of the page. The menu only shows the most important options which in return ensure minimum time consumed when browsing through the content. The basic principle of the website is finding new movies through social relations and the website makes use of the social relations that a user has established on Facebook.

1) Front page

The front page shows activity by friends of the user where likes, dislikes and recently written reviews are displayed. Through these recent activities the user will be able to spot trends. By contributing to the system by writing reviews, the user will be able to achieve status as newly user added content will be shown here.

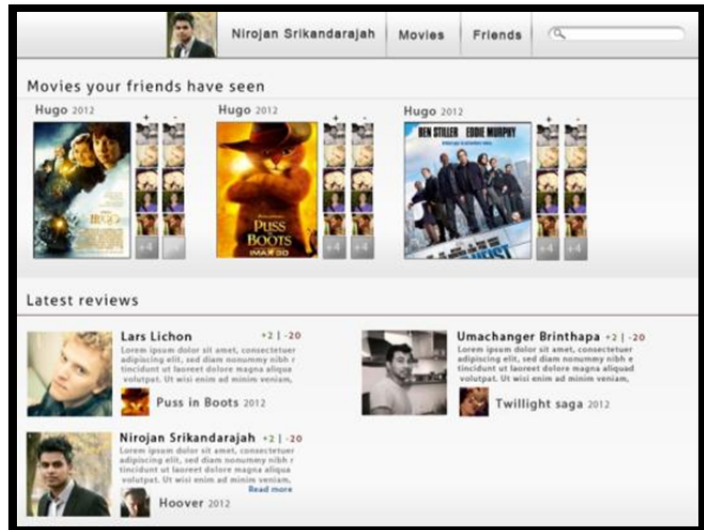


Figure 9: Front page

2) Friends

The friends page contains the list of that user's active friends. To the right of each friend picture is a short list of the recently liked and disliked movies. By getting this overview the user will get better insight to friends' movie habits and thereby strengthen social bonds.

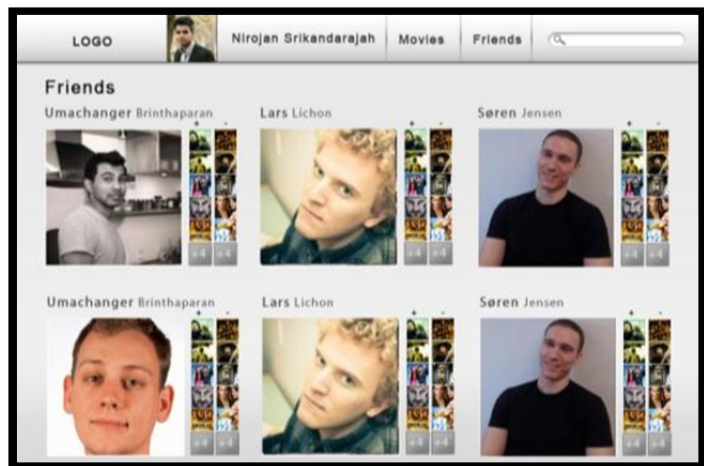


Figure 10: Friends page

3) Friend profile

The person pop-up page displays whenever the name or picture of a person is clicked on. The page shows what movies he or she likes and dislikes and a list of reviews written by that person. The page also displays statistical information about that person's number of likes and dislikes, number of reviews written and how many people have liked or disliked that person's reviews. Finally the page shows the person's three favorite movies. When looking up friends, the user will strengthen social bonds as he/she will get a deeper insight into friends' movie habits.

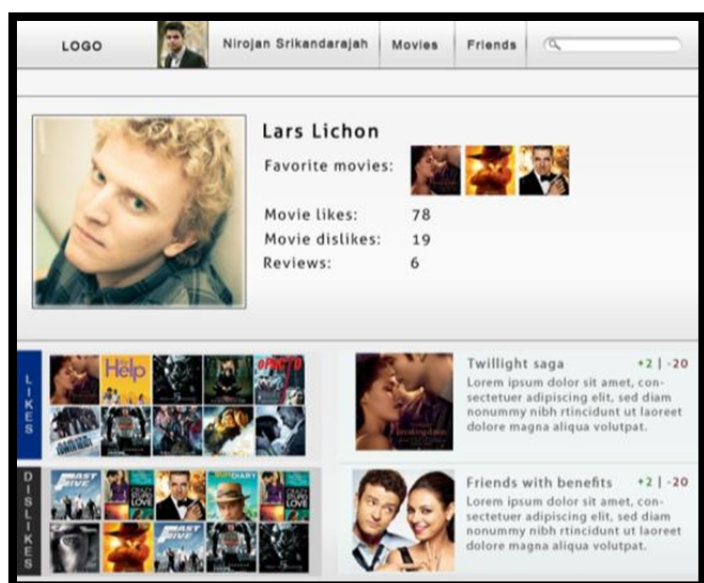


Figure 11: Friend profile

4) Movies

The movies page contains the list of movies in the system, where each movie poster has pictures of friends who have liked or disliked the particular title to the right of the individual movie poster. Movies can be sorted by genre, popularity amongst friends, popularity amongst all users and latest movies added to the system. The user will be able to spot trends as he/she will be able to see popular movies amongst friends and globally.

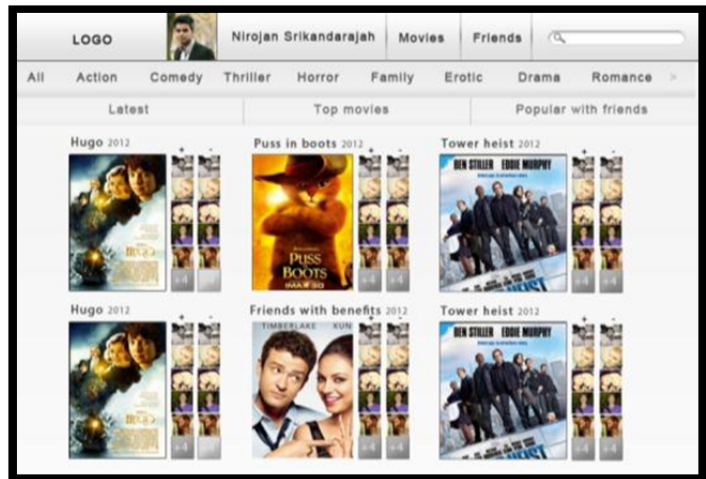


Figure 12: Movies page

5) Movie profile

The movie pop-up page displays when a movie poster is clicked on. The page shows friends who have liked or disliked the movie and any reviews written of the movie by friends. It has buttons to like or dislike the movie and assorted information about it like title, plot, actors, director, the movie poster and a link to the movie trailer. Writing a movie review and seeing it getting likes on the movie page, makes the user able to contribute with content and achieve status.



Figure 13: Movie profile

4.5 Step 5: Design evaluation session

Our focus group for the design evaluation session consists of five girls and is scheduled to last approximately 45 minutes. The audio is recorded using a digital recording device. The following sections contain the questions asked at the session and the results of the data analysis.

4.5.1 Questions for the session

General questions

- How do you search for movies?
- Do you use movie sites for this purpose? Why?
- What is important for you to choose a movie?
- How big influence does friends opinions have when it comes to choosing a movie to watch? Why?
- Do you recommend movies to others? Why?
- Do you read other peoples' comments/reviews about a movie? Why?

Socio questions

- What does it mean to you to import your friend list from Facebook?
- What do you think about "likes" and "dislikes"
- What is most important to you when it comes to movies; friends' opinions or the world's opinions?
- Is it important to you to comment on elements in the system and what elements do you want to comment on?

Functions

Screenshot 1:

- What does the first row tell you?
- How do you understand the plus and minus icons?
- Does it have a value to use pictures?
- Is it useful information to see what your friends think about a movie on the front page or should it only stay on the pages about the movies?
- What value does it give to see what friends "like" and "dislike"?
- What value do you get from reading what your friends have written about a movie?
- Would you write a review by yourself?
- Should it be "likes/dislikes" or "agree/disagree" to a friend's review?
- Should it be reviews or comments that people can write for a movie?
- How do you react when a page uses a big amount of time to load? Do you close the page or do you wait for it to finish loading?
- Is the information shown on the front page the most important things when logging into the system? Should something be removed? Is any information missing?

Screenshot 2:

- What value do you get from this overview of what your friends "like" and "dislike"?

Screenshot 3:

- Is it important to see what friends' favourite movies are when you can also see what they "like" and "dislike"?
- Would it be interesting to see the movies friends hates the most? Why?
- Is any information missing?

Screenshot 4:

- Is it important to see global trends and what happens in you social circle?
- Is this a good way to show it?
- Would it be interesting to have a menu option called "unpopular"?
- What do you think of this way of showing a list by using pictures?

