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UX/UI Design Process for a Peer to Peer Financial Platform

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Bachelor of Engineering

Information Technology

Thesis

4th February 2017

Author(s) Title	Pegah Khast UX/UI design process for a peer to peer financial platform
Number of Pages Date	33 pages + 2 appendices 4th February 2017
Degree	Bachelor of Engineering
Degree Programme	Information Technology (IT)
Instructor(s)	Jaana Holvikivi, Principal Lecturer

The role of the user experience (UX) is very important in today's digitized industry. UX design is about the user's experience of the product in both physical and emotional way. This project focuses on the UX and UI designing process in a peer to peer financial platform. The purpose was to research in UX/UI design methods and apply them in a P2P financial application.

In this project the challenge was framed with two main aspects. The first aspect was methods and principles to guide this design process and the second aspect was about collaboration between designer and marketer and it leads to exploring the role of UX in the future. The study was applied on AuroraExchange.fi a peer to peer financial platform.

The project was successfully conducted. The results show strong evidence that applying design methods and principles allows achievement of good user experience where the business requirements meet the user needs. Based on this study, the usability study is a key technique in evaluating a product. User experience can be analyzed from the usability study and different teams in a company could get advantage from it. In addition, this study proves that achieving a successful product strongly depends on the whole team collaboration and especially designers and marketers.

Keywords	UX,UI, P2P, usability study

Helsinki
Metropolia
University of Applied Sciences

Contents

Abbreviations

HCI   Human-Computer Interaction

IA   Information Architecture

ISO   International Standards Organization

P2P   Peer to Peer

UI   User Interface

UX   User Experience

1 Introduction

The aim of this thesis is to explain the UX/UI design process when creating an effective peer to peer financial platform. User experience (UX) and user interface (UI) are important elements for creating successful digital products, where the user experiences positive emotions in interacting with the product. The aim is that the user would like to experience the interaction again or share their experience with others. This thesis also covers the challenges that I have faced during the design process and how they were resolved.

The goal was to design a peer-to-peer platform that would directly connect creditworthy borrowers with responsible lenders. The benefits of this kind of platform are a minimum risk and maximum reward for both borrowers and lenders.

In order to design a peer to peer (P2P) financial platform, several methods have been applied such as: user research, analyzing competitors, user journey, information architecture, usability study and visual hierarchy. These methods were beneficial not only for a designer, but for the whole development team to evaluate the digital product.

This project was done for Aurora Exchange Ltd concentrating on the UX/UI design. Aurora Exchange was established in 2012. It is a small start-up company with four full-time employees. The goal of the company is to offer a reliable platform to customers for easy investing and borrowing money on the global lending market. This project consisted of the following tasks:

- Designing workflows, wireframes, and mock-ups.
- Creating forward-thinking user interfaces for th platform
- Building low and high fidelity prototypes
- Creating simple user-friendly solutions for displaying and interacting with complex data
- Validating designs through usability testing.

In this study, the first chapter is dedicated to the UX design process and the significant methods to create a web application with positive impression for the user. In the second chapter I will describe the user interface design and principles. The last chapter is about the challenge in collaboration between the designer and marketer and the role of UX in future enterprises.

2   Design Process

Designing a product is a challenging process when the purpose is to create a pleasure and a convincing experience for the user. Therefore, making a design decision is hard and sometimes there is a lack of ideas, or there will be a conflict concerning the same design issue and many other situations which make the product view unclear. A well-designed and a clear process is a solution for all these cases and it will remove all confusion and doubts. A well-defined design process contains four main logical steps and each of these steps consists of several practical methods.

Documenting the design process would be helpful in providing an estimated delivery time of the product and the required effort for the project. The diagram below (figure 1) displays the general level of the UX design process. Designers might add more steps based on the product need. [1, 5-6]
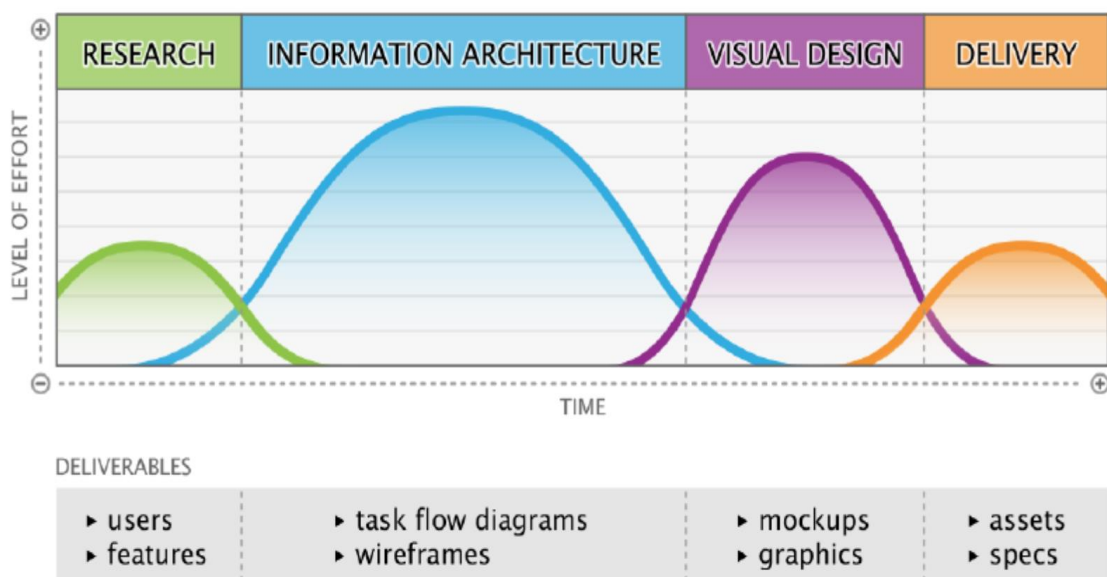
Figure 1.General level of UX design process. Copied from [1, 5]

The picture below (figure 2) provides an overview of the process that was followed to develop UX and UI designs for the P2P financial platform.
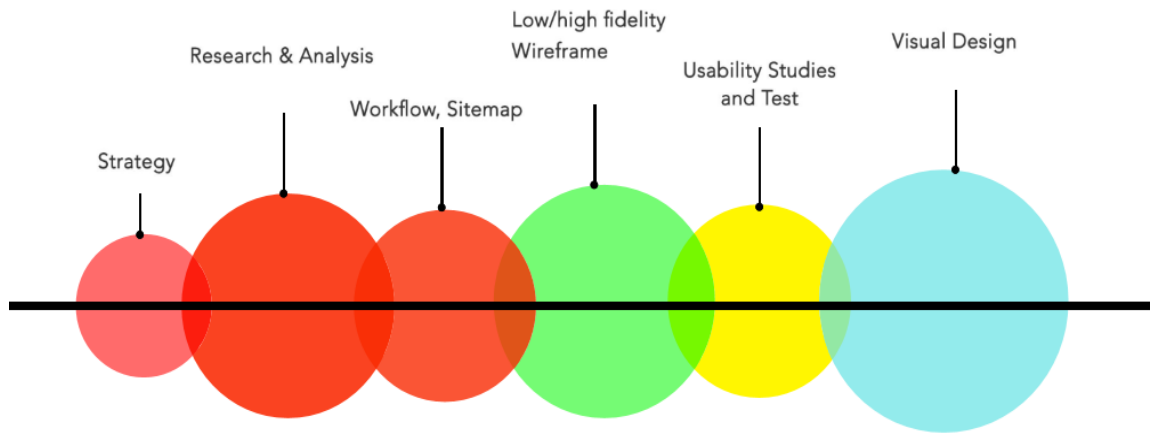

Figure 2. UX process in diagram

2.1   UX Project Timeline

The UX project timeline would help the designer to direct and manage UX tasks. The whole process took 9 months and consisted of six phases: Strategy and branding, Research and Analysis, Information architecture and workflow, Wireframes (low-fidelity prototype), Usability studies, High fidelity prototypes and Final visual design. The following chart (figure 3) explains the planned UX process.

Figure 3. UX project timeline.

