

Matti Hämäläinen

User feedback and development of an online magazine platform

Case digilehdet.fi

User feedback and development of an online	magazine platform	
Case digilehdet.fi		
	Matti Hämäläinen Thesis Spring 2017 Business Information Technology Oulu University of Applied Sciences	

ABSTRACT

Oulu University of Applied Sciences Business Information Technology

Author(s): Matti Hämäläinen

Title of Bachelor's thesis: User-center Research on Usability and Development of digilehdet.fi

Supervisor(s): Anu Niva

Term and year of completion: Spring 2017 Number of pages: 27

Reason behind choosing the subject for this thesis is being able to provide theoretical understanding in conjunction with coding abilities. This thesis is meant to be a demonstration of skill. Client was chosen from work as the author was working for the company and had advanced access to the client.

Objective of this thesis is to find out what a user thinks about the application digilehdet.fi which is a platform where one can read digital editions of their magazines. This is done in two ways. First is to gather information from online feedback and the second is to interview willing participants with questions based on the feedback data. End goal is to know what is good about the service, what is bad about the service and what should be added.

Using material from an electronic book databases the theoretical base is written and made to fit for the thesis subject. Consulting the client organization is a key part in the theoretical knowledge gathering. The methods that are used during the thesis are divided in to two research categories, namely quantitative and qualitative. Quantitative methods are used in analyzing online feedback and basing interview questions from them. Qualitative methods are then used during the interviews and in the analysis after them. The material for the thesis is split in to multiple volumes of software development material that ranges from mobile development to web development.

Main results for this thesis are twofold. First is the information that was relayed to the client to be better equipped to continue the development of the platform. This gave the client organization the tools and information to develop the platform with the user in mind. Largest ideas that were relayed were the addition of offline features, stability optimization suggestions, making registration features streamlined, social media integration and a plain text view. The second part of the results was that the author now has a way to demonstrate the skill set required to conduct a research of this nature, and understand the user point of view in software- and web development.

Conclusion to this thesis is that the results were a mildly successful. There were many things that the client organization already knew about the product and most of that information was then repeated in the research multiple times. However, this gave a second opinion to the client and thus helped them know that they were on the right path. What could be done better in a following thesis is focusing more on the interviews and individuals and try to get a wider range of participants for the interviews and not focusing on the quantitative data. All in all, a successful project that helped both sides and gave understanding and learning to multiple parties.

Keywords: User-centered design, Iterative design, Usability, Interview, Feedback

CONTENTS

1	INTR	ODUCTI	ION	5
2	USEF	R-CENTE	ERED DESIGN PHILOSOPHY	6
	2.1	Conce	pt of User-centered design	6
	2.2	Princip	oles of User-centered design	6
	2.3	User s	tories	9
		2.3.1	User personas	9
		2.3.2	Usability testing	10
		2.3.3	Ease of use	11
	2.4	Respo	nsive design	11
3	RESE	EARCH N	METHODOLOGY	13
	3.1	Data c	collection and analysis	13
	3.2	Condu	cting the interviews	14
4	FIND	INGS		15
	4.1	Positiv	re feedback in online forms	16
	4.2	Positiv	re feedback in interviews	16
	4.3	Negati	ve feedback in online forms	17
	4.4	Negati	ve feedback in interviews	17
	4.5	Online	form development suggestions	18
	4.6	Intervie	ew development suggestions	18
5	DISC	USSION	l	20
REF	EREN	ICES		22
APF	PENDIC	CES		23

1 INTRODUCTION

In today's world, the user experience is valued higher than ever before. Current platforms whether it be a website or a car, the enjoyment comes first. This trend is seen in all types of businesses and is the key to making a product successful. User-centered design is multi-state problem solving that is carried out through the process of development. It is a way to optimize everything to the users' behavior instead of making the user adapt to the product.

During the history of Sanoma Media Finland the company has gone through several iterations of different revenue streams and one of the most popular ones that they are known for is magazines. Now that we are living a highly digitized age the way to also read magazines is changing. That is the reason they commissioned this topic to me.

The thesis topic was given to me by the IT department of Sanoma Media Finland and they specifically wanted to know what was good about their product, what is bad about their product and what should be added. The product in question goes by the domain digilehdet.fi. It is a website where you can read all their magazines that they publish.

This thesis mainly focuses on user-centered design approach for their website. It will mix aspects of web design in the way to make improvements realistic. It will give feedback for the company about the website and aims to help the future development.