Screenshot 5:

- What information is the most important when it comes to movies?
- Is this a logical way to "like" or "dislike"?

Closure

- Do you any comments that have not been mentioned?

4.5.2 Design evaluation findings

In this section the results will be discussed from the mock-up session. The first part will cover what confirmations of pleasures from the analysis that have been received throughout the session. This will be followed by the changes and features missing in the system and things that surprised during the session.



Figure 14: Mock-up with comments

Confirmed product benefits

Socio

To be able to spot trends

Throughout the session it is confirmed that it gives a value to be able to spot trends. The participants like that when logging in to the system they can see what their friends have been doing recently. This way they feel that they are able to get a quick overview of movies currently popular in their social communities and then make their own opinion about it and figure out if it has any interest. Likewise, they also liked that they were able to see what trends are happening globally by sorting the list of popular movies at the moment.

When discussing the front page of the system the participants stated that they like the content already existing although they did want another line with upcoming movies. The reason for this is that they also want to see the actual movie trends and not only their friends' recent activities in the system. This indicates a confirmation of the pleasure of being able to spot trends.

It is also pointed out that it can be interesting to see which movies people are interesting in watching at some point in the future. The participants see new and upcoming movies as something that can help plan going to the cinema with others for a certain movie. This is not only interesting when it comes to new movies but also movies. This, again indicates an interest and pleasure in spotting trends.

To strengthen social bonds

The social bonds are very important to the target users and they value their friends' opinions. They state that it is a good thing that it is possible to like and dislike certain elements in the system like movies and peoples' reviews. They do not see their friends' choices of movie as something that will strengthen their social bonds to get to know them better, but it helps a bit to see whether they share the same opinions about movies which can lead to the discovering of new movies. Furthermore, this can give an indication to invite them to see a movie if they liked movies close to the one you want to see. The participants like that the system uses Facebook to import their friends and as their login profile so that they do not have to make a new profile and get friends to do the same.

To be able to give back to the community

The participants find it useful to be able to write reviews to movies. They said that this made them feel like being able to recommend movies to other people indirectly without forcing it down their throat. This is done by writing a review and stating one's opinion about it. This way, friends can read it which may help them decide whether or not to see it.

To be able to achieve status

The focus group likes the idea of writing a review that friends can support by liking it although it is found that to dislike a friend's review can be too aggressive. If one were to write a review that receives a lot of dislikes, he/she might not write one again another time. This indicates that having one's review "reviewed" by others may affect the status of the author in relation to the system.

This relates to the participants saying that they want to know who likes or dislikes the reviews that have been written because it helps understand the response. It can be that a person hates one actor which makes the person dislikes the review if the person who wrote it says something good about the actor.

Having this knowledge of the person who dislikes a review, may help not feeling losing status in the system, as that certain dislike

The participants indicate that the fact that it is their profile picture being shown throughout the system gives some kind of status as friends will get to notice them even more. They do not see this system as something that can help state one's full identity because movies are just a fraction of what defines an identity.

Psycho

The system should not be time consuming to use

It is stated by the participants that when using a system, it is important that it is easy to use and gives a quick overview. The participants like that the website supports this by having only few choices at a time and always displays relevant information. Furthermore, it is important that they can get a quick overview which the system supports. It was discussed how much long loading times

means to the user where it was pointed out that this may be a reason for leaving the site. This indicates that they do not want to wait and that it has to be efficient which also supports the initial analysis. Another aspect that is pointed out is the fact that it looks like systems they already know which makes it easy to understand how to interact with the system.

The system should not be stressing

Some of the previously mentioned does also support the pleasure of being stress-free. The fact that it is efficient and easy to use is important. They quickly recognize that the layout is similar to websites like

IMDB, Facebook and Kino.dk¹ which makes it easy for them to understand how to use the system. This means that they do not have to spend a lot of time understanding how to interact with it. The participants likes that the system uses a simple design with no graphical noise like advertisements which systems like Facebook uses. The fact that they can use their Facebook account to access the system also supports this aspect so that they do not have to do a lot of work to get started. They also like the prioritizing of information and functions so that they do not get something that they did not need.

A subject that was discussed on the session is how to handle movie reviews. Should it be comments or reviews and how should the system support this? Comments being short messages, stating one's immediate thoughts and review being a longer description of good and bad elements of the movie and being more formal. The participants stated that they used sites as Kino.dk which made use of short comments that would work as small easy readable reviews. They say that using this kind of review makes them feel like using much less effort both when writing and reading a review. This pleasure of using little effort supports this product benefit.

A similar discussed subject is the rating system which alternative to the current one could be a traditional 1-6 or 1-10 rating system. Some participants think that this enables them to give a more precise rating of the movie rather than just liking/disliking it while the most of them thinks this an unnecessary complication of the system. They feel that liking/disliking is much easier to choose between and puts less pressure on their decision.

Ideo

To be able to satisfy need for well-designed products

Throughout the session it is pointed out that they like the current neutral colors on the mock-up. It reminds them of Apple's soft- and hardware which in their mind is rated as high quality. They like the simplicity with no graphical noise which makes it seem professional. They mention that they enjoy the way the lists are shown by using pictures instead of text.

¹ Kino.dk is a website combining information about new and upcoming movies and ticket handling for the cinemas.

Content should have a high quality

The participants mention that they rely on IMDB when finding information about a movie. This indicates that the information used in this system may feel valid to them, as it is taken from the IMDB database.

Summary

In conclusion the target group is able to experience all the benefits of the product benefits specification to some degree which means that there is no need to re-design the features of these pleasures.

Emerged product benefits

To see other people in the system

The participants indicate that it is not just their friends' and family's opinions that make them choose a movie but also people they do not know. This could be frequent users of the system with a lot of written and agreed reviews. Some of the participants say that they read other peoples' reviews on IMDB when deciding whether or not to see a movie. It is indicated that the extra value of friends' recommendations over a stranger's recommendations may not be as high as anticipated. Instead, it indicates that reading a frequent user's reviews may give a better understanding of the current movie tendencies, which confirms the product benefit of being able to spot trends.

This resulted in creating a button that makes it possible to switch between seeing only friends' reviews and all of the system's user's reviews. The reason for being able to switch between the two is that friends' review still could be more interesting to read. If a movie has many reviews, it may be difficult to find friends' reviews in between all the others'.

Another thing discussed about seeing other people in the system is that it should be possible to follow them in some way if they write good reviews. This indicates that it should be possible to see the most active users with a big amount of likes and thereby expand one's circle of social contacts.

This is now implemented in the system, as it is now possible to choose to see all users of the system, and through that add someone as a friend in the system.

The interest in following or befriending someone outside of the Facebook friend list indicates fulfillment of two product benefits: to be able to achieve status and to be able to expand one's social relations.

To be requested to be someone's friend may give a social status as it will make the person feel valued.

Being able to befriend people outside one's Facebook friend list, gives the opportunity to expand the social relations. This can even lead to getting to be friends on Facebook and maybe even in person.

The latter resulted in adding a Follow button on profile pages, which' functions is to add that person to one's friend list.

Recommendations

During the session an option of giving direct recommendations to another user was discussed as a possible feature as this allows them to share a good experience with each other. It was pointed out that recommendations also can be annoying if you receive a lot like in some cases seen on Facebook. This may

cause the user to lose interest or ignore them. Because of their different opinions about this function it is left out for now.

Another way of recommendation also considered during the session is a function where the system recommends movies to the user by looking at different parameters. The participants though, could not agree on what parameters should be used to determine the recommendations for each person. Generally the participants do not trust a system to give “personal” recommendations. This indicates a pleasure in receiving personal recommendations.

4.6 Step 6: System implementation

This section will be covering the technologies that are used to develop the system. The system is presented as a website where the technology is software based. Furthermore, a detailed walkthrough of the system will be described.

PHP – Hypertext preprocessor

The system make use of PHP which is a scripting language used on the website to make it dynamic, unlike websites that only consists hard-coded HTML. By using PHP scripts it makes it possible to give the website “life” which means that the input or variables can influence content on the website.

Database

The database is built using MySQL which is a database management system that contains all the data on the website such as user and movies information.

JavaScript

The system does also make use of JavaScript which is a commonly used scripting language on many platforms and can be used for many purposes such as updating reviews.

4.6.1 System description

This section will be a detailed guide of how to interact with the system. All the features of the system will be described in depth to make sure that they are understood correctly by the reader but also in the case of the system being offline. Furthermore, the design will be described.

The design is heavily inspired by the design from the mock-up and the functions and features are implemented by the formal properties.

Login page

When first entering the homepage, the user will be met by a Facebook button that tells the user to log in with Facebook to continue. By logging in with Facebook the user have to allow the



website to be integrated with the user's profile. When doing so, the system imports the information needed from the user like profile picture, name and social relations.