3 Project Steps

3.1 Strategy and Branding

Strategy is useful in providing a plan based on the current situation and direct the team to achieve the goal. The UX strategy is a collection of solutions to verify the validity of a digital product in market demands. The UX strategy is an overall plan to fulfill business requirements and user need. It contains several parts such as usability of the product, consistent content and UI design. The UX strategy is the first step to create a product, before any design or development phase. The good strategy should focus on the abilities of the team while considering their weaknesses. [2, 7]

The UX strategy is combination of four phases. The picture below (Figure 4) illustrates those steps.

Figure 4. UX strategy's Steps Copied from [2, 14]

These four fundamental steps are necessary to create a successful UX strategy. For example, it is impossible to understand the market without researching potential user. Value Innovation proposes the values which are valuable for both the business and users. Value Innovation has a key role in the user's first impression of the product. It could attract the user by providing a successful UX or it could discourage them to continue using the product. [2, 22-23] The third part is about validating the user research with being mindful of the values. (or by considering the values). [2, 27] Killer UX is focused on the user and trying to provide them with satisfying experience rather than pay

attention to the business model. The Killer UX designer works closely with stakeholders and team members to define the key values and features of the product. [2, 30-31]

The UX strategy is about thinking outside the box. It is about probing, thinking through the ideas, recognizing the opportunities, defining the right values, learning from failures until creating a product that people truly like. [2, 35] the Strategy could also refer to the branding and to the principles of the organization. [3,105]

Branding could make a strong emotional connection between the user and the enterprise. It could make the user feel that the product or the service is trusted. [4, 14] Trust is a key to have a successful business and therefore the brand could gain the customer's trust to choose a specific product over its competitors. The purpose of the branding is to distinguish a product from others by characterizing the brand. The brand is a combination of a brand name, a brand character and a message. The process of creating significant branding is to attend to user's demands, goals and emotion, to consider recent market and finally to analyze the competitor's products. [5, 14-15]

Branding should be aligned with the user experience so it can accomplish the user expectations. The brand and strategy are usually defined by the marketing team and design team. To be confident about branding, it is a good idea to test it with the users and get feedback [3,105]. Below, the strategy and branding for this particular project is described.

The branding of the company is "We build on the principles of equality and diversity." The message of the project is "Smart people meet smart money" and the features of the product are: Minimal fees, Transparency, Full control, Trustworthy, Professional, Easy to use.

3.2   Research and Analysis

Research and analysis would give a designer a perspective to the end user and the application. It also informs designers of whom to actually design, for their characteristics goals and motivations. Creating the product around these findings is more successful because the product will execute as the user expected. [3, 44]

The main methods that I used in the project were: Interviews with stakeholders, competitor analysis, personas and story board. The personas, research and competitor analysis will affect each other and for efficiency they can be developed side by side. The research will tell the story about the audience. The main elements for this steps are defining the user's goal, user behavior and user stories. After coming up with different user stories, it is important to analyze each story and gather information related to the user's needs and their behavior to access the data. [3, 44-45]

Personas will describe the type of people who will use the product. It will help a designer to understand the decisions that will help or stop user to accomplish the goal. Personas are used to clarify the user's goal while they are using a product. The key aims for having good personas are: user's goal, behavior and their attitude while achieving the goal. Personas need to be updated frequently to represent user-hidden behavior and it is necessary to avoid irrelevant information in personas. For example, if the product is a music player application, It is not necessary to know the user's home address, their education level or their car model. [3, 10-15]

Personas should be based on real people and good photos in personas could be valuable part. A good photo should describe the user type easily. The photo in personas should display user behavior, besides other characteristics such as age and gender. For example, if one of the personas is a person who likes technology, the picture could be with computer. Photos should be of real people, and avoid using pictures in stock image because they make personas less real. One good source to find pictures is Flicker or another photo-sharing site. They have good photos of real people. Personas usually include: a photo, persona names, user quotes, key goals, behaviors, work information (knowledge, skill, goals, motivation, etc.), opinions and attitudes. [3, 10-15]

The key goals are the main actions that a user would do while using a product or website. The answers for the questions below will help a designer to clarify the user's key goals. Do they have a specific task to accomplish, what are their goals, what do they need to know to achieve the goal? Behaviors explain the aspect that motivates users to use the product, what their feeling is about using the product, how much time they have to perform their task, what makes them lose trust. Overall, personas will express and focus on the major needs and expectations of the most important user groups and give a clear view of the user's expectations. [3, 10-15].

Below (Figure 5) are personas for a platform based on the user research that I have done.

Figure 5. Investor's Personas.

3.3   User Journey and Scenario

A user journey describes the steps that the user takes on to accomplish the task. The user journey will represent the necessary interaction and paths. A good user journey reflects the uncovered behavior of personas which makes the product meet the user's needs. It mainly focuses on user's activities and it will help a designer to create a flow and first wire framing. A user journey could be sketches on a sticker paper and a designer could map them to define interactions.

User journey is an important step in product development. It helps a designer to understand the product and the path which a user would go through to complete a task. It is useful method to define User Interface elements for example, if one has a back button to go the previous step. [3, 78-82]

After expert reviews on the product, a user journey could be used as a useful method for analyzing. It gives the designer an opportunity to take a step back and see the whole journey. So it enables a designer to describe the positive and negative points, improving the user journey based on the uncovered journeys. The following elements could be displayed in a user journey: The task or goal, steps, decision points, start and end steps, grouping, flow, content, pain point, external factors and measurement. [3, 78-82]

3.4   Information Architecture and Sitemap

Information Architecture (IA) is one of the fundamental elements in User Experience (UX). It considers both the logic and the art aspects to design a product in more efficient way. Therefore, it makes the most sense for the user and business requirements, when users are satisfied by using the product. [6, 156]

One of the core components of Information Architecture (IA) is a sitemap. A sitemap shows the structure, content, the hierarchy of all the features and main functions of the product. It describes how different sections are linked together. A good sitemap should display the structure of the key pages and their navigation. In the other words, a sitemap will show the important points or a "To Do" list for the team members of the project. It would help a designer to create more efficient templates with good interaction between pages. [3,125]

The sitemap is required in three important cases:

- Analyzing the current content
- Improving the current product
- Creating a new application or product.

It is necessary that a sitemap illustrates the main user goals, which are important for business goals. The navigations are usually shown by labels. The labels present the user needs and they should have suitable language which users are familiar with. One useful method is categorizing the content to: primary content, secondary content and contextual content. The primary content means the most critical content for both users and the business. The secondary content refers to topics that are important but not necessary to make the user use the product initially. The contextual contents are contents which are not vital to the user and business such as legal disclaimers. [3,125; 6,157]

