

UX Portfolio:

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ABSTRACT

This portfolio shows the learning process of user experience. It is built during the first three weeks of the course User Experience Theory and Practice in the Research, Design, and Development (RDD) track. Focusing on user experience, this portfolio is organized around three questions: What is user experience? Why user experience and related knowledge? And how to apply user experience and related knowledge to practice?

expertise of User and Society, Technology and Realization, I position the notion of user experience as the connection between user and technology.

In order to present a thorough understanding of the notion of user experience, I build this UX portfolio in three parts: Firstly, I introduce WHAT is user experience by selecting the definition from ISO and describe the definition in a three-dimensional framework. Secondly, I present the learning process and outcome by reflecting on the weekly logbook. The selection and motivation of relevant key aspects are presented to provide my deeper understanding of user experience. Finally, in order to deepen the understanding of the connection between user experience knowledge and practice, I reflect on a previous project from a user experience perspective and propose contributions to the future based on my design vision.

DEFINING UX

My learning goal in the Research, Design, and Development (RDD) track is to develop my expertise in User and Society, Technology and Realization, and Design Research Process. I think user experience (UX) tightly relates to that expertise because it bridges users and technology.

INTRODUCTION

User experience can be viewed from different perspectives (as a phenomenon, as a field of study, or as a practice) in different fields (from psychology to marketing) [4]. Related to my learning goal for developing

With new technology constantly emerging, there is a need for an elegant path for new technology to enter people's lives. In my point of view, this path is user experience design. The social value of user experience design is that it allows people to enjoy the convenience of technology, rather than struggling with the double-edged of technology. For instance, when new technologies such as natural language processing (NLP) appeared, it brought new opportunities for intelligent voice interaction but also arouse problems such as privacy and disturbing. Considering user experience in design can alleviate these problems to a certain extent so that people can better coexist with technology.

Reflecting on my previous design projects, I have made some attempts in user experience design. I applied some tools, such as persona and user journey map in my user-centered design to improve user experience. However, the definition and the knowledge network of UX still remains unclear in my mind. Thus, I take the course User Experience Theory and Practice to get a comprehensive and deep understanding of UX, and to prepare methodologies for my further development in the RDD track. I want to learn the definition, more related theories, and UX evaluation, to continuously formulate and optimize my knowledge map of user experience.

After three weeks of learning, I built this portfolio to present the knowledge I learned and the process of learning. It would act as a record of learning and a tool

helping reflect during my writing, but also a knowledge map of UX that I am likely to refer to in the future.

DEFINITION AND DESCRIPTION

There are many definitions of user experience but no one suits all perspectives. I think the definition by ISO concisely summarizes the concept of user experience and is easy to understand.

User Experience: “A person's perceptions and responses that result from the use or anticipated use of a product, system or service”. (ISO)

Deconstructing the definition, there are three characteristics of user experience: **personal** (a person's perceptions and responses), about **time span** (use or anticipated use), and having a **context** (use of a product, system or service). However, the limitation of this definition is that it merely talks about one person. And I think user experience could be shared. Based on the three related perspectives discussed in the User Experience White Paper [4], I think there are three dimensions: **time dimension**, **user dimension**, and **system dimension**. They constitute a three-dimensional user experience (Figure 1).

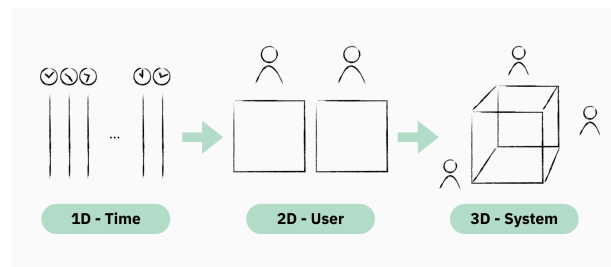


Figure 1 The three dimensions of user experience

- In the dimension of time, UX means the user's experience (including emotions, expectations, pain points, mindset, etc.) at a certain moment and the continuity of these experiences over a period of time.
- In the dimension of user, UX means a user's overall experience of a system. It is the outcome

and memories of encountering the system in a longer period of time than in the time dimension.

- In the system dimension, there is more than one user, and they experience the system together. Their experience could be separated, crossed or overlapped, which depends on the situation.

It is worth noting that these three dimensions only occur in the context, meaning that the user must be connected to the product/service/system.

To conclude, I would use “People's perceptions and responses that result from the use or anticipated use of a product, system or service” to define user experience as a three-dimensional concept that has the context of encountering a product/service/system.

REFLECTION ON WEEKLY LOGBOOK/ACTIVITIES

Week 1

Readings

Roto V et al (2011) White paper UX

This paper provides a good overview of UX and different perspectives of viewing the notion.

Brand, R., & Rocchi, S. (2011). Rethinking value in a changing landscape.

Four paradigms are discussed in a model for strategic reflection and business transformation.