The objective of this thesis is to gather feedback for the people at Sanoma Media Finland about their digilehdet.fi platform. It is used to help the developers of the web-based software to understand what is important to the customers. In their views the customer always comes first and the software needs to be an extension of their life, not a hindrance. As this is a lifestyle product, it makes it even more vital to have a good understanding of the customer base. This information is vital for the successful development of the product and have given me a strict timetable to complete this thesis.

2 USER-CENTERED DESIGN PHILOSOPHY

The theoretical background of this thesis is based on two factors. One is the concept of user-centered design and all the design philosophies that reside in it. This includes talking about the general concepts of what is user-centered design and the ways it can be used to further better the user experience. The second is from the developer side of the issue through understanding basic web design possibilities and limitations. (Luchs, M. G. Swan, S. & Griffin, A. 2015)

2.1 Concept of User-centered design

Using "User-centered design" is one of the better development methods when creating an application or a website. The basic principle of this design philosophy is to involve the user in every step of the design process. This includes the 4 phases of software development which are the following: concept, design, development and release. The reason why this type of design philosophy is recommended and widely used, comes down to the fact that you get feedback every step of the way instead of finding out in the end that no one likes the product. (Clifton, I. G. 2015)

Focus on the experience of end users is key. This means that the developers should focus on making the product suit the user instead of the other way around. In this design philosophy, the user should never feel that the platform is not intuitive enough. The way to make this possible is to design everything with the user in mind and continue support through the lifespan of the product. (Caine, K. Courage, C. & Baxter, K. 2015)

2.2 Principles of User-centered design

User-centered design can be categorized in three different design principles. The first one of them the collection of users' experiences. It focuses on making data collection as efficient as possible. The data is gathered in an organized way to ensure that all the potential information is readily available and usable. To ensure that the information is collected in an appropriate way, the questions should be formed only after deep understanding of the methods in use. This means that the questions should be formed in a way that aids the development process and abides by the limitations of the product as well. (Caine, K. Courage, C. & Baxter, K. 2015)

The second principle is to have continuous user involvement. This means that once the project is started after the initial questioning and concepts, now the user is getting involved in the rest of the design steps as well. Having the users along for the entire way through the development process ensures that the final product is tailored to the users' demands. A few forms of quantitative information can also be used to view the user experience like errors or the times that certain tasks are completed. This second design principle also includes that the team should be multicultural and multidisciplinary with their knowledge, this is not a complete necessity but a helping factor nonetheless. (Clifton, I. G. 2015)

Last but not the least of the three principles is iterative design. This is arguably the most important part of user-centered design and is the part that I am focusing on the latter part of the thesis during research and analysis. The concept of iterative design is simple. All the data that has been collected is used during every iteration. This means that every part of information that has been gathered from the users can be useful in its own way. Whether it is put straight in to the design, argued if it is useful or discarded completely, it is all important feedback for the developers to ensure that every cycle produces the best product possible. Continuous support for the product using the experiences of users and feedback from them makes this method superior in terms of developing products that people want to use. Here the attention to detail shows at the end, and the genius part is that there is no end. (Rowland, C. Goodman, E. Charlier, M. Light, A. & Lui, A. 2015)

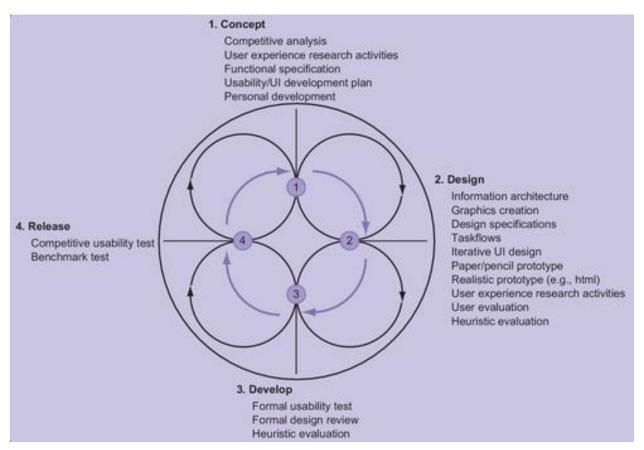


FIGURE 1. Use of iterative design in product development (Caine, K. Courage, C. & Baxter, K. 2015)

This graph shows the complete development cycle excluding the sustained support after the release of the product. It also shows the parts where user-centered design can be used to improve the development in all the sections and sub-sections of development.