After defining the personas and the user journey, I aggregated the important data to define content priority and I created a more meaningful sitemap for defining interactions, important functions and flow. In the chart below (Figure 6) one can see the workflow that was created about for the peer to peer financial platform.
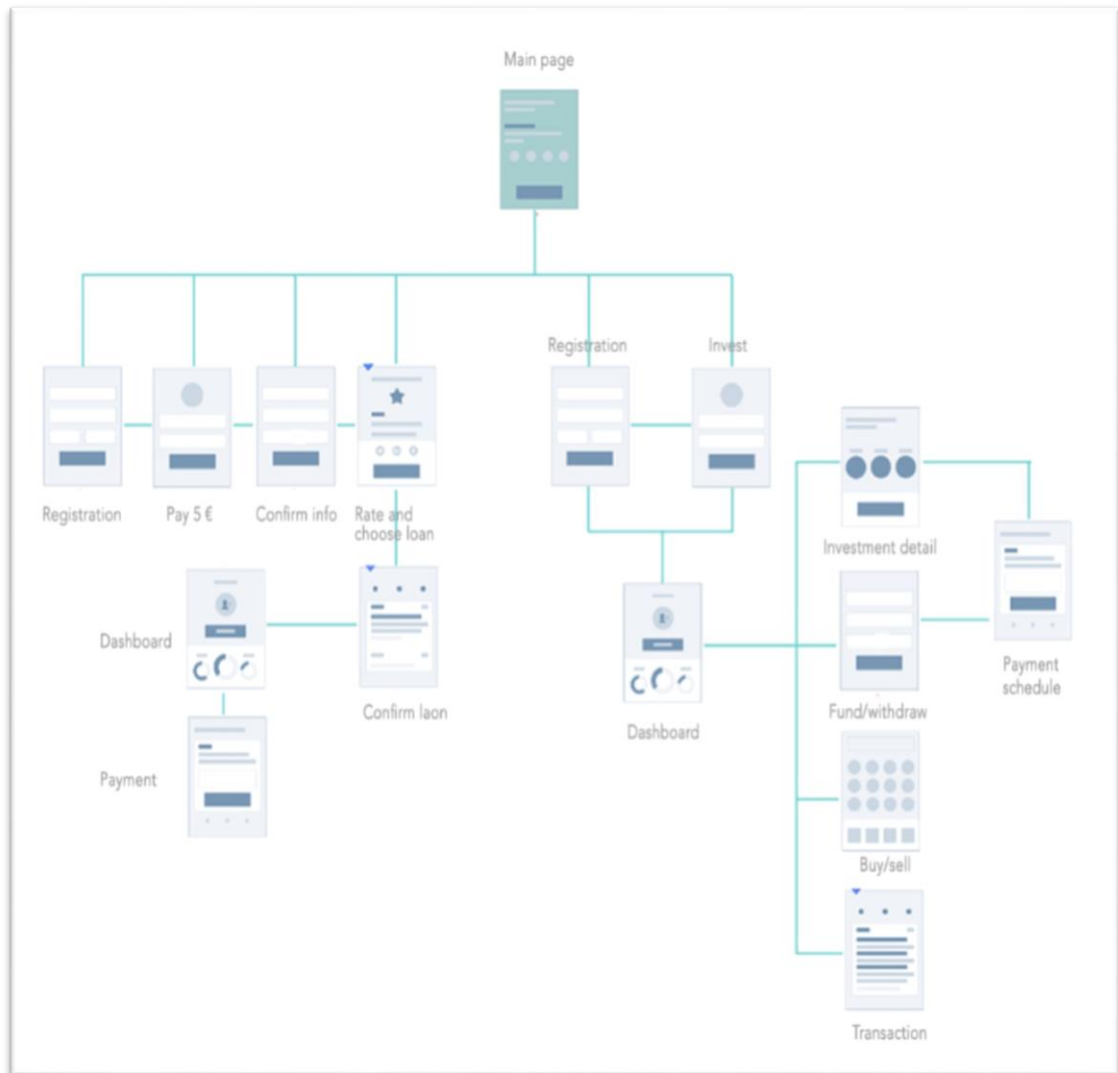
Figure 6. Sitemap of the peer to peer platform.

3.5 Low/high fidelity and wireframes

Wireframe is a sketch of the application based on the user needs and business requirements. It focusses on displaying the product in the right direction, the user interface elements (UI), how the templates are structured, where the information comes from, functions of each page and the visual look of the product. [3,160]

A good wireframe is a result of cooperation between different teams such as development, marketing, product architecture and design, etc. By wireframes, all the team members especially the development, technical and marketing would ensure that the product could be implemented, it would meet the business requirements and the user would enjoy using the product. For this reason, it is important that a designer pays attention to elements such as:

- What the user would feel by using the product?
- How the product would look like?
- What technical implementation is needed to create the product?

One benefit of a wireframe is that it could be changed quickly without a lot of efforts or expenses, so it is a great opportunity if all team members participate in the discussion and give their feedback about on the product. On the other hand, wireframes could be tested by real users, so designer could evaluate the wireframes based on user feedback at an early design stage. [3, 160; 6,162]

A wireframe is almost like a blueprint that displays the main functions and core features. The first version of a wireframe is of low fidelity with only black and white colors to describe navigations, text and UI elements. However, a wireframe could evolve to a high fidelity and interactive prototype during the design process. [6, 163]

Involving stakeholders in wireframe discussion would be beneficial because it enables the designer to explain about the UI elements, content, interaction, styling and vision of the product that the designer would have in mind. The following pictures (Figure 7 and Figure 8) describe the wireframes for the peer to peer platform. They were created based on the gathered information obtained during previous steps.
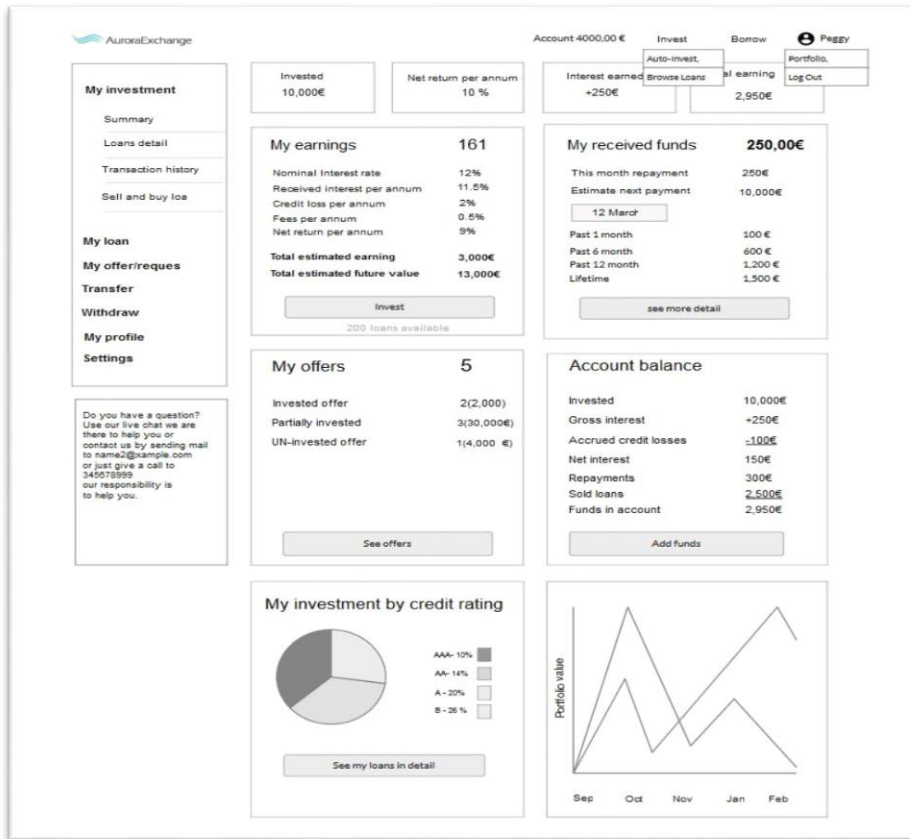
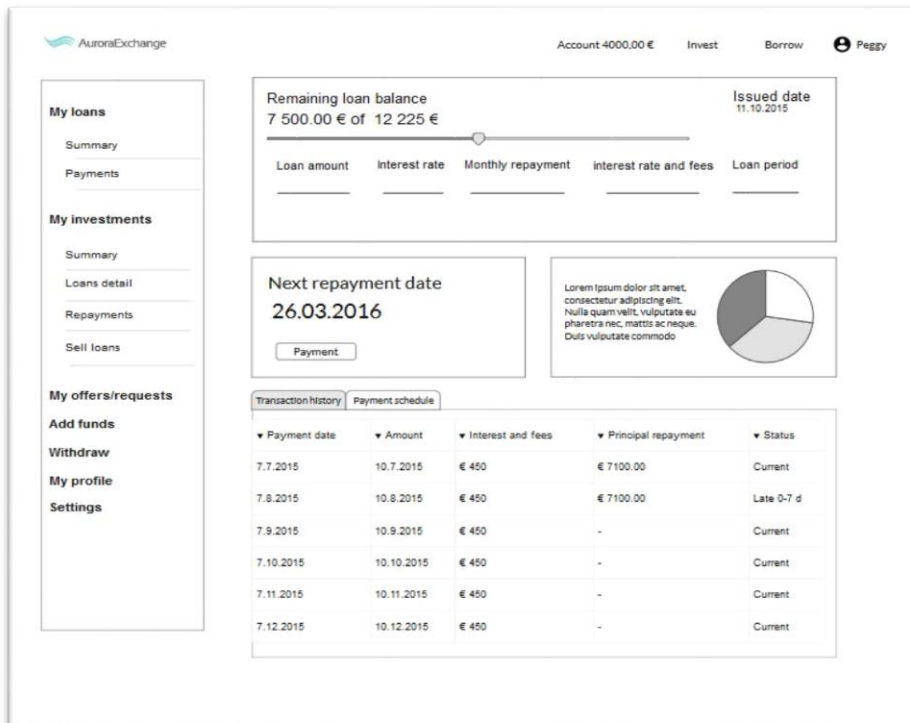Figure 7. Investor summary page high fidelity wireframing.