Front page

The first thing the users will see when entering the page is the front page with the latest social news. If their friends have stated an opinion about a movie that the user have not yet seen or stated an opinion about, they will be shown on the screen. The latest opinions will change every time the user enters the front page. Each movie has a movie poster with the name on the top of it with the year the movie is made.

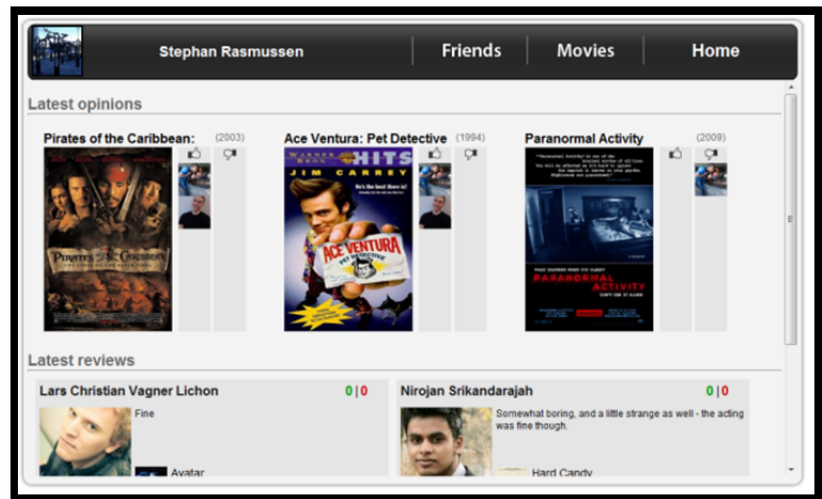


Figure 15: Front page

On each movie the user, can see which of his or hers friends like or dislike the particular movie. The icons used for this purpose is a thumbs up or a thumbs down. This is a well-known icon for what people like and dislike which has been used on sites like Facebook and YouTube. The user can then click on the movie poster to get more information or click on their friends and family profile pictures to see more movies that they like or do not like. Under the latest opinions are the latest reviews from friends where it is possible to agree or disagree to the things they have written about the movie. The agrees and disagrees are indicated by green and red numbers where the green represent agrees and red represent disagrees.

The design of the page is simple with few colours and functions to make it easy to use. The layout of the site is recognizable with the menu in the top of the screen and the context underneath. This design will be used throughout the whole system. An important design decision can be seen on the latest opinions and latest reviews. As it is shown on the picture the latest opinions have a big picture of the movie poster with smaller pictures of their friend to the right. This is because it is the movie that is most important and because a lot of friends can say they like and do not like it at the same time. On the latest reviews there is a big picture of the user who has written the review and a smaller picture to the right, so the users know what movie they write about. At the top of the screen is the menu which can be accessed everywhere in the system. To the left is the profile picture of the user that is logged in to the system. To the right are the other options in the system to find new movies.

User Profile Page

If the user chooses to click on any profile a pop-up page comes up with the information about the person. The rest of the website turns darker to help the user get focus on the current page by removing the graphical noise in the background. It has a bigger profile picture than on the other sides because this is where the person is in focus.

The page shows the stats of the user which includes how many likes and dislikes they have, how many reviews they have written and how many people have agreed or disagreed to certain reviews. This feature is to give a quick overview of how active the user is and display the user's status within the system. Underneath the stats are all the movies the person like and not like to help getting a better insight of the person through movies. It is possible to go to the movie pages by clicking on the posters. To the right of these movie opinions are all the reviews the user have written. There are only shown two reviews at a time but it is possible to see more by clicking on the "Next" button. Like on the front page it is also possible to agree or disagree with each review. The reviews are sorted by the most activity (based on number of likes and dislikes) at the moment which helps supporting the trend spotting in the system. The page can be closed by clicking on the cross in the top right corner of the page or by clicking on the greyed out area in behind the pop-up page.

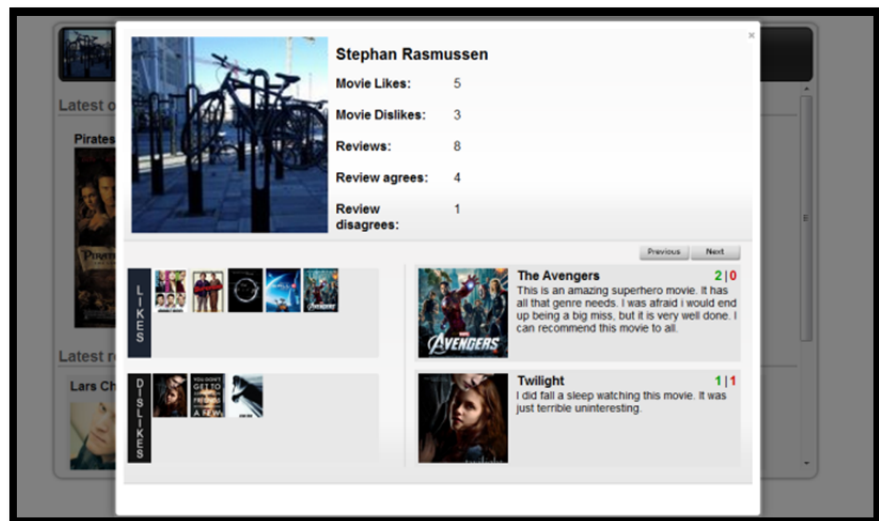


Figure 16: User profile page

Friends page

When clicking on the "Friends" option in the menu, which gets highlighted by a white square, the user will see a list of all the users who have been active in the system either by stating their opinion about a movie or by writing a review. To the right of each profile picture are the movies the person have most recently liked or disliked. This means that these will update every time the person like or dislike a movie. The feature is to get a

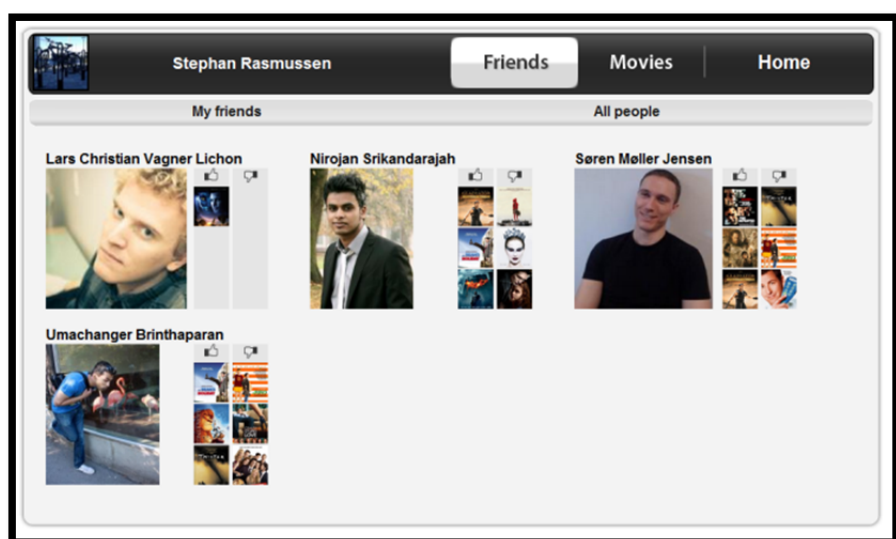


Figure 17: Friends page

quick overview of what movies the person like and do not like at the moment. To see more the user has to click on the profile picture.

Underneath the top menu a smaller menu is located. When first entering this page the system will by default show the user's friends but this can be changed by clicking on "All people", which will then show all the people in the system and sort them by latest activity.

Movies page

On the movie page the user will be presented with a list of all the movies that are currently the most popular amongst the user's social relations. This is the standard list when entering the page but it is also possible to sort these lists in other ways.

Right beneath the top bar there are two smaller bars. In the first of these the user will be able to sort by different genres and when the user have picked genre, he or she can sort by which movies are most popular amongst friends, which movies are the newest or movies that are most popular on a global scale. To each movie poster is a list of friends who likes or dislikes the movie. Another thing worth mentioning is the menus that will always stay in top of the screen even though the user is scrolling down on the page.

