User Experience Theory and Practice — Individual Portfolio

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Abstract

In this document I explain my vision on the phenomenon of User Experience (UX). I start by framing my personal point of view: my past experience and understanding of UX. Then, I share- and substantiate my thoughts on a definition and description of UX. I reflect on my activities in the first three weeks of the course, and select key aspects of UX in the form of theory, tools and attitude. I then reflect on past work to see how I have designed for the UX. Finally, I frame myself as a UX Designer by reflecting on the following:

— *What can I offer clients, UX-wise?*
— *How do I envision myself being employed?*
— *How can I keep growing as a UX Designer in the future?*

1. Introduction

My name is *Arthur Geel* — I'm a MSc. student Industrial Design at the Eindhoven University of Technology. As an alumnus from the Industrial Design department, I became familiar with the notions of *UX* and *designing for the UX* throughout my bachelor degree. In my work, I am focused on designing *digital* systems and services that transform complex problems into accessible and delightful experiences.

Throughout my studies, I have brought this vision to reality in design projects as part of the study programme [8], during a 7-month internship as an Interaction Designer at *Momkai*, a digital design agency [9], and since September of 2018 as a part-time UX Designer at *SPIE*, a multinational infrastructure company [20].

My experience within UX is built on two pillars: theoretical knowledge and practical knowledge. The former includes insights in frameworks used to break down interactions into streams of affordances, feedforward and feedback [21, 26], frameworks on guiding design- and development processes [12, 18] and frameworks on evaluating the resulting designs [6, 16] . The second pillar consists of practical skills and empirical insights resulting from a growing amount of design projects.

Skills and insights with regard to UX Design include a high proficiency in wireframing and user interface prototyping using software such as Figma [7] and Adobe XD [2], experience and know-how in conducting data-driven design

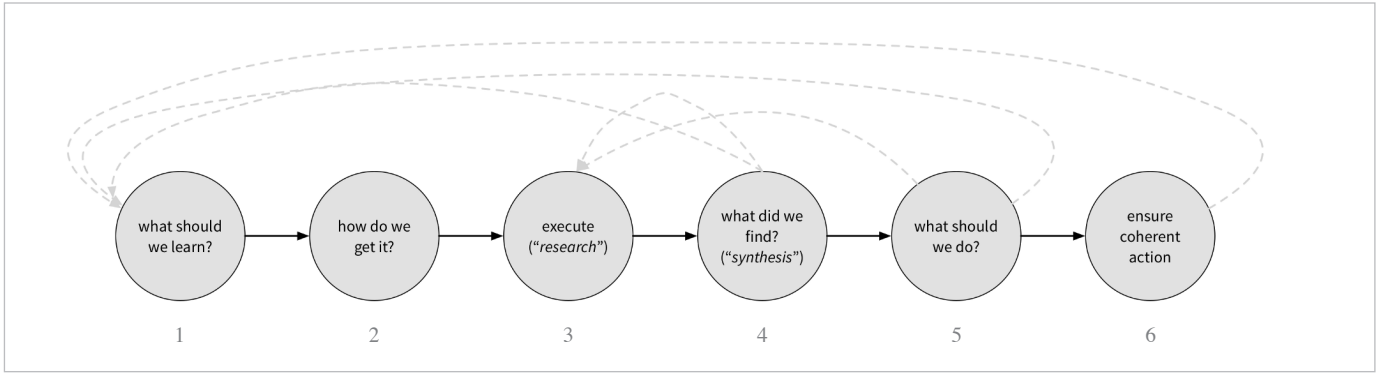

Figure 1: *Different phases of a typical research process. From 'The process: laid bare', by Dave Hora, 2017, https://medium.com/@stonecrops/the-researchers-journey-leveling-up-as-a-user-researcher-a85cd35b53f5. Copyright 2017 by Dave Hora.*

research [10], and working in inter-disciplinary teams while ensuring principles of user-centered design are upheld [1].

I deliberately chose the *'Research, Design and Development'* track as I felt it resembled my envisioned professional identity best. While the *'UX Theory and Practice'* is a mandatory course for my track, I believe I would have chosen it regardless as I have the ambition to become a UX Designer once I graduate. As such, I have two main objectives for this course — I wish to:

1. *Broaden my view of what UX is;*
2. *Increase my maturity within UX research.*

To elaborate on the first point; I feel I have a narrowed-down vision on what UX is. Because of my affinity with designing digital systems and services, I have come to acquire a very pragmatic view of UX. In my process, I take a client's rough vision and iteratively construct an interactive prototype in increasing fidelity. Usually, this prototype is (part of a) graphical user interface, which I evaluate and validate in-context by using stereotypical UX strategies such as *heuristic evaluations*, *design reviews* and *(qualitative) usability tests*. Upon reflection, I realised that I adopt an approach that focuses on consistency in design patterns and efficiency in interaction, which means I do not fully tend to the emotional aspects of the experience. This is a major point of attention for me within this course.

To clarify the second objective, I believe (UX) research can be broken down into multiple phases, illustrated in Figure 1. The 'core' of the research is in phases 3-4, and is regarded as *'junior researcher'* level as the strategic insights required to process them are minimal. Expanding the scope to phases 2-5, a *'mid-level researcher'* is attained. Finally, the full range of phases 1-6 is seen as a *'senior researcher'*. I assess myself to be nearly at the level of *'mid-level researcher'*: I am self-directed and am able to guide a research process to ensure meaningful output, yet sometimes lack the design

maturity to fully steer the process.

In this elective I would like to increase my maturity as a UX researcher. In order to do so, I wish to acquire greater insights in what drives users, greater technical competence in executing (UX) research, and a better intuition for selecting the right methods at the right time.