Figure 8. Borrower summary page high fidelity wireframing.

3.6 Usability Studies

After creating wireframes, usability studies were performed in order to analyze the performance of the product. The usability study is an effective way for identifying the true problems which are experienced by users. Good usability saves time and money. With good usability less training time is required. From the marketing point of view, with good usability the product is easier to sell and there is more possibility to gain brand loyalty. By usability study, the evaluator would be able to determine:

- How easy it is to use?
- How efficient the product is?
- How satisfied users are while using the product?

The ISO definition of the usability is that usability relies on the main dimensions such as: Effectiveness, Efficiency and Satisfaction. It is also mentioned that several elements should be taken into consideration. For example: Type of the user (Inexperienced or trained), the user's expected result for using the product, and the conditions under which product is used (context of use) for instance, the product is used during working hours or in free time. (Information Visualization: Techniques, Usability and Evaluation [7, 176]

To determine any aspect of usability an evaluation technique could be applied. There are two main goals with usability evaluation: to find usability problems and to confirm or ensure the success of the functional system.

3.6.1 Heuristic Evaluation

Evaluation usability has several methods to assess different steps of development from the early stages of design to the final product. One important method of evaluation is Heuristic Evaluation. This technique is highly effective in the area of Human-Computer Interaction (HCI). Also it is a quick, economical and practical method. The heuristic evaluation is performed individually by each evaluator to examine the product. At the end the evaluators would share the results and collect them into one united report.

The heuristic evaluation method would highlight the usability issues and provide a solution to overcome the problem. It also would assess whether the design meets usability goals or not. The result of heurist evaluation consists of: the issue, the place of issue in the product, which heuristic was applied on the design (it could be more than one heuristic) and the severity ranking. [7, 177-186]

Heuristic evaluation needs personal judgment and it contains ten guidelines to determine the product pursues these principles or not. These guidelines are:

1. Visibility of system status
2. Match between the system and the real world
3. User's control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimal design
9. Help the user recognize and diagnose errors and recover from them
10. Help and documentation [7, 188]

Although heuristic evaluation is a technique to discover usability issues, it should not limit evaluators to discover only the issues that are explained by heuristics. There might be problems that are not contained in heuristics and as an evaluator, it is necessary to consider also other issues. Below is a picture (Figure 9) of heuristic evaluation for the peer to peer financial platform.
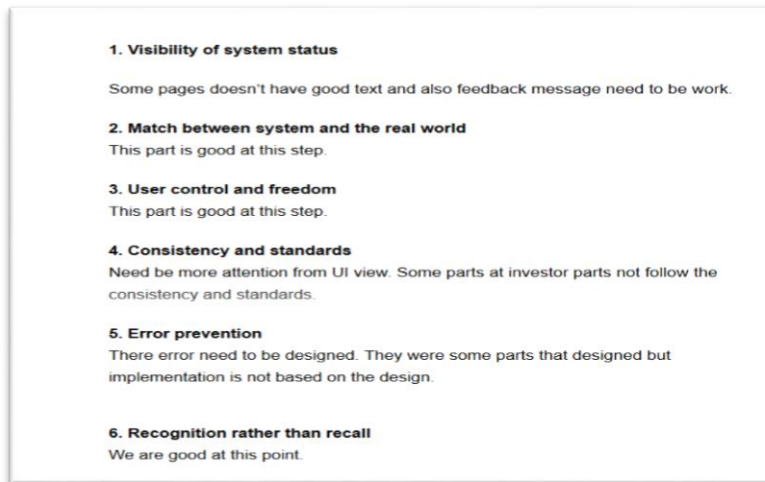
Figure 9. Heuristic usability

3.6.2 Usability Testing Plan

To complete the usability study, a detailed plan is needed, because it would describe parts of the product that need to be tested and how to measure the results. It is essential to clarify the tasks for users. During a usability test things happen fast, so having a clear structure about the test session, participants, a good script, clear tasks and other material will make the study more efficient.

A script is a useful element to ensure a consistent test and at the end a consistent usability result. The script usually consists of: introduction, reassurance, testing guidelines, task, conclusion and thanks.

The introduction part describes the purpose and the summary of the study. The reassurance part would assure participants that the purpose is testing a product, not them, and the result would help to improve the product. Testing guidelines would help to manage test session in practice. It could include elements such as: estimated time per task, whether the participants allowed to ask questions and so on.

Task part contains all the tasks that a participant should perform. At the end of the session the evaluator would go through the results of the observation with the participants. The conclusion is very useful as the evaluator will share the result with the participants and they could add comments on the observation, which yields more accurate usability results. The evaluator should thank the participants at the end of the

session and also explain them how they are planning to use the observation and if they have questions, answer them. [8, 96-97]

To conduct the study, it is better that the evaluator spends some time alone to practice and be prepared. Also scripts should be printed out and be used by both the evaluator and the participants. This causes less distractions for participants and they will have more knowledge about the task. When each task is finished, the evaluator takes couple minutes to record her or his observations during the task. [8, 101-102; 8, 104]

3.6.3 Think-aloud Method

One important task in the test is the Think-aloud Method. The Think-aloud Method is the method that would ask participants to think aloud and explain what they are thinking while they are completing the task. The end of the task is determined from the aloud thoughts of the participant. With the think-aloud method, the designer will discover what users guess wrong about the design and it might turn into redesign of some elements. For instance, imagine the user is looking for a search button. If she does not say aloud, it is almost impossible to realize what she is looking for, thinking or even her feeling at that moment. By using this technique the designer can study the user's actions in a more accurate way. However, users might feel uncomfortable to think aloud. To solve this issue, the evaluator needs to encourage and make the user feel comfortable. [8, 101-102; 8, 104]

It is important to listen and watch the user's actions carefully. If a participant asks questions about a task, do not clarify the answer. Instead try to reply them by asking their opinion. For example, if they ask what would happen if I "press" save button, reply to them: "What do you think would happen" Thus, try to flip the question and focus on observing their actions. Be careful that the usability test does not become a training session. It is a good idea if you sit on a place behind the user, because observation is more accurate and taking notes is easier. Also users will feel more comfortable and less stressed. [8, 100-101]

3.6.4 Aurora Exchange Usability study

During the tests that were conducted, each participant had 10-15 min to become familiar with the application in the usability test itself, the participants performed specific test tasks given to them, while they were asked questions about their impressions of the

website, and the think aloud technique was used. They were asked to compare version 2 with version 1. Their suggestions were recorded and followed to make the application more user-friendly. Below can be seen the usability plan (Figure 10) that used to test the peer to peer financial platform:

Usability test plan   4.03.2016

Thank you for participating in this session. The purpose is to test the aurora Exchange platform.

To start you have 15 minutes to get familiar with application.

Questions

Suppose you are an investor

By clicking the name what do u think will happen?

by clicking the logo?

what is the purpose of the sell and buy page for?

Task think aloud technique

How you can invest?

How you can borrow?

How you can sell your investment?

How you can buy loan from other investors?

How you can see detail about your investment?

How you can modify you offer in marketplace?

Questions

Auto-Sell page

What elements attract your attention?

Figure 10. Usability test plan for peer to peer financial platform

On Friday 4th March, a usability test was run on two participants in the Helsinki center at the Aurora Exchange office. All participants were studying Industrial Management at Metropolia University. The sessions lengths varied a bit, but each session took approximately one hour. All the tests were done on the Lenovo laptop and with mockups online program and the participants' voice were recorded by mobile.

Generally, the test procedure consisted of five phases: introduction, instructions, free usage of the software, task solving, a questionnaire, think aloud and questions (Q&A). The data that was captured during all the tests consisted of an audio recording of the participants. The table below (Table 1) reports the background information in more detail.

Participants	Major	Job	Age	Gender
Participant 1	Industrial management (ICT)	Internship Business development	26	Male
Participant 2	Industrial management (ICT)	Internship Business development	24	Male

Table 1. Background information of the participants.

The participants were interested in the peer two peer platform and they would like to use it in future. Overall the layout of the application was found functional and easy to use. Both participants liked using this application and the interaction was easy for both of them and they finished most of the tasks on the estimated time. Also they said the service provides good guidelines and they understand what would happen next or what their current status is. However, there were some parts where they were lost and they were not able to finish the task, which will be explained later in this section.