Hassenzahl, M. (2011). Encyclopedia entry on User Experience and Experience Design. from Interaction- [design.org](https://www.design.org)

It is about experiences created and shaped through technology and how to deliberately design those.

Lecture & Activities

I mainly learned What, Why, and How of user experience. UX is tightly related to timespan. The paradigm transformation reminded me that the value of design is supporting user experience. And by models of human needs, I got a deeper insight into what is user experience and how can it be analyzed.

I reflected on my initial status related to UX and discussed it with other students. I talked about our learning goal for this course, my perception of the importance of UX and why, and how did I design for UX in my previous projects. An interesting view I got in the discussion is that designers also can design partly bad experiences to make a good overall experience.

Week 2

Readings

Zaki, J. (2014). Empathy: a motivated account. Psychological bulletin

The three subcomponents of empathy. People choose to approach and avoid empathy through regulatory strategies.

Smeenk, W. (2019). Navigating empathy: empathic formation in co-design. Chapter 2, A systematic analysis of mixed perspectives in empathic design

How 3 perspectives are used in empathy design, and a mixed-perspectives approach enables designers to be receptive, inclusive and committed toward users.

Chapter 3, Emphatic handover method

Three sequential co-design activities facilitated by an empathic principal designer.

Lecture & Activities

The three sequential co-design activities facilitated by an empathic principal designer was introduced and conducted in the workshop. I learned that connecting the target emotion with own experience is a good way of empathy. And empathy is not only for designers but also for other stakeholders and the audience. Thus I may apply this method in the co-design session and presentation of my future projects.

Week 3

Readings (Notes see appendix)

Montaño, D. and Kasprzyk, D. (2008), Chapter 6 Theory of Reasoned Action, Theory of Planned Behavior, and the Integrated Behavioral

Bakker, S., & Niemantsverdriet, K. (2016). The interaction- attention continuum

Thomas Erickson and Wendy A. Kellogg. (2000), Social Translucence: An Approach to Designing Systems That Support Social Processes

Schwartz B. et al (2002): Maximizing vs Satisficing: Happiness is a Matter of Choice.

Lecture & Activities

Different theories were introduced and design cases were showed in the lecture. Compared to the week 2 empathy design, this week more rational analysis methods are provided. I wrote a draft portfolio and discussed it with two students and got some feedback. I think view UX from the three perspectives (experiencing, a user experience, and co-experience) is a good structure. For a portfolio, it is also important to make the reading experience good, that is, write it for the audience.

SELECTION AND MOTIVATION OF RELEVANT KEY ASPECTS: THEORY, TOOLS, ATTITUDE

User Experience, needs, paradigms, value-based design

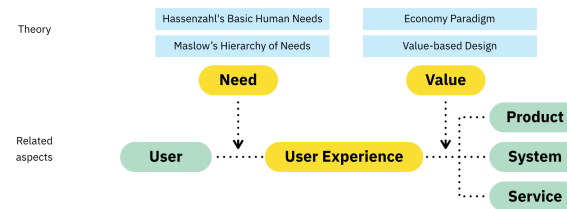


Figure 2 Relevant key aspect (1)

Theories about needs, paradigms, and value-based design reveal the essence of user experience and how user experience connects users with products/systems/services (Figure 2).

With the development of society, the structure of people's needs is constantly changing, from material to spiritual and from single to diversity. The human need models are used to analyze people's essential needs. Hassenzahl's Basic Human Needs model comes up with 6 basic human needs[2], and Maslow's hierarchy of needs construct 5 human needs in the pyramid structure[3]. From both, we can see that people's needs are not single, but very rich and multi-layered. Compared to the need models standing closer to the user, the value-based design stands on the product/system/service side. Realizing value through design is the core of value design. The Philips report presents a model of economy paradigm shift, revealing changes in value pursued from a business perspective[1].

In my understanding, the essence of experience is to realize the value of design by meeting user needs, that is, user-centered design. And user experience arose in the context of changing needs and changing economic paradigms, as Norman who coined the term "user experience" said, "I thought human interface and usability were too narrow: I wanted to cover all aspects of the person's experience with a system"[5].

Behavior, attention, decision-making, social awareness, everyday life

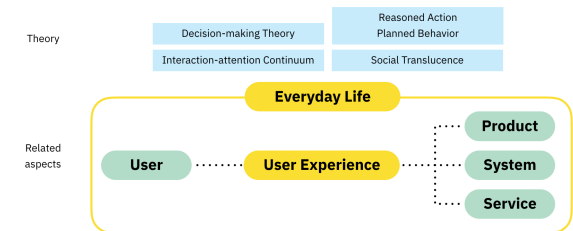


Figure 3 Relevant key aspect (2)

Theories about behavior, attention, decision-making, and social awareness are used to help designers understand the user's lifestyle, including both thinking and behavior (Figure 3).

By referring to these theories, technology can better integrate into people's daily lives. User experience is the connection between users and product/system/service, so it happens all the time in our everyday life. As emerging technologies are increasingly applied to design so as to create values for product/system/service, people's daily lives change. For example, people need to learn new behaviors to operate technology, and products/systems/services can affect people's attention, social relationships, and many other aspects.