One of the core elements in user-centered design is to not only focus on the user experience, but also to focus on the environment where the users are in. For example, if the users are working in a school it is crucial to understand the work space. Teachers for example will have a drastically different perspective to the use cases of the product than the students. It is crucial to have the knowledge from both perspectives and from the environment. This is the part of user-centered design that gets to the core of what it is to design for users, with users. Basic quantitative data is not enough here. Looking at statistics will not show the whole truth. The only option here is to go deeper. (Barker, T. 2015)

2.3 User stories

Listening to the users is key. I am going to use a term from agile development for the ease of understanding and making this as clear as possible. User stories are a way to make a list in terms of what the user wants from the product. For example, "As a <role>, I want <feature>, so that <reason>." (Frick, T. 2016) That is the basic gist of a user story in agile development and that is fine for quantitative data but in user-centered design we want to go deeper. A good way to make sure you get the best possible solutions for the problems is to create first a quantitative research on the problem (like user stories) and then expand on that with interviews for in depth analysis of the subject.

2.3.1 User personas

The personalities and backgrounds of people who give feedback. This is something to consider when conducting interviews and when using feedback from users in other forms during product development. There might be so many different features requested in the product that its simply not possible to include them all. But how do you know who to listen to and what feedback is deemed important? To answer this question, we must look at the user base.

"Cooper first proposed the concept of user personas in The Inmates Are Running the Asylum. In a blog post on the origin of personas, he refers to some of his earlier work in 1995 when he became so frustrated talking to developers that he eventually demanded to speak to customers instead. While talking to customers, he could draw out their commonalities and think of them in terms of their goals, tasks, and skill levels. When he used these hypothetical archetypes, he felt the developers could relate to them much better." (Varma, T. 2015)

The key point of user personas is to find the group of people who you want to create the product for by directly contacting them and then finding what suits their needs. This process of making personas does drain a lot of resources and is very time consuming. To create personas, it can take up to 6 months to have a collection of customers that are well thought out and researched. Other way to do this is to brainstorm ideas. This method takes considerably less time but only gives a rough idea of the personas that are so called "proto-personas". This means that they are "guesstimates" rather than research and thought out archetypes. These "proto-personas" can be very limiting in terms of actual evidence, but can be useful for having a rough framework of

possibilities. It is important to cement these estimations with fieldwork instead of risking making a product that no-one wants to use. (Varma, T. 2015)

2.3.2 Usability testing

Usability has an international standard definition in ISO 9241 pt. 11 (<u>ISO, 1998</u>), which defined usability as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use. (Sauro, J. Lewis, J. R. 2016)

The way that these tests are completed is to categorize and collect all the different types of complications that the subjects had during the testing. This includes things like task and test level satisfaction. Usability testing is usually divided in to two different ways of testing. One is "formative" testing and the second one is "summative" testing. The first one revolves around the testing and problem solving aspects which is probably what most people think first when they are presented with the term usability testing. The second one is less common and is all about theory and data. It reflects on the results of "formative" testing. (Brikman, Y. 2015)

In this thesis, the main emphasis during the interviews is on "formative" testing. This means that the interviewees are be presented with a device that they use the platform on and describe their experiences. The sample size of the usability tests is small because the qualitative nature of the interviews. (Costello, V. 2016)

Usability problems play a part in the usability testing process and analysis. Usability problems are usually interface and functionality related problems. One of these can be for example, a registration form that throws you in to a loop with no way out, and thus renders the process unable to finish. One of the ways these problems can be categorized is to associate them with the people who encounter these issues. In the modern world where web-solutions are everywhere a key demographic that can have these sort of issues is the elderly. This should be taken in to consideration when creating applications that have a wide-ranging user base. (Sauro, J. Lewis, J. R. 2016)

2.3.3 Ease of use

One of the most critical parts about a successful platform is how easy it is to use. This governs so many different layers of integration that are essential for a successful application. Many people have different understandings of what is easy to use. Through personalization it can be possible to achieve something that is universally regarded as easy to use. Visual design and usability should match to make something feel good. This means that even if the website looks good, it can be missing key elements of usability that make it easy to use. Those two elements are only the first in a list of things that should be focused on to make a website easy to use.