The test helped me to decide which version of the design was better and why. After illustrating the two versions of the application, participant 1 said "I prefer version 1 because it is clearer and more understandable for me, I know where should I click and things work well" and participant 2 said" Version 2 is little confusing for me". Even though, the process for version 1 is clearer, it needs some small changes.

After that, all the information were documented and the result for both participants were analyzed. I discovered several common results such as: In "sell my loans" page, they both like playing with price and yield and they said these elements would help them to

select their loans to invest in, they also said "payment status" has an important role to choose investments, they liked the graphs in my summary page because it makes it more easy to understand and both of the participants preferred word "transaction" rather than "repayments".

The main weakness in the application was that they could not understand how they could buy a second-hand loan. Also they expected to see their sold loan in a separate interface. So "my sold loans" page is necessary. Based on this feedback, the web application improved and I created a new interface for the marketplace where the investor could buy second hand loans, as seen in the picture below (Figure 11).

Figure 11. Market place wireframing

4   Visual Design

Visual design is concerned about visual elements: how they should look like and how they should connect to each other. [9, 405] Visual design has a vital role in creating a wealthy user experience. The research shows that the look of a product has a great effect on the value of the product. [10, 141]

The human brain and eye have an ability to analyze a big amount of data which comes into the eyes in a second by determining visual patterns. Taking that into consideration, visual interface principles would help the user to recognize the visual pattern and understand the product faster and more easily. [9, 411]

The following actions are important in visual interface:

- Communicating the brand
- Visual Hierarchy and Structure
- Consistency

The strong interface should represent the brand of the product. For this reason, it is important to understand the brand. For example, all the Adobe products present the same brand and it is really easy to distinguish them from the rest of the products. [9, 412]

Creating the interface with visual hierarchy is one of the hardest tasks in visual design and it requires a good understanding of the scenario. By visual hierarchy the user is able to distinguish which elements in the UI are more important and they would also understand the relationship between the elements. The visual elements such as: position, color or size, could be applied on interfaces to help the user determine the hierarchy. For example, an important button could have a different color or have a greater contrast with the background. [9, 413]

The main areas of visual consistency are: color, typography and UI elements. Color has a great emotional effect on the user, and each color has a psychological meaning, for example the blue color represents trust, red passion, etc. Choosing the right color for a web application would create the right emotion and atmosphere in a web product. The colors of a web application should complement each other. [4, 27]

The color theory and the color scheme affect the webpage. Three main color theories are: contrast, complementation and vibrancy. The wheel below explains each color's contrast. It works easily by locating each color to the opposite end of the wheel. Complementation is the opposite of the contrast which means the colors next to each other. For example, green complementation is yellow and blue, which is illustrated in the following picture (Figure 12). [11, 54-55]
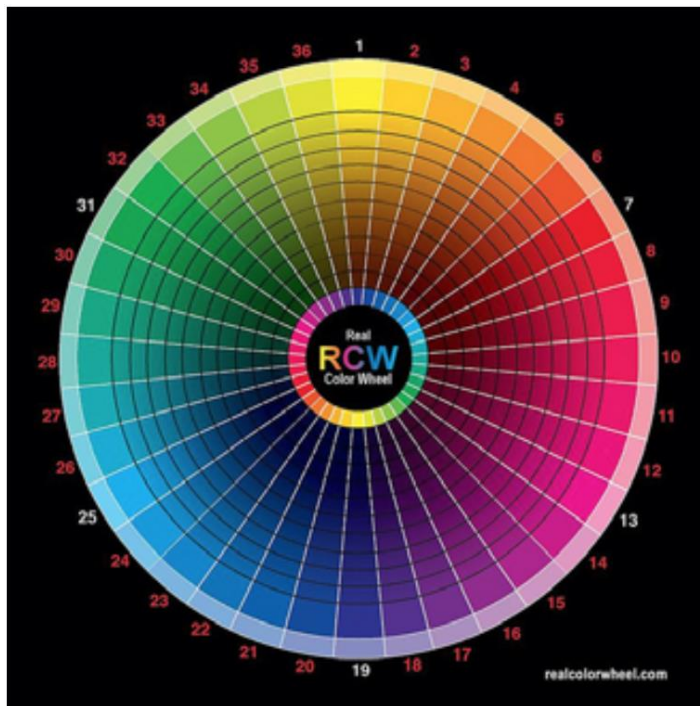
Figure 12. Color wheel. Copied from [11, 55]

Vibrancy is an emotional concept of the colors. Each color displays a specific condition; for example, CNN uses the red color which is a symbol of importance and alertness. [11, 57] For a financial web application (AuroraExchange) the main color is green blue, since green is symbol of growth, financial theme. It also has a relaxing effect and it creates a stable environment. Blue is a symbol of reliability and it mainly represents a safe and trusted environment. [4, 60-61]

Typography would increase the rhythm of the context and also enhance the feeling of familiarity for the user while visiting the website. It is possible to select different typography, style and weight to keep the context interesting, as long as consistency is kept in mind. For example, if the header is defined as font sans-serif, 22px and bold, it should have been defined globally in a web product, which means all headers should

follow the mentioned style. Besides, the alignment, line space and white space have a great impact in creating a readable context. [4, 23-25]

The combination of UI elements such as graphics, icons, forms, buttons, texture, image and layout, would have a visual influence on the interface. Because of that, considering the graphical mechanism is important. For this reason, designers should ensure that:

- The padding around the elements is similar
- The image illustrates a proper feel and look
- The size and look of the UI elements are consistent
- Related elements are closer to each other [4, 25-26]

4.1 Importance of Visual Design in UI Design

Vision is a powerful sense for a human, and it has a great impact on the interaction. When a user visits a website, they expect to see familiar elements and they make a judgment based on their expectations. Google's original research explains that the user's feelings are affected by visual design such as: hierarchy, symmetry, font, line space and so on. A consistent design creates a logic for all the interfaces in a web application. Also it keeps users on the website since their expectations are met. A clean and consistent design gives users a feel of control, familiarity and comfort. A visual flow creates a rhythm and harmony for all UI elements in a web application. [4, 19-21]

4.2 AuroraExchange Visual Design

At this step, the structure of the product is defined. The number of the pages is clear, how they are linked together and the content of each page. It is time to visualize the product. The main part of visual design is consistency. It is necessary to ensure that there is a level of consistency on all of the pages of the product. For example if the logo and navigation is included in each page, they should be located at the exact same position on each page. [12, 20]

The visual design should follow the user expectations, because a human's recognition of the world is based on their expectation. Human recognition is based on three factors:

- The past: experience
- The present: recent context

- The future: goals [13, 1]

Cognition based on experience:

The users of a website or mobile usually click on the buttons or the links without even looking carefully at them. Their perception of the website is based on their experience rather than the actual screen. In other words, if the user is looking for something but it is located in a different place or it looks different from the usual, the user might miss it. This is because of his or her experience and expectations. For instance, if in a web application the button Save is located at the bottom-left on multiple dialog box, and on the next page the button Save has been switched to bottom-right of the page, many users would not immediately notice the change. That is to say, the visual system highlights the change of the button on several pages. [13, 4]

Cognition based on current context:

An object is a combination of the features such as edge, lines, angles and patterns. The visual system might work as a bottom-top process or top-down process. The bottom-top process means the human brain first recognizes shapes as a letter and combines the letters into words, sentences and paragraphs. The top-down process is about the appearance of the surrounding characters. It affects the way human brain recognizes the word. In the picture below (Figure 13) the same character is perceived as H or A depending on the surrounding letters. [13, 4]

Figure 13. Example of recognition based on context. Copied from [13, 4]

Perception biased by goals:

Besides past experience and present context, the human perception is affected by goals. Things that are unrelated to the human goals would be removed from their conscious

mind. For example, when a user visits a web application they do not read the web page. Instead their brain scans web pages to find elements that are related to their goal. Meanwhile, they do not notice unrelated items. [13, 5-6]

All these perceptions have resulted in UI design principles. Such as:

- Avoid ambiguity
- Be consistent
- Understand the goal [13, 8-9].