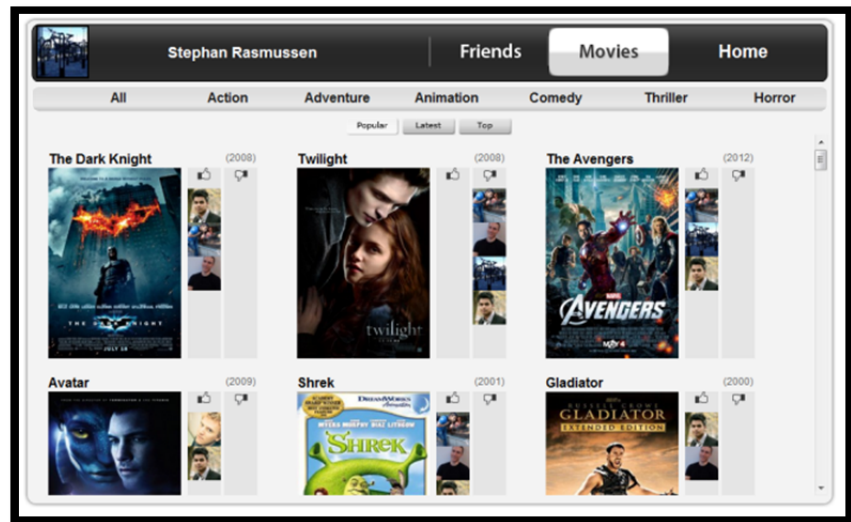


Figure 18: Movies page

Movie pop-up page

When clicking on a particular movie a pop-up page will show with the same layout as seen on the user profile page. The page has a bigger movie poster with the information belonging to the movie to the right of it. This information includes the title, the year the movie was released, the director of the movie, the most important actors and the plot of the movie. When hovering the cursor over the movie poster, a play icon will appear and when clicking on this icon, a trailer for

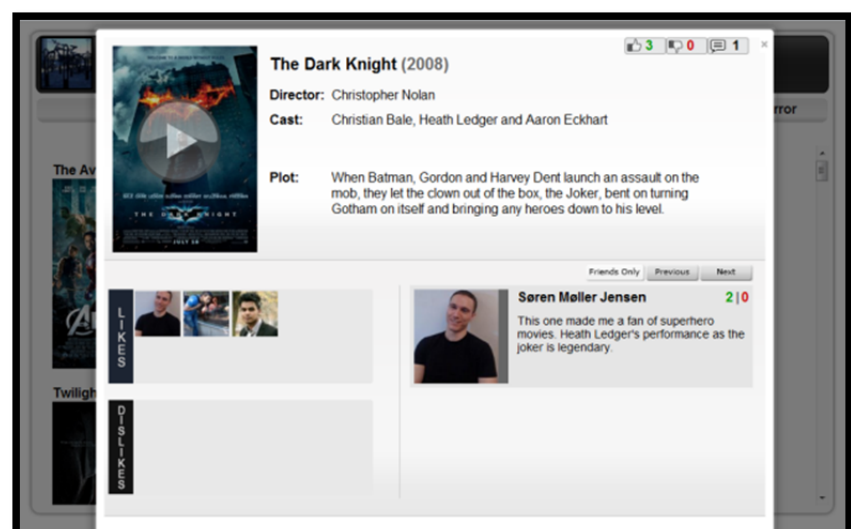


Figure 19: Movies pop-up page

the movie will be shown from YouTube.

In the top right corner are all the likes and dislikes the movie has gotten and how many reviews it has. This is also where the users can state their own opinion by clicking on these boxes. If the user changes his or her mind about the movie, it is possible to change that opinion by clicking on the other icon. When doing so a little alert box comes up telling that the user already have liked or disliked the movie and asks if he or she wants to change the opinion about it. The user then has to press "Ok" to change this. It is possible to cancel this operation by clicking the "cancel" button.

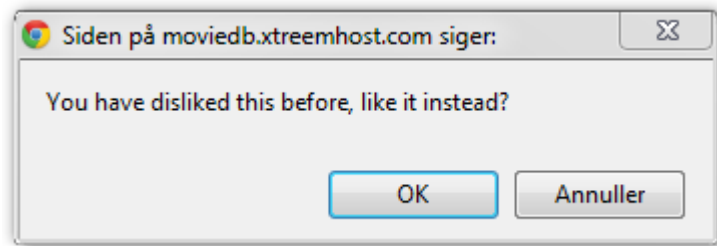


Figure 20: Alert box

If the user wants to write a short review for the movie and click on the review icon and a small text box will pop up on the screen. A small text box has been chosen so that it does not seem frightening to write a review which may occur if the system uses a big place to type. The text on top of the text box is to make the users feel relaxed about writing a review and just tell what they think of it. When the user starts typing, a number turns up in the right corner telling the user how many characters they have left. If it were to happen that the user crosses the limit of characters in their review the "Ok" button disappears which makes sure that the user cannot post the review. Furthermore the counter will turn red with a minus in front of it, to tell the user that the limit has been crossed. At any time it is possible to cancel the operation which is done by clicking the "cancel" button.

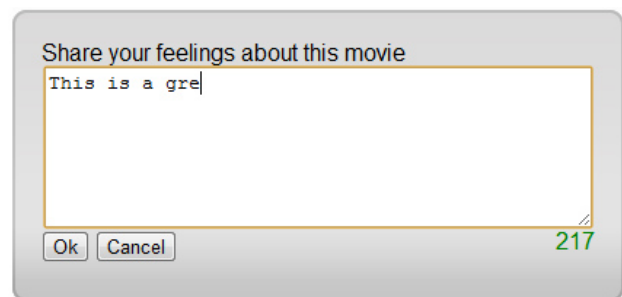


Figure 21: Text box

At the bottom of the page it is possible to see the friends who have liked or disliked the movie. To the right of these are the reviews that have been written. Per default the page starts showing the friends the users already know which is indicated by the white button "friends only" that is pushed. If the user wants to see others' reviews for this movie they have to press this button again and all people who have written a review will be shown. Like on the profile pages it is possible to go back and forth to read more reviews and to say that you agree or disagree to what have been written.

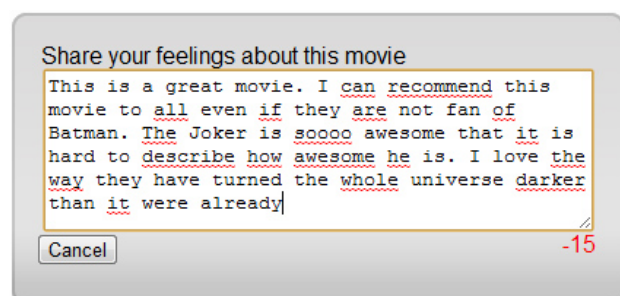


Figure 22: Text box

4.7 Step 7: User experience evaluation

The system evaluation is carried out with four female participants and is scheduled to last approximately 30 minutes and it is recorded using Camtasia; a software that collects audio and video as well as the screen capture of the pc that is it installed on into a single video file. Each participant is given an introduction to the project and the system and then asked to complete eight tasks that are designed to give the participant a good understanding of the system. The participants are then asked to complete a questionnaire with nine questions about how well they feel they are able to experience the nine benefits of the product benefits specification. Participants must rate how well they experience a benefit, with ratings between 1 and 5 and they are asked to explain their ratings. The evaluation is finished with a semi-structured interview where the questions asked are based on the abovementioned eight tasks.

This section contains the tasks, questionnaire and the interview guide followed by the participants' questionnaire answers and finally a summary of what the participants said during the interviews.

These interviews can be found in full length in appendix 3.

4.7.1 Evaluation tasks

1. This is your first time using the system. Please try to login so you can start exploring.
2. Find an action movie that you enjoy and “like it”.
3. You can see that one of your friends has written a review for the movie and you want to state your opinion about it.
4. You like this movie so much that you want to tell others why it is a good movie. Write a short review of this movie.
5. You are in the mood for watching a funny movie. You know your Facebook friend Stephan has great taste in movies. Find a funny movie you have not watched.
6. Try and explore the movie you have chosen throughout the information and functions given.
7. Find the most popular movie at the moment. You can see that not many of your friends have written a review and want to see what others have written about it.
8. You see a person that has written an interesting review and want to see what other movies the person likes. He/she shares a lot of the same movies you like. In the future you want his/hers opinions and reviews to be visible on the same level as your friends’, which make you want to “follow” him/her.

4.7.2 Evaluation questionnaire

The participants must rate the following questions on scale of 1 to 5, where 1 means strongly disagree and 5 means strongly agree.

1. I felt like I was able to spot new tendencies in the world of movies.
2. I felt like the system aided me in getting closer to my friends and relatives.
3. I felt like I could contribute to the community.
4. I felt like I was able to achieve social status within the system.
5. I felt the system was fast.
6. I felt the system aided me in such a way that I didn’t become stressed.
7. I felt the system looked aesthetically pleasing.
8. I felt the system offered high quality content.
9. I felt that the system offered me a good experience when exploring new movies.

4.7.3 Evaluation interview guide

The below questions are used to start a conversation about the various aspects of the system.