TABLE 1

Elements	Descriptions
Function	doing what the users expect and ideally a little bit more to exceed their expectations
Information	providing users with the information needed to do their jobs and the search facilities to find the information
Navigation	guiding users to the right page for them to do what they want to do
Text	giving pages, menu titles, links, button titles, and so forth the right text to help users understand what each page or action does
Help	the additional information needed to guide users

The other parts are in no specific order (Britton, C. 2015)

One other thing that can be very valuable in the process of making a website easy to use is to consider the design during every stage of the development process. This ties in to user-centered design philosophy and is one of the most important parts of the user feedback. The designer needs to understand the user when conceptualizing the designs and during the implementation process of said design. Understanding requirements and the use case is important and tying in to that the frequency at which the app is used by an individual as that determines the amount of guidance the user needs. (Britton, C. 2015)

2.4 Responsive design

Responsive design in its core is making the website as approachable as possible on any device regardless of its screen size and compute power. Obviously on smaller screen sizes the content

must somehow be hidden to make it as user-friendly as possible. Responsive design should always be an improvement on the existing content instead of having a negative impact. This means that all the elements must be suitable for a touch interface as well as a mouse. This concept is key especially on websites that rely on the user being on the move. Having a smooth experience while on a train or walking on the street makes all the difference between a pleasant customer and an unhappy customer. Responsive design is all about managing the content experience suitable to be viewed and used on all platforms.

(Barker, T. 2015)

FIGURE 2







A picture tells more than a thousand words so here is an example of responsiveness. (Jehl, S. 2015)

3 RESEARCH METHODOLOGY

The research conducted took a pragmatic approach to the way that the data is being collected and analyzed. The conclusion to go with this philosophical approach was very simple. It stems from the collective field being prediction and problem solving oriented. Pragmatism is very practicality centered and has many values that are vital in software development.

The first part of the research required going through all the data in the feedback forms found on the site, then everything was documented in an Excel file found in appendix 1 which contains the amounts and comments. The data documented is written mostly in Finnish because it makes the feedback for the company easier and enables the working on questions more streamlined since the interviews will be conducted in Finnish. The data is very informative and gives a clear idea about the things that need to be improved on the site. When feedback is mostly anonymous the negative and constructive feedback is mostly what you get. Emphasis on the positive is not something that is usually found in online submitting forms and if positive feedback is given it is in this case very vague.

The second phase of the research is the main part of this thesis. The idea is to model the questions for the interviews using the online form data gathered. Basic ideology behind qualitative methods and specifically interviews is to interview as many people as is required to make the answers repeat themselves. This method emphasizes on the human elements in all of us and is not done anonymously to ensure that the feedback given is as high quality as possible. To ensure this, the data that has been gathered before needs to be taken in to consideration when making the questions and during the software testing part of the face to face interviews.

3.1 Data collection and analysis

Data was collected as mentioned with online feedback submission forms and email messages for the quantitative data. That data was then used to make interview questions and conduct interviews. In these interviews the audio was recorded and answers transcribed for referral.

Data analysis of the thesis is made using common deduction from the data available. It includes referring to the theory of the thesis in a way that constructively demonstrates the results. The quantitative material that was gathered is analyzed based on statistics and then the data from that is funneled in to making further deductions based on formation of the questions. Then the questions and the quantitative base are used in conjunction with the interviewees answers. Some parts of the interview are meant to be referred from the transcriptions to give a clearer idea of the tone and style of the interviewees. This part is crucial on understanding the nuances of qualitative interviewing.

3.2 Conducting the interviews

The interview questions are meant to be structured very precisely to allow better understanding of the answers and to have them be used in more general analysis. This makes it so that every interviewee answers the same topics in their own way to allow the research to have consistency. There will be main questions in each category that dissolve in to follow up questions. The list of interview questions is found in appendix 2. The questions are based on the theory and preliminary research during this thesis. There is going to a device present during the interview for the interviewees to test the site at the same time and see it in action. This makes it easier to form opinions about the site in the moment. The interview questions were also presented to a person in the commissioning company to get more structure to the questions from the developer side of view.

The interviewees were contacted by email. The addresses were supplied by the commissioner and included people from around the Oulu area. People who answered the email were then contacted for detailed information and the time and place of the interview was set. The interviewees were picked completely at random and consisted of 4 people. All the interviewees were aged over 50. During the interviews the interviewees were first questioned with more general topics and easy points. When the interview went on, the conversations got deeper. There was a lot of back and forth to spark more interesting discussion. The interviewer played an important role to keep the conversations on the right track and to make the interviewee get in to deeper detail about the product, instead of the superficial and obvious features. The interviewees were asked both very broad topics and more concise ones. The main point of this practice was to give the interviewees more room to speak their own minds during the broader and looser questions, while in parallel poking them with much more straight forward questions to keep the interviews productive.