A designer should avoid unclear data; they should test it with users to validate the design. It is recommended that usability tests are held before and during the design process. Consistency would help users to recognize the intended UI elements quickly. With this intention, the information and controls that have the same function on different pages should be located in the same place on each page. Also they should have a similar color, text font and shading.

A designer should understand the user's goal. They should ensure that users have easy access to the intended information and the information maps clearly. Thus, the users will notice them quickly and they could achieve their goals in a more convenient way. [13, 8-9]

After considering all visual design principles and user expectations, a P2P financial platform style guide was created. The picture below (Figure 14) is the style guideline of a P2P financial platform. It contains: logo, color palette, typography and UI elements.
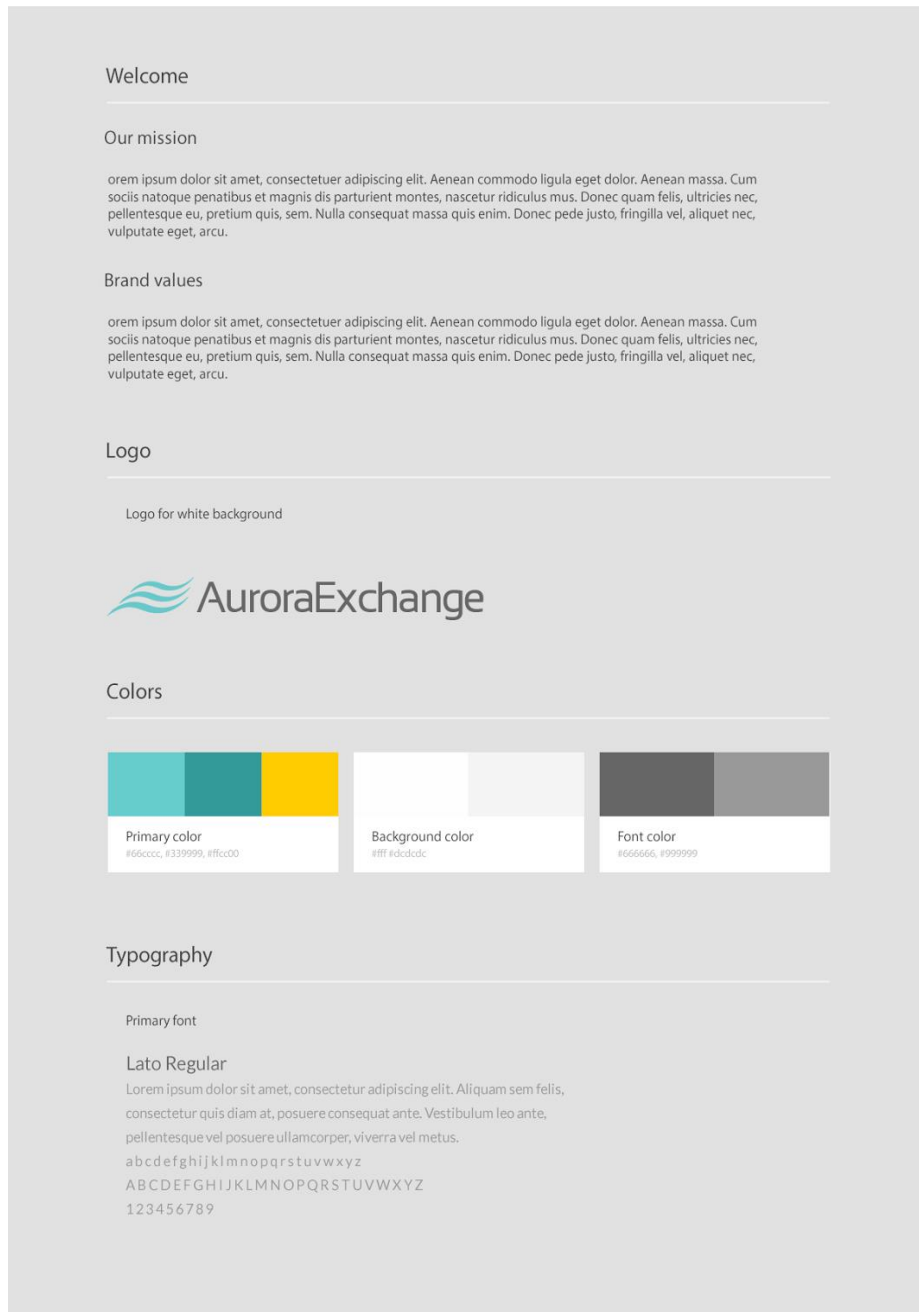
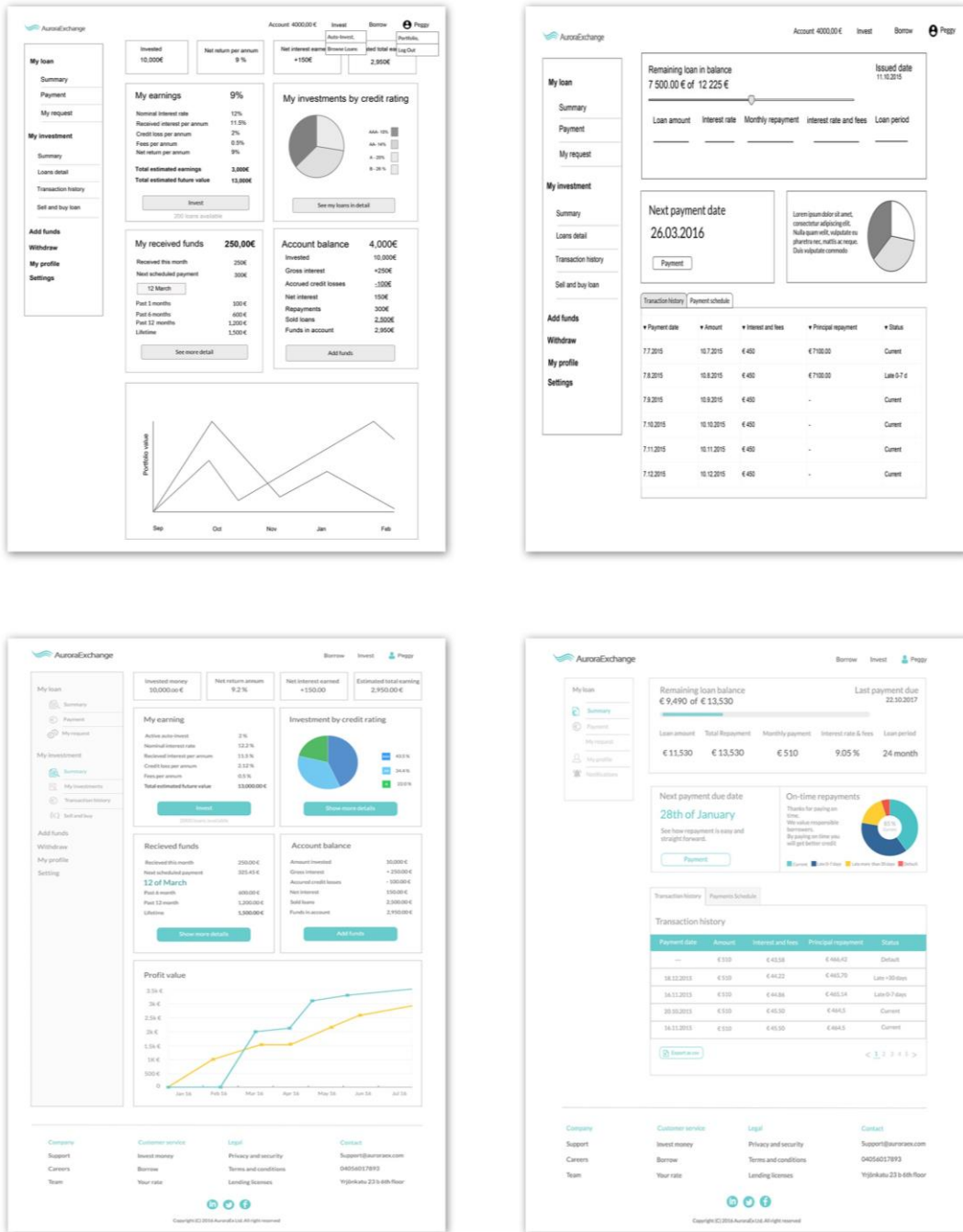Figure 14. AuroraExchange's visual style guide.