- What do you think of the front page? What is your impression of it?
- Are your friends' likes/dislike a good way to get an impression of the movie?
- Is this a good way to state what you mean about a movie or does it need to be represented in another way?
- Does it have value to know what a friend likes or dislikes about a movie?
- Does it support your decision?
- What do you think of the idea to like and dislike a review?
- Does it give status to write a review and get positive or negative feedback from your friends? Why?
- Is it more interesting to explore throughout your friends and family than through a normal search engine?
- Is the information given on the movie site important to you?
- Are there some information missing that you need to decide if it has any interest?
- Is it important to know what other than your friends think about a movie?
- Does it have value to "follow" other people?
- Does the system need anything else? Are there functions that you felt were missing?
- Does the system help you creating your own identity throughout movies?
- Does the information in the profiles give value?

4.7.4 Participant 1

Questionnaire results

1. I felt like I was able to spot new tendencies in the world of movies	4
--	----------

She feels that she gets good insight into what people are enjoying at the moment, both friends and other people.

2. I felt like the system aided me in getting closer to my friends and relatives	4
---	----------

She repeats that she values being able to get insight into what other people are interesting in, and expands by saying that it is also nice to see what people she does not talk to frequently are interested in.

3. I felt like I could contribute to the community	5
---	----------

She answers quickly without commenting and goes on to the next question.

4. I felt like I was able to achieve social status within the system	5
---	----------

She strongly affirms that she would feel an increase in social status by having reviews liked by other users, especially amongst Facebook friends.

5. I felt the system was fast	4
--------------------------------------	----------

She feels that the system is sufficiently fast.

6. I felt the system aided me in such a way that I did not become stressed

5

She answers quickly by saying that the design and interaction with the system is not aggravating.

7. I felt the system looked aesthetically pleasing

4

She thinks that the website is pretty.

8. I felt the system offered high quality content

4

During testing she does not notice that the website has links to movie trailers, so she suggests that trailers will be a good addition to the website.

9. I felt that the system offered me a good experience when exploring new movies

4

She likes the overview that the system provides and she seems thrilled with the idea of being able to get insight into what people enjoy.

Interview summary:

She normally uses a friend as inspiration when it comes to finding new movies, and then uses existing tools like IMDB.com to learn more about it before deciding whether or not to watch it. She likes the binary rating system, because it encourages people to only like or dislike movies that they feel strongly about, and that helps her understand people better. She also says that she would be hesitant about liking a movie that friends have disliked, because that could cause issues. She says that she does not care about other peoples' opinions about a movie; she only cares about what her friends think.

She likes the review ratings as it would both bring attention to good reviews, and hence make the website better by highlighting useful information and she also feels that it would provide users with an increased social status. She likes the idea of following knowledgeable users in the system and feels it would enhance the social status of users if the number of follows users have could be seen on the user profile page.

She identifies an opportunity in regards to coordinating social events through the system, by making it possible to indicate interest in an upcoming movie, to enable spontaneous movie dates between friends.

4.7.5 Participant 2

Questionnaire results

1. I felt like I was able to spot new tendencies in the world of movies

2

She feels that the front page provides her with good insight into trends, but that she prefers to see what all the users of the system thinks and not just her friends because she rarely has the same taste in movies as her friends.

2. I felt like the system aided me in getting closer to my friends and relatives

3

She says that she already knows her close and most important friends well enough and is not interested in getting closer to the rest.

3. I felt like I could contribute to the community

4

She feels she can be a part of the community by liking, and writing reviews and thereby spread the word about enjoyable movies.

4. I felt like I was able to achieve social status within the system

3

She says that she does not feel it would give her social status to have other people like her reviews.

5. I felt the system was fast

4

She feels that the system is sufficiently fast.

6. I felt the system aided me in such a way that I did not become stressed

5

She says that she does not experience stress interacting with the system, and says that she really likes the heavy use of images on the website.

7. I felt the system looked aesthetically pleasing

5

She reaffirms that she likes the image heavy interface.

8. I felt the system offered high quality content

4

She liked the trailer links, but she also felt that the information presented about movies was lacking, since she often selects movies by actors, directors and more.

9. I felt that the system offered me a good experience when exploring new movies

4

She compares the website to IMDB and says that the system is better, and less annoying than IMDB which, according to her, is messy and does movie recommendations poorly.

Interview summary

She considers friends and other users' likes of movies an appetizer that would encourage her to learn more about a movie, however she would still select movies based on trailers, plot, actors and so forth. But likes and dislikes can help identify who a movie should be watched with.

She enjoys the idea of reviewing movies that she really likes, because to her it is a good way to recommend movies. She also thinks liking reviews is a good feature because if a review matches her experience with the movie she would like to be able to make this known to other users and to the author of the review that she had a good experience with the movie because of the review. She likes idea of following a user if he/she writes many good reviews, because she feels that her own friends have a poor taste in movies so she would need inspiration for new movies elsewhere. Nevertheless she does not care for the review statistics, because how many people have liked or disliked her, or other people's reviews, it is uninteresting to her.

4.7.6 Participant 3

Questionnaire results

1. I felt like I was able to spot new tendencies in the world of movies	5
--	----------

She does not comment on this.

2. I felt like the system aided me in getting closer to my friends and relatives	4
---	----------

She says she was able to see what movies could be discussed with friends, and with the ability to see what movies friends like, it could be easier for her to arrange movie nights.

3. I felt like I could contribute to the community	2
---	----------

The participant is not interested in contributing (which might be the reason why she graded this 2), but when asked she thinks the system in general is good at making sure that the users can contribute. Even though she will not contribute to the community herself she states that she will make use of other people's contributions. She will read other peoples reviews and not so much look at likes and dislikes as she thinks the reviews have more value to them.

4. I felt like I was able to achieve social status within the system	3
---	----------

The participant herself is not interested in achieving status, and even though she says that the system somewhat showed off her status, she still is not interested in this (which might be the reason why she graded this 3).

5. I felt the system was fast	5
--------------------------------------	----------

She says that the system has the perfect pace according to loading time; it is neither too fast but nor too slow. She also says that she is able to get the information she needs quickly.

6. I felt the system aided me in such a way that I did not become stressed**4**

The participant feel that the system will not stress her, the large posters on the site is a partly the reason for this, as she says it will aid her in finding her movies faster, because she always looks at the posters and not the movie titles.

7. I felt the system looked aesthetically pleasing**5**

She says the simplicity of the websites design is to her liking, she has a few comments in regards to the scroll bars being oddly placed. When asked if there should be more content on the screen, she says that she thinks this will be a bad idea, as it will make the website seem crowded.

8. I felt the system offered high quality content**5**

The participant says that the content offered is at the level of quality that her friends can deliver. She notes that she thinks the plot description for each movie is a bit too short. She also says that the quality of a review could vary a lot and that friends are allowed to contribute with lesser quality content, as she will be able to just ask them directly if need be. Lastly she says that friend's opinions are more relevant than strangers.

9. I felt that the system offered me a good experience when exploring new movies**5**

The participant utters that this way of exploring is better than she has seen on other sites. She states that on other movie sites the posters are too small and she do not want to read the title when quickly looking for movies. Generally she talks more about the layout of the homepage and does not really touch the topic of being able to explore movies through friends and family.

Interview summary

The participant says that the front page should show the newest movies along with the elements that already populates the front page. The front page shows which movies friends' dislike and the participant cannot see the value in this, though when further discussed, she sees this as a warning about movies not to watch. Even though she can see value in showing "warnings" on the front page, she still thinks that the front page should only show liked movies as this would work as an appetizer to watch new movies.

Dislikes and likes are both equally important to her. She thinks that likes and dislikes are better than ratings and are generally a good way to represent ones opinion about a movie. The participant says that she would only dislike or like movies that we feel strongly about and not necessarily movies that lie in-between. One negative aspect of likes and dislikes is that she is not able to see what a person likes or dislikes about a movie, but she does not like the idea of being forced to write a review to make it clear why it was liked or disliked. She would however write a review if she felt a strong need to share her opinion about a particular movie, and not just simply like or dislike it.

She likes that the front page shows with the latest reviews and she would also like to be able to see the most popular reviews.

Aesthetic is important to the participant, even a bit more important than the functionality. She says that you will use this site during your spare time; so you have to feel that the site is pleasurable to use, which according to her is achievable by making it look aesthetically pleasing.

Whenever the participant is looking for a new movie her selection is based on actors and directors, but friends can help, point her in the right direction. She thinks it is interesting to find movies through friends and family which is different from other sites she uses. She feels she would be able to find a new movie faster than otherwise, and knowing what friends like will help her decide whether or not to watch a specific movie more quickly than she normally will be able to.

She likes that reviews can be liked or disliked, because it shows how good a review is. However, she would feel bad if her own reviews got bad scores, which in return would make her stop writing reviews, although likes of her reviews could also get her to write more of them.

4.7.7 Participant 4

Questionnaire results

1. I felt like I was able to spot new tendencies in the world of movies	5
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The participant thinks so, as you are able to see top and popular movies.