4 FINDINGS

During data analysis, this thesis is going to gradually go through every bit of material gathered with each method. It will have summarized data from the quantitative methods used, that give a closed look at how all the questions were modeled and conclusions have been made from them. In the interview summary, this thesis will then look at actual people who were interviewed and what they had to say about the product. Then the last part of the analysis will consist of all the things that the interviewees and the quantitative feedback had to offer in terms of usability, features and overall user happiness.

One of the main trends that was discovered during the collection of data was that most of the anonymous feedback was negative. This is very ordinary since anonymity grants a person immunity to judgment and allows them to voice their honest, if sometimes very rude, opinions. This is good however, because it can highlight problems in a different light compared to a traditional interview or any type of face to face study or form. The platform is completely open so it divides the feedback in to more personalized chunks. At the same time if there is an overarching trend in the feedback, that usually means that there is a problem that requires solving.

The feedback consisted mostly of people having problems logging in or activating the service. This issue surfaced many times in the forms and emails and referred to a so called "activation loop". Later in the interviews the same questions were asked from the interviewees, but a solid reason could never be found for the behavior so the conclusion was user errors. This means that more handheld instructions are necessary to ensure that every customer has an easy time regardless of his/her aptitude with computers.

The research points out that the introduction to digital media for people who buy physical magazines is not always an easy transition. This stems from the fact that majority of people who buy these magazines provided by the service are of a higher average age. This is supported by the facts in this study and verified by the commissioner of this thesis from their client register.

4.1 Positive feedback in online forms

The best part about the service by far from the perspective of users who submitted the feedback forms was the fact that it was free in a way. The customer is only required to have one active subscription of a magazine and with only that they got the full library of magazines to read for no added cost on their account. All the quotes are translated from English since all the feedback was given in Finnish.

"By the way, it is surprisingly nice that I can read all of the magazines even if I'm only ordering one! Thank You!"

Said one of the more pleased customers in a feedback. This type of sentiment was the most typical feedback that was given and it highlights the good will of the company in the testing phase to have that functionality available for everyone with unlimited access.

This same sentiment was expressed in another manner as 10 of the customers said that the ability to read all the magazines at the same time was a great way to get to know the variety of magazines that the application had to offer. This is what one of the users had to say about the service.

"Is this real that I actually get to read all these magazines for free? I like the idea of getting to read all these magazines that I would never buy without knowing what they are about."

4.2 Positive feedback in interviews

The biggest positive of the interviews compared to the quantitative feedback is the positivity towards the platform as three out of four people thought that it was a good addition and that it makes a difference in daily life when reading magazines. The positivity was reflected in every interview in the sense that all the interviewees had the same feeling of making a difference.

The other thing that was very surprising after reading all the quantitative data was that none of the interviewees had any problems logging in to the service or activating their product. It turned out that the problems for logging in were not an issue for the interview participants, nor had they at any point been during using the program.

"No, I have not had any issues with logging in or registering, but there have still been some problems."

4.3 Negative feedback in online forms

The main issue people had with the service that they deemed just straight out bad must be the slowness and unresponsiveness of the platform on mobile. On desktop, the biggest complaint was the lack of better zooming functions and that is mostly due to a user error as the zooming functions are native on every web-kit browser. There were no other major complaints about the software on desktop.

However, on the mobile side there were more issues. These before mentioned issues rose from the feel of the mobile application and touch controls. From those two, majority of the complaints were about the unstable nature of the application and the sluggish behavior present in the code.

"The older application for Tiede- magazine was far superior when comparing it to the new digilehdet.fi application."

This quote was by far the most prevalent in the feedback forms, that being the comparison to older versions of the software and the superior nature of them.

4.4 Negative feedback in interviews

During the interviews, there was no bad feedback from three out of the four participants. This section solely reflects on the single interviewees views. The said person had some more drastic views about software and the steps back it had taken when compared to the Tiede- magazine application. The lack of features compared to previous was probably the largest reason for all the upset feelings, but that will be covered in the next chapter.

Other issues the person had during the time with the application were related to the stability and functionality. Stability issues in that the software kept crashing and becoming non-responsive when trying to close it or while browsing. From the functionality standpoint, the issues were largely in the nature that the application responded to touch. In the interviewees opinion, the touch feedback was sloppy and resulted in a lot of unwanted opening of magazines and made scrolling very difficult.