Figure 15. Improved wireframe UI to high fidelity mockup

5   UX Designer Challenge

The main challenge that I faced during this project, was collaboration with the marketer. The collaboration issue between the design and marketing team is very common in today's enterprises. It also has a big impact on the company's performance. This collaboration could make the business grow or it might cause a product decline.

The designer's goal is to apply design thinking to evaluate the performance of the company. In other words, designers create a successful product by providing satisfactory experience to the users, based on their needs. However, traditional marketing is mainly about convincing customers to buy a product. [14, 106]

5.1   Design Thinking

Design thinking is a process to reach a deep understanding of the user's demands and feelings. In this process the user is the core part. Design thinking has been applied to produce successful products. It makes a company think in a both divergent and convergent way. Divergent is about creating many ideas in a short time while convergent decreases the number of ideas and guides towards a solution. Most of the companies have more skills in convergent thinking rather than divergent. However, both types of thinking is necessary to have a successful product. [14, 99-101]

The design thinking is a smooth process. It starts by inspiration, develops into concepts and results in a proper solution. Organizations go through these steps (Figure 16) multiple times to improve their thinking process, concept and to find an ideal solution. [14, 99-101]
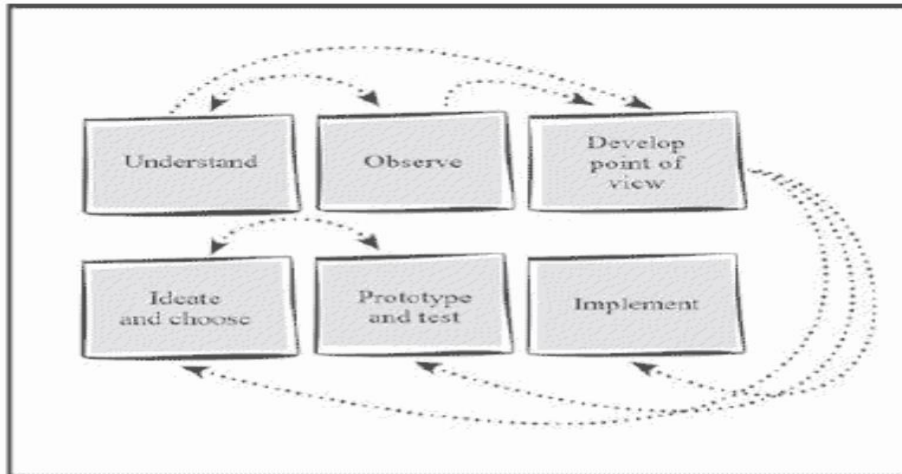
Figure 16. Design thinking: fluid process, copied from [14, 101]

Spending more time with real users and customers would help to understand their needs inspirations, interests, dislikes and beliefs. The number of the ideas would increase by breaking down a product or a process into smaller parts to have a deeper knowledge of the situation. Each time, a fresh look will bring a new vision in research. [14, 102] Also, observing users would illustrate different ways of using the product and show new issues that users encounter while using the product. [14, 102]

5.2 Designer and Marketer

Designers and marketers have different mindsets and also different responsibilities. The main difference is that they have a different mind about users. Marketers are good in creating business strategies and they see users as a group. For instance, marketers hold focus groups to analyze and review the product. The focus group is a useful method about user needs but not a good place in reviewing a new product because the result is not highly accurate. In contrast, the designer looks at each individual user and tries to deeply understand the user's view of the product by doing research in a smaller number of users. [15]

In general, the main focus of marketing is on selling the product, while design is focused on creating a user friendly product. Thus, design could help marketing and provide valuable information such as: a user's interests, emotions, dislikes, concerns and their overall feeling about the product. [16] Therefore, in my opinion, a marketer could sell more not only based on a business plan but also by considering user needs and feelings.

On the other hand, a designer should understand that the CEO, marketer, stakeholder, they all have different opinions and their opinions are valuable and could reveal different solutions that a designer might not have thought about before. Working with different minded people is an opportunity for a designer to enhance product quality. [17]

As a result, the designer and marketer have two main responsibilities in common: user needs and business goal. [16] Also, approaching a well-designed product with a business strategy, highlights the need of both the marketing and design. To put it in another way, design and marketing would complete each other and they are equally beneficial for the product. [15] The picture below (Figure 17) illustrates common responsibilities between the designer and marketer.
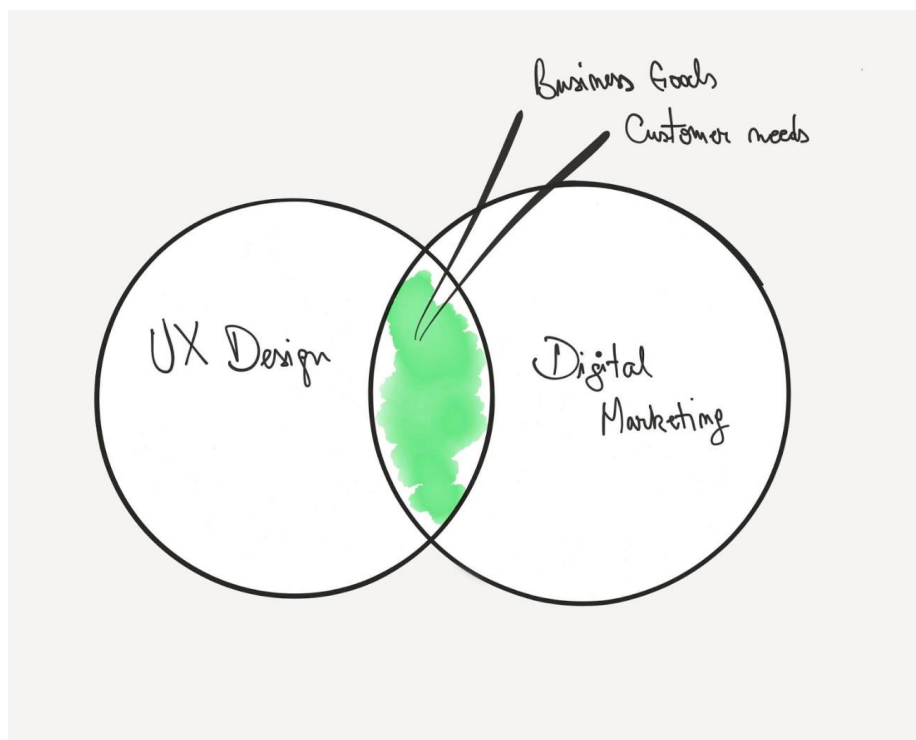
Figure 17. Intersection between the designer and marketer. Copied from [16]

In today's marketplace, it is wrong to create a product or service for only stakeholders or with a beautiful design, which is not functional for users. The whole team should focus on delivering a product with positive experiences [18]. Therefore, cooperation between designer and marketer is an important key. They should be able to work and rely on each other. Then and only then a successful product would be created, which users would have great experience in using it. Satisfied customers share their experience with others and this increases product sales.

5.3 UX in Future Enterprise

User Experience (UX) has a key role for today's enterprises. In fact, a traditional business strategy has a limited view of user's demand, goal, emotion and actions. That is why companies need UX designers in developing the product and customer strategy. [19, 159]

A strong UX designer can provide great benefits for an organization, as it has a core role in creating significant and sharable experiences. People buy the product because they want a meaningful experience. A customer role is vital in today's business. A successful business trend should analyze the user's engagement of the product to understand their feeling, thought and expectations or on the other hand user experiences. These tasks would be handled by the UX designer and as a result the user journey would improve in an effective way. [19, 152-154]

It has been proven, that main part of the revenue comes from expansion rather than new customer sales. This explains why the product must be convincing and likeable for the first customers. After this, they will recommend the product to other potential customers. [19, 8-9]

A new well designed, high quality product will sell itself. Therefore, the first user experience must fulfil the user's requirements. With this intention, the application should have: a simple structure and navigation, visual interface with a great UX which gives user a feeling of achievement and control. Hence, these type of products are beneficial for both customer experience and enterprise. [19, 14-16; 12, 28]