2. I felt like the system aided me in getting closer to my friends and relatives	4
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The participant says she is not the eager Facebook user. She can still see pleasure in being able to see what friends do and in that way get closer to them.

3. I felt like I could contribute to the community	4
---	----------

She feels she is able to contribute, but is scared that ratings would “drown”, when a movie gets a certain amount of ratings. She likes that you can indirectly recommend movies to friends but will not personally use a system like this, to give recommendations; instead she will go directly to her friends.

4. I felt like I was able to achieve social status within the system	3
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She does not care about achieving social status and cannot see how the system can help a person achieve this.

5. I felt the system was fast	5
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She feels the system has a good pace with few steps to the information she is looking for.

6. I felt the system aided me in such a way that I didn't become stressed

5

As the elements on the website are clear as to what they do, she says she will not get stressed or annoyed. She says that personal images should not be any bigger as it will make the website more cluttered and that the spacing between the elements on the website is good.

7. I felt the system looked aesthetically pleasing

4

The participant thinks the general style of the site is to her liking, it is simple and elegant. When asked out of curiosity if the website should have more colours she says that it will steal focus from the movie posters which are what should have the user's main focus.

8. I felt the system offered high quality content

4

She thinks the system offers high quality content both from friends and the general information about a movie. She adds that a link to nearby theatres could be a nice feature.

9. I felt that the system offered me a good experience when exploring new movies

4

The participant uses IMDB to find movies, so this site offers less information, but this is not necessarily a bad thing. Although she mentions that she would perhaps visit IMDB after using this site. When asked if she would use this site over IMDB, if this site offered just as much information as IMDB, she says that it would become too crowded, although she mentions that this can be solved with a button that could hide certain information. She says that IMDB build around facts and that this site shows the user how good a movie is in accordance to her friend. She thinks they both are good in their own way.

Interview summary

The participant generally likes the idea of liking and disliking movies and would use this function. She would also prefer the likes and dislikes of all users and not just her friends, but she can still see why other people might value friends' opinion higher than strangers.

Knowing friends' likes and dislikes will not make the participant watch a specific movie, but it could guide her when choosing what movies to watch. The participant thinks it would be more pleasurable to gain movie knowledge through friends and family rather than finding movies through IMDB.

Regarding reviews the participant herself will not write them as she says she is too lazy, but would read other peoples' reviews. She likes that the system offers the ability to like and dislike reviews as this made it easy to see the good reviews, but she shows some concerns on this topic as it will be easy for people to misuse the system. She likes that you are anonymous when voicing an opinion about a review as you then can be honest about it. She would feel bad about negative replies to her own reviews. Even though the participant says she is too lazy to write reviews she would still like and dislike reviews, as she can see value in this and it is easy to do.

The participant likes functionality over the aesthetics; the aesthetics to her is secondary.

She likes the ability to follow people. By following people she will be able to find people with the same taste as her which then makes it easier for her to explorer movies. In regards to this she also says that she preferred getting movie opinions more from passionate movie watchers than critics.

4.7.8 Summary

The following diagram illustrates the average grade given to each of the statements of the questionnaire.

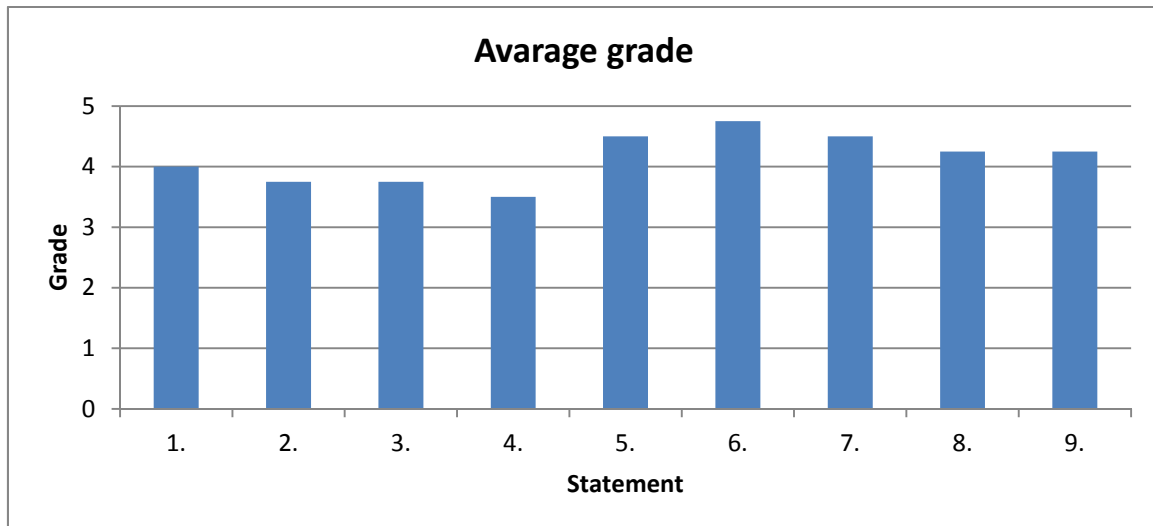


Figure 23: Questionnaire grade diagram

The the full text for each statement can be seen in this list:

1. I felt like I was able to spot new tendencies in the world of movies
2. I felt like the system aided me in getting closer to my friends and relatives
3. I felt like I could contribute to the community
4. I felt like I was able to achieve social status within the system
5. I felt the system was fast
6. I felt the system aided me in such a way that I didn't become stressed
7. I felt the system looked aesthetically pleasing
8. I felt the system offered high quality content
9. I felt that the system offered me a good experience when exploring new movies

Generally what can be gathered from the diagram is that each of the statements are rated above the median at 2.5 with a total average for all benefits at 4.14 with a max of 5. When looking at these numbers it seems like, according to the group of participants, the system delivers the system benefits adequately.

In some cases the participants do not agree with the chosen benefit, being able to achieve social status in particular. Three out of four participants mentions that this benefit is less, or not important at all. Benefits one, two and three were generally well received, but each one was thought less important by a single participant.

During the general discussion within the evaluation for each participant, there are some aspects that can be concluded where multiple participants showed the same general opinion.

The social aspect of exploring movies is something the entire group finds both interesting and pleasurable but the social aspect should be enhanced by making other people much more visible in the system. The participants all appreciate their friends' opinions over people they do not know, but they are still interested

in knowing what the “global” community thinks about movies. That a movie is liked by a friend is often not enough to make the participants see a movie, but it does work as motivating factor that encourages them to look research a particular movie.

The majority of the participants likes the simple way of “liking” or “disliking” as it made the process much easier and faster, although some of the participants would perhaps hesitate with using the like and dislike button which can hint that there could be a general problem regarding the interpretation of liking and disliking. This can also mean that the participants only want the best movies to be shown which can it easier to get an impression of a user’s, and perhaps indicate status by only having likes the "right" movies.

The participants also experienced some usability during the evaluation. This is not the main focus of project, but it could potentially affect the participants’ experience of the pleasureability of the system.

In summary, based on these

4.8 Conclusion of the applied method

Our purpose throughout this report and project has been to try to develop an IT-system with the use of the pleasure model. We have made use of the method described by Patrick Jordan and tailored it to suit our specific scenario. With the tailored method and model we have developed a system that gives the user of the system the ability to explorer movies through social relations. Throughout the development of the system we have been in touch with the target audience to keep evaluating on our efforts in order to make the system as pleasurable as possible.

With a concluding system evaluation, it is discovered with a small group of representatives from the target audience, that the system offers a high pleasureability. Only minor aspects of the system has been evaluated differently than initially anticipated which came of subjective opinions from the participants and not from the target audience as a whole.

Chapter 5

Models to reality

This chapter contains our thoughts regarding the challenge of applying Patrick Jordan's four pleasures model.

5.1 Identify a problem that is relevant to research or use of information technology

The problem we have identified is that designing software with a good user experience is a challenge that researchers and developers alike struggle with. There are many applications that would benefit from an improved user experience, and one application we feel that is deserving of attention is searching for movies, because there is such a huge reservoir of movie content today and a great desire to find and consume that content. In this project we want to solve the problem of creating a system that makes it an enjoyable experience to search for movies.

5.2 Our contribution to a solution of the problem

Our solution to the problem of creating an enjoyable application for movie searching is to take an existing model and method from designing pleasurable products by Patrick Jordan and modifying the method to make it operational so that it can be applied to problems that involve designing systems that aim to be enjoyable to use.