4.5 Online form development suggestions

The people on the feedback forms had multiple suggestions about features that should be implemented and some were even so extreme as to say that if said features were not implemented in a timely fashion they would resign as customers. First there was the part about making the frontend design clearer and removing the endless magazine carousel from the platform as it is confusing. On the same topic people demanded the addition of filtering for subscriptions, to have the possibility to sort all the magazines in the order they desire.

Usage for people abroad was also one of the major complaints. The people wanted to have the possibility to use a foreign postal code and address in personal details to have the possibility to use the platform without Virtual Private Network (VPN). They also want the ability to change their email address easily without hassle.

On another topic regarding the additions that should be done were administration and maintenance of the platform. People demanded to see all the fixed and additions made to the platform via patch notes, having the content to be uploaded on time regarding new magazine releases and having a view for the remaining subscription time on the service.

"I want to see all the changes made to the software because I'm genuinely interested if they are updating the platform at all?"

Now to the highest amount of times demanded feature for the platform, offline features. The people want the possibility to download all the magazines they read to offline to prevent the problems with slow or no internet connection on crowded places, airplanes and on vacation. This feature is the most demanded feature of them all and for a good reason. As the magazines are often the analog counterpart to the digital media consumed daily it only makes sense to add this feature to the platform.

4.6 Interview development suggestions

During the interviews, a few topics rose above the rest when asked about features that people wanted to have. Three out of the four interviewees felt that they wanted to have the possibility to share their experiences with the magazines to social media, or just copy them to clipboard and

email them to a friend. They so far had used the screen capture method found on all modern devices but felt that the addition of the feature would make their lives and the use of the platform much easier.

None of the people felt strongly about the favorite article feature and felt it was pointless and served no purpose. One out of the three people interviewed felt that the recommendations from the publishers were a good addition and had a positive impact on the use of the platform. The other four were indifferent about it. Everyone felt that the PUSH notifications were intrusive and not useful and should be disabled by default. Based on the theory of this thesis I must agree as the user base of the platform is older than most, the added ease of not having them on by default is a definite positive.

Here also the discussion of offline features raised its head. It turned out to be a feature everyone from career oriented people to pensioners had in common, everybody wants it. The arguments made in favor of having them were as follows.

"When I'm on the plane to Helsinki on a business trip, it would be nice to read a magazine as it relaxes me as I'm slightly unsettled by flying."

"When we are on our cabin in the middle of the woods during summer, it would be nice to have the magazines with us in digital capacity as we don't have any other magazine subscriptions either as everything is online."

Those two arguments are the strongest that were spoken out loud during the interview in favor of offline features. Other than that, the sentiment about the platform was positive and the interviews had an uplifting atmosphere.

5 DISCUSSION

In short, the research was at least reasonably successful. The information was relayed to the commissioner on time and ahead of the thesis being finalized and the results seemed to please the client organization. Some of the proposed changes were already known by the client organization and mainly wanted reassurance from the public to go ahead on the development. This is one of the major reasons why the research stayed on track and did not deviate far from the commissioned questions.

Most of the theory was used in the writing of the thesis and analysis of the results. The theory added a much-needed perspective on the personal feeling of the author and all the thesis analysis was done based on the theory instead of the authors personal leanings. While the theory had many elements that worked, there could have been more theorizing from the point of the developers. As the theory, heavily focused on making the customer happy, there could have been more writing about the difficulties of developing some of the features to the current platform as it is purely web based.

The framework that was provided by the thesis showed itself in the interviews in the way that the questions were carefully modeled to suit the framework of the thesis. A crucial part of the interview process was to make the interviewee understand the frame of reference to the question and even surprise the interviewee with prematurely planned follow up questions solely based on the research material. In terms of the material that was used in the interviews and the data gathered, the thesis is a success. Since the data was collected in a short period due to constraints, there is fewer interviewees than what was hoped to achieve from the client organization side.

In conclusion, the results of the thesis were satisfactory. It concisely provides the facts to form the arguments in the analysis for features that are good, features that are bad and for features that should be added.

I discovered the difference between people who are technologically minded and the people who are not. It is a topic heard occasionally and it makes for a nice discussion for the thesis. I consider myself a technologically savvy person and found out during the thesis work that people who are into reading magazines are not all the same. I'm going to give my perspective on that matter.