What I learned from these theories is that there are more theories that could be linked to this aspect, depending on the application of UX design. For example, when I consider user experience in the design for behavior change, I could refer to the theory of reasoned behavior, the transtheoretical model, the goal-setting theory, and etc. So it is very important for a designer to find out what related theories could be implemented.

Empathy, design thinking, and UX evaluation

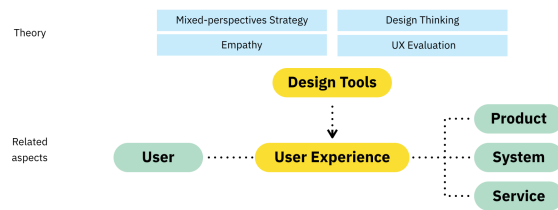


Figure 4 Relevant key aspect (3)

I learned that empathy, design thinking, and UX evaluation are good methods for analyzing and designing the user experience. They can be applied to the design process in different stages. And the theories behind these tools tell designers why these tools work (Figure 4).

The most impressive method I learned is the mixed-perspectives strategy. The cluster of perspectives gives guidance to design[6]. I think it is a good framework for designers to reflect on the design process because sometimes it's hard to be aware of the narrow design perspective. If the design is based on only the first or second perspective, it may be too personal to be accepted by the mass market or even other users; if the design is based on only the third perspective, the design may be too shallow and fail to address the deep needs. Thus a mixed-perspectives strategy should be adopted in the design process.

INTEGRATION IN WORK DONE

I did my M1.1 project *Kneehab* last semester, where the user experience was integrated in many ways.

Kneehab is a wearable system designed to facilitate the rehabilitation process at home. It focuses on the knee overstretching problem and provides users with instant and summary feedback. The system consists of a small, wearable knee brace with sensors, a pocket-size module connected to the brace which collects the data, and a smartphone application (Figure 5).



Figure 5 Kneehab

Here I want to reflect on the user experience design in this project from my three-dimensional framework of UX.

On the time dimension, we designed different types of feedback for user experience. There are different types of time units: instant, one day, and 7 or 30 days of rehabilitation, and the users experience these time units with different emotions. To make the users feel being reminded in the moment of overstretching, we provided instant vibration feedback on the knee. To make them feel motivated, we provided them with daily encouraging feedback. And to make them feel that they are controlling the rehabilitation progress, we provided them with longer-term feedback on statistics of knee overstretching in the last 7 and 30 days. By providing instant, daily, and longer-term feedback, the users know their situation better, thus the user experience was improved.

On the user dimension, to design for the good outcome and memory of the system, we firstly found out users' motivation, anticipation, and frustration. By analyzing the persona, we found out the most urgent need of users is to learn how to walk normally by themselves. So we adopted behavior-changing theory, goal-setting theory, and self-efficacy theory. In addition, they are eager to get extra motivation in the rehabilitation process. So we

designed a personalized reminder system in the application that applies a persuasion profiling approach. As a result, the outcome of experiencing the whole system was very good, which was proved in the user test.

On the system dimension, we thought the experience could be improved by sharing. At first, we want to users share the experience with other patients. Because of an ethical problem, we gave up the idea of community. However, we finally thought that the experience of the whole system could be shared with the patient and the physiotherapist. By using the design together, the physiotherapist could know the context of knee overstretching in the patient's daily life, and the patients could get more personalized treatment in the clinic.

Reflecting on the design process, tools of UX design are also integrated. We used mixed-perspectives in the whole process. We interviewed the patients to get insight from the second perspective. And to view the problem from the third perspective, we did research online and interviewed physiotherapists and a bio-mechanism engineer. We also used the credibility/expectancy questionnaire (CEQ) to evaluate the user experience in the user test. However, it lacks first perspective and empathy in the design process. I think some empathy design methods, such as role-play, could be applied in my future design projects since the study shows that a mixed-perspectives approach supports empathy design by enabling designers to be receptive, inclusive, and committed toward users[6].

CONCISE PERSONAL UX PROPOSITION FOR FUTURE WORK

During the first three weeks of the course, I learned a lot about user experience and produced my own understanding to build this UX portfolio. Looking back at my learning goals, I learned WHAT, WHY, and HOW about UX:

- The definition of user experience and I explain it with my three-dimensional framework;

- The significance of user experience is to create the value of products/systems/services by meeting the increasing needs of users;
- Designing for the user experience requires relevant theories to make technology naturally fits into everyday life;
- Various tools for user experience design, especially the mixed-perspective strategy.

With the WHAT, WHY, and HOW about UX, I would like to apply UX into my future work in RDD by:

- Designing for the three dimensions of user experience;

- Relating user experience with a product perspective (functionality) and a business perspective (economy paradigms);
- Consulting theories on behavior, attention, social awareness, and etc related to the specific application;
- Applying UX design tools, such as the mixed-perspectives, and UX evaluation in the projects.

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