Patrick Jordan's model

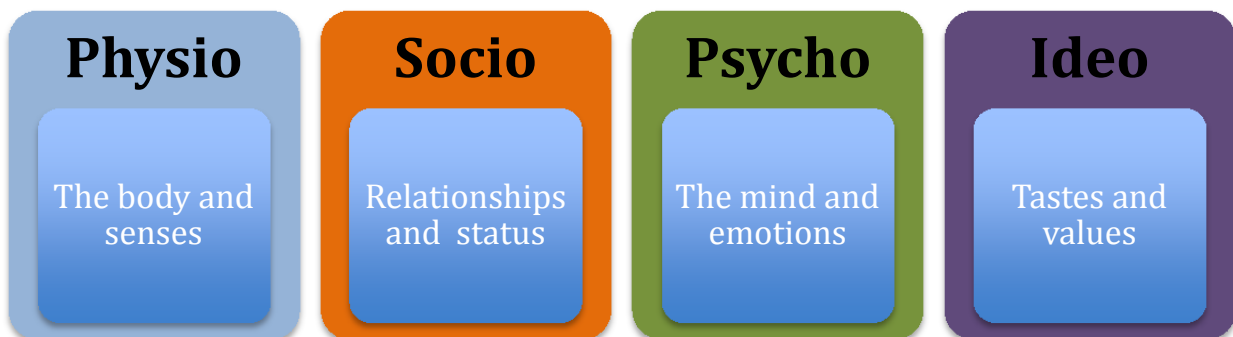


Figure 24: The four pleasures

The four steps of Patrick Jordan's method:

- Understand the target group that is being designed for
- Specify benefits the target group needs the product to have for it to be pleasurable.
- Specify properties the product should have to enable the target group to experience the benefits
- Evaluate design for pleurability

The above theoretical foundation could not be applied directly to our problem, so we had to both modify the existing steps and add additional steps to make it operational. We added four additional steps to the method, and the method we followed had the below eight steps:

1. Define the system and identify target group
2. Understand the target group that is being designed for
3. Specify benefits the target group needs the product to have for it to be pleasurable.
4. Specify properties the product should have to enable the target group to experience the benefits
5. Generate design based on properties and benefits
6. Evaluate design for pleasurability
7. Implement system as designed.
8. Evaluate the system with members of the target group.

To enable the method to be used for any project, an initial step was added that defines what product is to be made and who it is made for. In step **two** we modified the existing method by collecting data about the target group through interviews and used that data to construct a persona. In step **three** and **four** we modified the existing method by devising four questions that designers should ask themselves to determine what benefits the product should provide and one question to determine what properties the product should have to deliver said benefits and finally we created a collection of the specifications on a diagram we called the benefits and properties specifications diagram. In step **five** we decided to use sketching to generate designs through a process of continuous refinement that resulted in the creation of a mock-up of the envisioned system. In step **six** we modified the existing method by choosing to evaluate the design with a focus group of people from the target group and analyzing the resulting data using the critical incident technique. In step **seven** we implemented the system and finally in step **eight** we modified the existing method by evaluating the pleasurability of the developed system by using an evaluation technique inspired by traditional usability testing. (Step **three** and **four** have been merged in the method chapter of the report. For details of the various steps, see chapter 3.)

The user evaluation of step eight indicates that we have managed to develop a system that is enjoyable to use for our test participants, and therefore we believe that we have managed to successfully operationalize the theoretical foundation consisting of the four pleasures model and the method from Designing pleasurable products.

5.3 Analysis and assessment of our contribution

The addition of step **one** was a simple necessity, a definition of the system to build and who to build it for is needed to begin development, but this step was not explicitly stated in the existing method.

In step **two** we used interview data to put together a persona and the creation of this persona was a useful addition to the theoretical foundation. The detailed description of the persona enabled us to have a common in depth understanding of the target group and the use of a picture made it easier for us to keep the persona in mind during the design process.

In step **three** and **four** the questions we devised to identify product benefits and experiential properties worked well, however the way we identified the formal properties was problematic. To identify formal properties we considered the question: "How can the system elements be manipulated to implement this experiential property?" where we used our own definition of elements because we believed the elements from our theoretical foundation (color, form, graphics, materials, sound and interaction design) where ill-

suited for software development. The elements that we attempted to use were functionality, appearance and interaction, but these were selected without too much consideration. We should have devoted more time and energy into understanding what elements software consists of, so that we could have chosen better elements and hence have identified more useful formal properties and that would likely have made step five easier to accomplish. The benefits and properties specification diagram that we used to collect the benefits and properties turned out to be a useful tool when the design was generated, as it provided a good overview of the formal properties and their links to benefits. This was helpful because it was a way to visually represent specifications that could easily be referenced when needed.

In step **five** we made use of sketching to transition the design from the benefits and properties specification to a more tangible mock-up, which represented the final design. Sketching worked well as a transitioning tool, and the mock-up also worked well in the following design evaluation but it was insufficient as a representation of the design requirements. During the programming step, the mock-up and the benefits and properties specification were used as requirements documentation and this was only manageable because of the small size of the project group where members were both designers and programmers. A method for converting the mock-up and the benefits and properties specification into a proper requirements document is necessary, especially for larger projects.

In step **six** we used a focus group to evaluate the pleasurability of the design, which worked well because the five focus group members knew each other beforehand and thus it was straightforward to establish an atmosphere where conversation about the design flowed freely. The critical incident technique allowed us to identify statements made by the focus group members regarding their ability to experience a particular benefit, and if consensus about a benefit was reached it was considered successfully implemented. In Designing pleasurable products it is suggested that an arbitrary percentage should set, like 80% of participants should be able to experience a benefit but we feel that a better set of guidelines for when a benefit is properly experienced by target group members should be used considered.

During the design evaluation we also made a note of the focus group members' suggestions for improvements or new features and these suggestions were reverse-engineered to try and discover new benefits that we had not included in our benefits and properties specification diagram. In this way we discovered two new benefits, and had we explored this option further we may have discovered even more benefits, and as such this is an interesting option for to take advantage of, perhaps in connection with an iterative design process.

In step **seven** the system was implemented using the mock-up and benefits and properties specification diagram as the requirements document, which we mentioned above is inexpedient and a solution for how to convert the design to a requirements document is needed.

In step **eight** the system was evaluated using a method inspired by usability evaluations, where we had the participants complete a number of tasks as a way to enable them to experience the system. The tasks were completed fairly quickly by the participants and therefore they only had a brief experience with the system. This has negatively affected the conclusions we can draw from the evaluation, and we should consider a better way to evaluate whether a system is pleasurable to use. A better way to do pleasurability evaluation is needed. One alternative solution would be to allow the participants to use the system over a longer period of time, like a week or a month and have them record their experiences with the system in an experience diary (Jordan, 2002)

5.4 Our analysis and assessment of the usefulness of Patrick Jordan's four pleasures model and the Designing Pleasurable Products method

Using the four pleasures helped us immensely by providing structure and inspiration. We experienced that it is easier to brainstorm when the topic is well defined; meaning that coming up with ideas for psychological benefits for a movie exploration system is easier than simply brainstorming for ways to make some system more fun to use. Some may argue that imposing structure on a brainstorm session is counter-productive but in our experience the opposite is true. Structure helps designers be more creative, as long as the imposed structure does not become a bond that strangles spontaneity. However we also acknowledge that this model would have been difficult to use without a good method to support it, and in this case we were lucky that the model came with a well-rounded method. We did have to modify the method, but overall it provided us with a good approach to developing a system with a pleasurable user experience. For instance, without the method we may not have chosen the more user-centered approach of gaining a holistic understanding of our targets users, or used the model twice: First as a way to help understanding the target group, and second to structure and inspire the benefits brainstorm.

The method is very demanding of the people who apply it, as it requires a great deal of creativity and empathy to identify the target group characteristics, benefits, experiential and formal properties. Therefore the output may vary greatly depending on the characteristics of the people who apply it, and designers that lack the abovementioned qualities should perhaps choose a different method.

Hypothetically a designer can develop a system with a pleasurable user experience using no discernible method using only his or hers imagination and creativity, but we believe that it is irresponsible to rely on the chance that someone will get a brilliant idea for a system that happens to be pleasurable to use, and hence we have to try and find methods that enable developers to create pleasurable applications. One direction that developers can go in is to use participatory or user-centered approaches, or we can use models and methods like the ones we have used in this project. We cannot claim that this is the best way to develop a pleasurable application, but can say that the method we applied, if the issues we outline above are addressed, is useful for developing pleasurable applications.

5.5 Final thoughts

To sum up this project in a sentence: This experience has taught us that a good, solid method is required to go from models to reality.

Chapter 6

Reflection

This chapter covers the reflections of the project. We reflect on the used model and method in relation to its usefulness and on potential changes that could be done to the model and method in order to apply it to similar projects.

Additionally, the issues during the process are discussed which includes the choice of target group, teamwork, the structure of the semester and the short time limit.

6.1 General reflections

6.1.1 The target audience

The reason why this specific target audience is chosen is to try to design a system where we as the designers will not be the end users. By choosing a target audience we ourselves are not a part of, we have had to research their characteristics in order to create a pleasurable system. This decision provided us with a challenge we have not met before; researching and evaluating on a target group that does not include ourselves.