Being technologically minded makes it a tad more difficult to understand just how much less someone can know about what seems like a simple topic to one like myself. This is also a constant in many technology companies and rears its head occasionally even in huge releases.

I feel that many of the design philosophies when making a platform for people who are not technologically savvy should revolve around the user. That's why in my opinion user-centered design is vital in making a software good. Having an understanding about the user base is the key to understanding the market. For example, Apple makes expensive devices that are often status symbols, but they are more. They are devices that focus around the user experience and that's why they are so popular. To tie that to the point I'm trying to make, they design products with the customer first and that is why they are so successful.

During my research, I focused heavily on the user experience and working out the technical details on how to make the product better to use. I did not focus on the feel and type of the platform so much and that is probably something I would advise to focus more on a future research to user-centered design. As focusing on feel might make the findings truer to the nature of user-centered design. Focusing solely on the technical side gave me tool to help the developer fix those issues, but not necessarily the mindset to understand how to not make the same mistakes in design in the future. On a final point, I feel I did a decent job on researching the topic but realize the mistakes made in the process and would certainly want to fix those for the next research be it by me or by another researcher.

REFERENCES

Brikman, Y. 2015. Hello Startup, cited 28.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/programming/9781491910016

Barker, T. 2015. High performance Responsive Design, cited 26.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/web-development/9781784390839

Britton, C. 2015. Designing the Requirements: Building Applications that the User Wants and Needs, cited 24.10.2016

http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/software-engineering-and-development/9780134022949

Caine, K. Courage, C. & Baxter, K. 2015, Understanding Your Users, 2nd Edition, cited 24.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/software-engineering-and-development/user-interface/9780128002322

Clifford, S. DISM Research Associate, Tip sheet – Qualitative Interviewing, cited 25.10.2016 http://www.dism.ssri.duke.edu/pdfs/Tipsheet%20-%20Qualitative%20Interviews.pdf

Clifton, I. G. 2015, Android User Interface Design: Implementing Material Design for Developers, Second Edition, cited 25.10.2016

http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/programming/android/9780134191942

Costello, V. 2016, Multimedia Foundations, 2nd Edition, cited 24.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/digital-media/9781317808909

Frick, T. 2016, Designing for Sustainability, cited 27.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/green-business/9781491935767

Jehl, S. 2015, Responsible Responsive Design, cited 28.10.2016

http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/software-engineering-and-development/9780134077987

Luchs, M. G. Swan, S. & Griffin, A. 2015, Design Thinking, cited 26.10.2016 http://proguest.safaribooksonline.com.ezp.oamk.fi:2048/book/product-design/9781118971802

Rowland, C. Goodman, E. Charlier, M. Light, A. & Lui, A. 2015, Designing Connected Products, cited 24.10.2016

http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/software-engineering-and-development/9781449372682

Sauro, J. Lewis, J. R. 2016, Quantifying the User Experience 2nd Edition, cited 24.10.2016 http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/web-development/usability/9780128025482

Varma, T. 2015, Agile Product Development: How to Design Innovative Products That Create Customer Value, cited 25.10.2016

http://proquest.safaribooksonline.com.ezp.oamk.fi:2048/book/software-engineering-and-development/agile-development/9781484210673