6   Conclusion

This thesis has elaborated on the UX/UI process of a peer to peer financial web application. The success of any online business greatly depends on user experience. UX design translates business requirements to standard and user friendly interfaces. This project presented the design methods and principles to create an effective application. An effective application means that it fulfils the user needs and the users would enjoy using it. This project proved that all the mentioned UX methods and principals are useful and most of the techniques are beneficial, not only for designers, but also for the whole team, for instance, the user research, sitemap or the result of the usability study. The picture below (Figure 18) shows the final interfaces for the peer to peer financial platform.
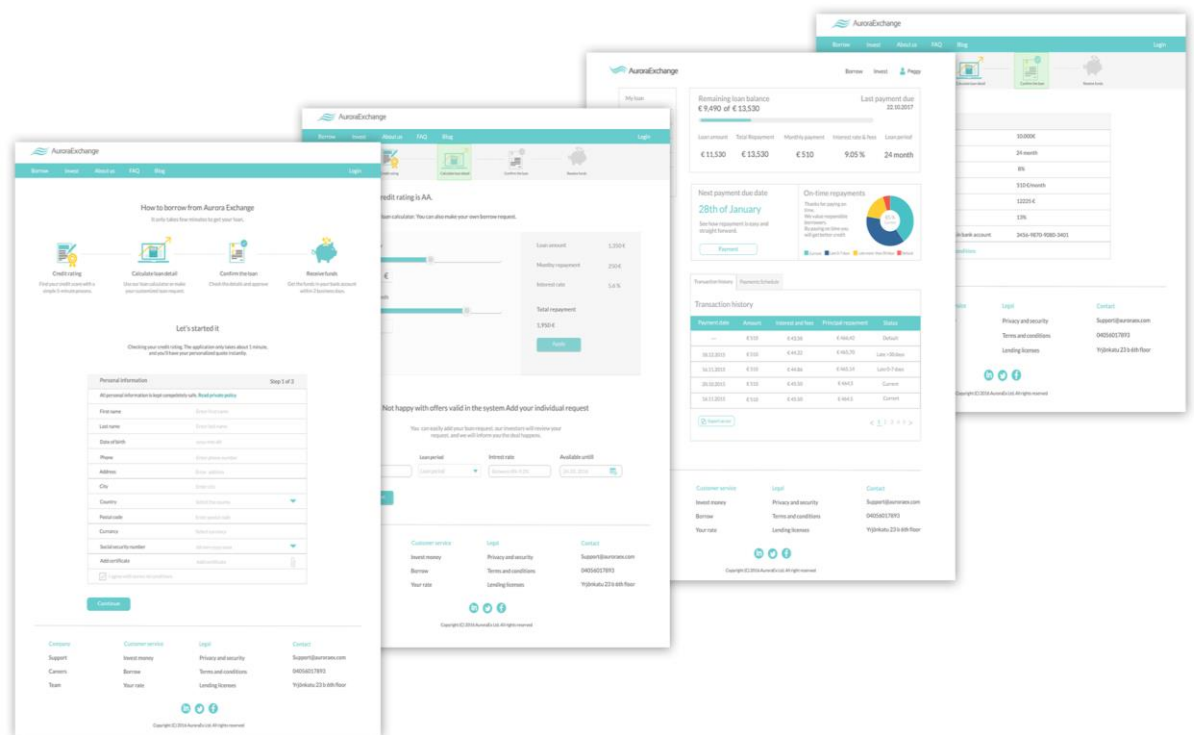
Figure 18. Final product, peer to peer platform.

Another achievement of this project was the usability study. It has an important role in the design process. A usability study examines the quality of the product by analyzing the performance of a user while interacting with the product. In other words, usability proves (demonstrates) that user is in the center of the design process. Also, usability evaluates the product based on the result of the study.

The main challenge of this project was collaboration with the marketing team, which motivated me to research this common issue. Based on this study, the design and marketing team complement each other and they are equally valuable for the organization. The designers mainly think about the user's feelings and needs, while marketers focus on the sales of the product and business plan. Therefore, the design and marketing teams must put more effort into their cooperation to accomplish a successful product which respect to both user demands and business goals.

The end result of this project was a successful design for a peer to peer platform which has a satisfying results from both the company and end users. The usability test showed that the layout of the application was user friendly and functional. Also the service provides good guidelines for the users. Based on the usability results, the peer to peer financial platform was improved.

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Appendices

Appendix 1: Wireframing and usability test records

Link to interactive wireframing:

- https://app.moqups.com/peg1988.kh@gmail.com/WFsshTY5lW/view
- https://app.moqups.com/peg1988.kh@gmail.com/g1qoDjmXLY/view

The links to audio file of usability test sessions:

Tester 1:

https://www.dropbox.com/s/1o6ni0qzsvy4r2l/New%20Recording%202.m4a?dl=0

Tester 2:

https://www.dropbox.com/s/5wyve40zeljr46n/New%20Recording%203-1.m4a?dl=0

Appendix 2: Usability questions and answers

Here are the tables about usability result.

Auto-Sell page

Task	Tester 1	Tester 2
What does my payment status tell you?	Successful	Successful
Any information more or less?	Enough	Enough
What does gain mean for?	Successful	Successful
What do u expect when u press sell loans?	Show the offer	Show the offer
What elements attract your attention?	All of them	All of them/ Maybe payment status more

Sell-loans page

Task	Tester 1	Tester 2
What kind of loans you want to sell?	Bad loans mostly/ I don't know but maybe Both ones	Both bad and good depends on market but mostly bad one/ Good one If I need money
What is different between Sell-loans & Auto-sell?	Successful	Successful
Which one you prefer to use, you think?	Both of them	Both of them
Do you know what is yield or can u guess?	Failed	Successful
What is your reaction if you have a bad loan?	Not happy	Try to get my money from somewhere/ Try to sell it
who buying your loan	Some other investment	Some other Invest

Repayment (Transaction) page

Task	Tester 1	Tester 2
What does due payment mean and should show/ will you understand it?	Successful / Yes	Successful / Yes
Late (7-3)d means?	Successful	Successful/ prefer to see day But d is okey
Partially received?	Successful	Successful
What u expect to see in payment schedule?	Next payment	
Do want to see payment status too in payment schedule?	Yes it is useful	Yes it is useful
Is Repayment good or transaction	I think Transaction is better but both are good maybe	Transaction is better

Summary Invest page

Task	Tester 1	Tester 2
Do u think is the boxes organize? If not how u want to change it?	I think it's good But maybe graph on top.	It's organized but I want to see Account balance first
As an investor do u think is one graph enough?	I am not investor maybe yes	Maybe more graph
What does past 1 month means?	successful	successful
What is feeling about it?	It's good with good information	It's good with good information
Do u want to click on for example this box and do u confuse with button?	No, It is clear that it is not button	No, It is clear that it is not button

Auto-invest page

Task	Tester 1	Tester 2
What do u think means Auto-invest?	It's clear	Yes, it's clear
What do u expect next to happen?	See suggestion from system	See suggestion from system
What is this pie chart means?	Successful	Successful
Will you press the reinvest?	It depends, Yes maybe	Yes, If I don't need money

MarketPlace page

Task	Tester 1	Tester 2
What is effective interest rate mean?	Interest rate	Interest rate.
Who is offering this loan?	Borrower	Borrower and investors maybe
Did u know that other investors offer is here too?	No	Not really clear
Does it feel like marketplace?	Maybe yes	A bit yes

My investment page

Task	Tester 1	Tester 2
What you expect to see from this page?	My investments	My investments
How often you think you will check this website?	Every day, Important	Every day, Important
Is this information enough that u want to know about your investments?	Yes I think enough	Yes I think enough
Do you want to click on this loan for more information	No, information is enough (Status)	No, I don't think that I need more information

My offer/request Page

Do you think what this page is about?	Successful	Successful
What does my offer/my request means? Is it easy to understand?	Successful/ my offer to investor/My request to investor	Successful/ my offer to investor/My request to investor
Can you tell how you can add/delete/ modify offer/request?	Successful	Successful
What is down table good for?	To make offer It is useful table	To make offer It is useful table
Will u attention to table when u want to make an offer?	Yes of course	Yes of course
Will u make your offer and request based on what factors?	Yes of course	Yes of course

What is my sold loan about?	Maybe invest I am selling	It is investments I am selling
Do u expect to see it here or in sell loan or in other page?	Not here / sell part	Not here/ Sell part is good