The issues regarding the specific gender include stereotypical thinking of what girls like and what is important to them. It is thereby a difficult task to avoid this and focus only on the things they have told during the interviews and evaluations. When analyzing the data from the initial interviews, it has been difficult to separate stereotypical assumptions from the results.

6.1.2 Drawing conclusions

An important thing to remember is that we cannot conclude the system to be pleasurable for the whole target group by the used amount of participants. This means that we cannot tell whether the system covers the pleasures for the whole target group. We can conclude whether or not we have created a good user experience for the participant used in the process.

When using one group of participants to design the system and then evaluating using another group, it is hard to tell whether or not the changes made are right or wrong because the two groups can be too different.

6.1.3 Limitations of the project

Developing a pleasurable product can be difficult when having only four months to design, evaluate and conclude on a project. A person's experience of using a product can change over time when using it. If time constraints are not an issue, it would be better to give the participants a longer period of time to experience the system.

We have had a lot of different features that we wanted to test and evaluate to see what influence it will have on user experience but due to time limitation has not been implemented.

6.1.4 Movie based system

Movies has been chosen as the subject of the system because it is considered something that most people are interested in. Furthermore it is considered being a subject that all can relate to which would make it easier to look into and discuss both in the group and with the participants.

During the focus group session we realize that movies are maybe not an area with the biggest interest for the participants. They do not have much time to find new movies and if they do, they will use the cinema's website to see what is scheduled. Furthermore it is discussed that the social aspect of the system may have been misinterpreted as the system mainly focusses on relations between friends whereas the participants also want the global community.

6.1.5 Need versus pleasure

One of the big discussions during the semester involves the definition of when something is a need or a pleasure. When looking back at the metaphor about Maslow's pyramid of need, it is important to cover the basic needs for the user and then do it in a pleasurable way which hopefully creates a good user experience.

When working with the four pleasures we think a lot about the phrase "pleasure" and when something can be identified as one. Can a pleasure be defined before evaluating it or does it appear when using it over time?

6.1.6 The semester

During the semester the group faces some difficulties by the way the courses are scheduled. The group faced a month covered with one course which means that nothing can be done on the project as it was originally planned. This results in a short setback when returning to the project because we have to remember the status of the project and what has to be done from here. By using the logbook and the notations from the supervisor meetings, this phase has been easy to get through.

6.2 About the model

Designing products with good usability over the last few semesters, we have grown an interest in the next step of system development; good user experience. This was previously brought up at a lecture at Aalborg University which introduced us to this new way of designing.

From this standpoint we start debating about what the next step will be and we start discussing the pleasure of using a product. With help from our supervisor we were pointed in direction of different ways of designing products with good user experience. This helped us find the model from the book "Designing pleasurable products" which suggests a way to ensure pleasureability in using the product.

We chose the model because this area of research is new to us which make the model itself interesting as we avoid repetition. Secondly we see this as the next step in software development. This topic can seem beneficial to work in the future. Thirdly we pick this model because it presents us with a new kind of challenge we have not met before and we wanted to embrace this and learn from the overall experience.

The model suits a vast variety of products well, as it can help pinpoint and focus on aspects that is either dear to the target group or the people developing the product. With this in mind it still seems like that the model can be adjusted a bit to fit the IT world more.

The physio pleasure of the model can seem redundant to use when developing software for desktop computers. When working with a computer, the interaction you primarily use is based on I/O devices that plug into the computer. The most common I/O devices are the keyboard and mouse. With these devices the user can be physically limited when operating the computer. The user will use the keyboard to type and move the mouse around to operate and navigate the computer. The physio pleasure is based on the physical aspects such as sound and touch and because the interaction with software is primarily based on before mentioned I/O devices the movement can be very limited. In the case of using this model to develop software for a desktop computer, it can be difficult to give the user any physio pleasure which in most cases makes this category redundant for this specific scenario.

6.3 About the method

Using this method is difficult because a lot of assumptions can be made upon what the participants are saying. It is thereby very important that you fully understand what is important to the users to create a pleasurable product. Furthermore it is important to evaluate whether or not the functions in the systems covers the pleasures intended or if the users do not care. When doing so it is also important to understand why the functions may or may not be important to the users and find out if something is missing.

Another aspect which is discovered when working with the benefits and properties is to truly understand what each one means. We have ended up changing these multiple times because we did not possess the required understanding of this part of the method.

6.3.1 About the initial interviews

Interview questions

When defining the questions for the interviews, we experienced that it was difficult phrasing questions about the four pleasures that should later be turned into a product. One way to test if the questions are adequate could be to make a test run with another person to see the usefulness of the answers.

Because each interview were done by different members of the group the questions were not asked the same way using the same questions which can be problematic when analyzing the data afterwards. A solution to this problem could be to use the same interviewer at each session.

When defining the questions for the interviews, the group experiences a difficulty when asking questions about the physical pleasures. Knowing which devices the participants enjoy using, may indicate physio pleasures within software as different devices have different interaction.

Problems with laddering

During the initial interviews, we experience a difficulty when it comes to do laddering with people we know personally. There are some situations where the interviewer stops using laddering because they already have an idea of what the interviewee think, because of the close relationship. Because the interviews are done by one interviewer and one participant in each session it is difficult to make sure that each question is laddered to a point where it is not possible asking further. A way to solve this can be to use two interviewers from the group to each session, one that know the participant and one who does not.

Some of the interviews are done by using the program "Skype" which also make it difficult. The reason for this is that when only using audio conversation you cannot see the participants' facial expressions when answering a question.

6.3.2 The persona

Something to notice when developing the persona is that making it detailed will ease the design of the product, but also make it difficult to find a matching participant. The goal is to define the persona in such a way that it will be a helping tool rather than a hindrance. The persona often acted as a hindrance as we at certain points designed specifically for her and not the target group in general.

6.3.3 About the focus group

When planning the focus group session it can be difficult to structure it and define the right questions. The purpose is to evaluate the results from the analysis of the initial interviews. The challenge is to get an impression of whether the mock-up covers the pleasures defined or enlighten some that we have not thought of.

We can see a difficulty asking questions about the mock-up because the participants have to imagine using the system and what experiences they will gain from this. Not only do they have to think whether or not the system will give them a good user experience but also if other users will.

When using the focus group we evaluated the product benefits and properties to see whether or not it gave the pleasures we thought it would give. We also made it possible for the participants to add something that they thought were important and how we should implement the things we have already considered. This way of participatory design was something that came natural to us when using the focus group to evaluate our mock-up which may indicate that it may be something the method needs.

Participants

Due to different geographical location of the participants it has not been possible to use the same people throughout the process. This leads to a small halt in the process because we want to find girls who do fit with the persona we have made.

Furthermore it has been difficult to find a group of girls that have time to participate in a focus group session because we mainly looked for girls at Aalborg University who were busy or not interested in participating. We have tried emailing students which have not given us any response. We also assume that the participants have to know each other in order to get a natural discussion. This makes it even harder to find participants.

Data analysis

The data analysis is made difficult by the fact that sometimes during the session participants would change their mind due to the influence of the other focus group participants.

The way we do the analysis is by having all members of the group listen to the recorded data and take notes, this is useful because multiple people doing data analysis is a good way to catch all the details of the focus group session and can lead to a good discussion about the feedback. This also ensures that nothing is left out.

The mock up

When planning the focus group session, we have had a discussion about what type of mock-up we want to bring to the session. Should it be a paper mock-up or an interactive mock-up? We choose to use the paper mock-up, so that the participants can easily draw any suggestions directly on it. We think that this is a good choice, because it can lead to a lot of discussion on what we have been working on. The participants are more open to say what they like and they do not like, because they are not standing in front of a finished system. There have been multiple times where the participants ask if it is possible to implement different features that they suggest which gives us some indication that it may be something worth considering. It also shows that by using this kind of mock-up, the participants can help create what is logical to them which can help create a good user experience by an intuitive system.

6.3.4 About user experience evaluation

The preparation for the evaluation is difficult because we want to make sure that each of the product benefits gets covered. Furthermore we want to make the tasks close to how they will use it in context without seeming fake.

The approach

The participants are introduced to the system by having them use it, and afterwards their opinion of the system and the pleasures it provides are gathered.

The participants do not use their own Facebook profile in the evaluation which means that the information on the website is more difficult to relate to for the participants, because the system shows friends of the interviewer and not theirs.

Instead of doing this short system evaluation, the evaluation can be conducted over a longer period of time, where the participants will have to keep an experience diary and write down their thoughts of the system. Later the group members can sit down with the participants and talk to them about their experience with the system. One problem with this approach is that we could not be sure that they would actually use the system during this period and document their thoughts.

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