APPENDIX 1

Good things	What needs to be added	Main points	
(1) Yläkatsaus	Account management	Good things	Things that need to be added
(7) Hyvä palvelu 15 lehteä	(1) Näkymä mihin lehtiin lukuoikeus	Kaikkiin lehtiin tutustuminen	Verkkosivujen optimointi
(10) Tutustumismahdollisuus lehtiin	(2) Ilmoitukset tulevat asetuksesta huolimatta		Appin optimointi
	(8) Selvennystä ulkomaiden käytäntöön	Bad things	
Bad things	(5) Asiakaspalvelu ilman maksua	Sivujen ja appin hitaus	Ulkoasun selkeyttäminen / ei toistuvia lehtiä
Responsiveness	(10) Kirjautumisen muistaminen	Epävakaa appin toimivuus	Automaattinen filtteri tilauksille
(8) Hidas App	(5) Sähköpostin vaihtaminen	Sivujen kääntäminen appissa	Ulkomailla käyttö / postinumero
(17) Hitaat sivut	(11) Kirjautumisen yksinkertaistaminen		
(4) Epävakaa toimivuus		Asiakastietojen sekavuus	Asetusten bugien korjaus
(6) Sivua ei löydy	Editing	Kirjautumisen ja aktivoinnin ongelmat	Kirjautumisen muistaminen
(8) Sivujen kääntäminen hidasta mobiililaitteella	(1) Kopioiminen		Sähköpostin vaihtaminen
	(1) Tulostaminen	Resoluutio ja fonttikoko ongelmat (Vector)	
Access	(2) Käsityölehden kaavat		Asiakaspalvelun parantaminen
(5) Tunnukset puuttuvat		Things that need to be removed	Kirjautumisen yksinkertaistaminen
(5) Tili suljettu	Marketing	Mainokset	
(61) Ei voimassa olevaa tilausta	(3) Selkeys kampanjoihin		Tilauksen loppumisen näkymä
(22) Aktivointilooppi	(2) Hinnan selkeys		Sisällön päivitys ajallaan
(18) Kirjautuminen ei onnistu	(13) Aiempia numeroita enemmän		Päivitysraportit App/Web
(21) Aktivointi ei onnistu	(4) Irtonumeroita diginä		
	(1) Laajempi valikoima lehtiä		Tulostuksen helpotus
Ease of use			Kopioiminen / kaavat
(4) Liian herkkä lehtien avaaminen	Ease of use		
(4) Lehtivalikkoon pääseminen hankalaa	(2) Lukunäkymästä paluu		Hintojen ja kampanjoiden selkeys
(15) Huono resoluutio App/Web	(3) Hakutoimintoja		Takautuvien lehtien aika kaikissa sama
(8) Zoomaaminen tietokoneella	(3) Lisää eleiden käyttöä		Digitaaliset irtonumerot
(9) Zoomaaminen mobiililaitteella	(8) Sivu kerrallaan näkymä		Laajempi valikoima lehtiä
(1) Suoran tuen linkki ei toimi	(9) Filtteri lehdille		
	(18) Offline toimintoja		Offline lehdet/lehtien lataaminen
What needs to be removed	(4) Päättymätön lehtikaruselli		Takaisinpaluu-nappi
(6) Mainokset			Eleiden käyttö lehtien valinnassa
	Service		Hakutoimintoja
	(5) Sivuston sisällön päivittäminen ajallaan		Sivu kerrallaan näkymä App/Web
	(8) Asiakaspalvelun parantaminen		
	(9) Ulkomaiden postinumerot		
	(1) Päivitysraportit		

List of Interview Questions

Conspectus

- 1. Where did you hear about the service? (newsletter, commercial, magazine, friend)
- 2. What devices are you using to read digilehdet.fi? (Depending on the use case all the questions will be set accordingly)
- 3. How and where are you using the digilehdet.fi service?
- 4. How did the introduction to the service go? Were there any problems and how were they solved? Would you require more guidance?
- 5. Which magazines are you subscribed to?
- 6. Were you a subscriber already, or did you subscribe to get the digilehdet.fi service?
- 7. Do other members of you family use the service?
- 8. Has the role of the paper version of the magazine changed?
- 9. Does digilehdet.fi service play a role when you think about continuing the subscription?
- 10. How do you choose the magazine you are about to read? (predetermined or discovering)
- 11. Have you found new magazines to read, that you haven't read earlier?
- 12. Has the service changed your reading habits?

Extensive knowledge

- 13. What things about the website/app are exceptionally good from a visual perspective?
- 14. What kind of things annoy you about the website/app? (selection, prices, campaigns)
- 15. What would you like to change about the appearance of the website/app?
- 16. How would you describe the ease of use of the website/app? (e.g. "remember my password")
- 17. How would you describe the responsiveness and stability of the website/app?
- 18. What things could be improved from the customer support and maintenance part of the website/app?
- 19. What would make your experience better in daily operation of the website/app?
- 20. What would you like to improve in the current service? (visuals, usability, functionality, devices)
- 21. Is there any information you would like to see added to the website/app? (e.g. instructions, customization, editing, filters)
- 22. Have you used the search feature? If so, then what types of things have you searched or tried to search?
- 23. Have you saved favorites from the articles? If so, why / why not?
- 24. Have you followed publisher recommendation about different magazines?
- 25. Have you allowed push-notifications? What is your opinion about them?
- 26. Would you like to share articles in social media?
- 27. What do you feel about the possibility of organizing the magazines? How would you like it to be implemented?
- 28. Would you recommend the service to someone in its current state?