2. UX — Definition and Description

I see User Experience (UX) as the emotional impression one has prior to, during and after interacting with a product, system or service. It is highly subjective, and is shaped by the person that experiences it and the setting in which it is experienced. For example, a person's mood and environment (both highly dynamic) can have a significant influence in how they experience certain things.

I see the act of creating systems, services and products that are able to produce a certain experience as UX Design. In UX Design, any prototype can be seen as a *'dynamic hypothesis'*: its designer has certain expectations regarding the experience it will create for its users, and evaluation of the prototype helps validate- or adjust these expectations. To me, an integral characteristic of UX Design is its iterative nature: design decisions are based on a mixture of designer's intuition and outcomes of conducted research, and all decisions are based on the *(envisioned)* reception of the people that *(will)* experience the designed interactions.

As the field of UX Design is still maturing, the process is based on a growing number of methodologies and frameworks, though I like to break it down into two core elements: *prototyping* and *research*. A UX Design process is not linear, and often switches between these two. Often, decisions with big implications for the end-users are to be made with limited information, hence an approach that resembles agile software development [22] is often seen in UX.

3. Activity Overview

3.1 Week One

The UX Theory & Practice course started with an exploration of the concept of UX: framing the upcoming discipline and finding ways to create value in UX Design. The recommended literature for this week included definitions from multiple sources, including the International Organisation for Standardisation [14], who define UX as:

"A person's perceptions and responses that result from the use or anticipated use of a product, system or service."

This led to a moment of reflection for me: I realized that when designing for the UX I do not have full control over what the perceived experience will be. This corroborates the notion by the Nielsen Norman Group that *"UX Without User Research Is Not UX"* [15], which implies that any design in a UX Design process is a *'dynamic hypothesis'*, an assumption that needs to be verified with an evaluation study. Furthermore, the literature made me re-think the episodic nature of user experiences: well-done UX tends to the users beyond the moment itself; the designer needs to anticipate the implications of events before- and after the experience too.

This week's literature provided me with a number of frameworks that can be used to evaluate- and design experiences, including the basic human needs as adapted by Hassenzahl [11] and factors that attribute to a satisfying event [25]. Finally, the literature in this week made me reflect on the value that can be created with UX [4], and how

a transformative attitude can be taken in UX by creating experiences and focusing on values rather than producing industrial products [3].

3.2 Week Two

The literature from week two explored the humans we design for in UX Design. As mentioned in the previous section, an experience is heavily dependent on the person experiencing it, and the context they find themselves in. The reviewed literature is based on knowledge from psychology: thought- and decision-making processes [19], human emotions [23] and dynamics encountered in social contexts [5].

I supposed that all humans base their decisions on rational knowledge, or at least tried to. However, from the literature I learnt that there are two main groups: *maximizers* and *satisficers* [24]. While the first act the way I imagined them to, the second spent less time finding the optimal solution. After reflection I was able to recognize both roles in myself — for some things (e.g. hobbies) I care a lot about being informed and making the right choices, while I do not for things I find less important. I think it's important to take this rationale into account when designing.

The learning activities from this week helped me develop my intuition, and provided me with tangible handles to evaluate my decisions. With UX Design, we try to create systems and services that solve the users' problems, while creating a pleasant experience. With a better understanding of *how* and *why* people make decisions, I feel more comfortable in my ability to design for the UX.

3.3 Week Three

The concluding week of the literature review focussed on *empathy* and *empathic design*. I see empathy as the human ability to understand how other human beings are feeling, which helps us relate to them, understand their actions and interact with them accordingly. I learnt that empathy often is an instantanous process: we base our decisions on split-second judgements, which makes us prone to stereotyping. In the lecture I learnt that we are able to combat this by taking the time to deliberately assess a situation, essentially 're-training' ourselves to feel empathy. This is a very important skill for designers to have, as our empathy allows us to better understand what end-users need in the things we design.

I got 35 out of 80 points in the *Empathy Quotient test*, filled out during the lecture. Reflecting on this, I agree with this assessment. I most often experience empathy through *understanding* how others feel, and *knowing* what they are thinking. In literature, this is known as cognitive empathy. I think I score below average on the *affective component* of empathy, feeling how others feel and acting appropriately in response. I attribute this mainly to my personality and upbringing, though I will be actively reflecting on the pointers given during the lecture to improve in this regard.

Empathic design consists of methodologies that allow us to generate more empathy with our focal user groups. Methods such as ethnographic observations, interviews, discussions and acting out scenarios aid in achieving this goal. Additionally, the lecture discussed a number of empathic design tools, some of which I knew before: personas, storyboards and customer journey mapping, and some that I was unaware of, including the value pyramid, service safari and crossroads analysis.

4. Key UX Aspects

In this section I reflect on the core aspects that make up UX: theory, tools and attitude. In order to conform to the page limit of the deliverable, I have only outlined aspects I see as most impactful.

4.1 Theory

User Experience design processes are guided by theory. Since UX design revolves around designing experiences for humans, theory regarding how we behave, how we make decisions and how we perceive things are important base knowledge. We are driven by our desire to fulfill our basic human needs [11] : *autonomy*, *competency*, *relatedness*, *stimulation*, *popularity* and *security*. In order to fulfill these needs, we interact with our environment: services and systems. Understanding how a design might help users accomplish their needs is key in designing good UX, and reflecting on the basic needs can help us heuristically evaluate user experiences. A skill required to interpret human behaviour is empathy, understanding how people are feeling and offering a resonating emotional response.

4.2 Tools

User Experiences should be designed with a deep understanding of the context. In order to acquire these insights, UX has a number of tools which can be captured under the name of empathic design. These tools provide frameworks for helping researchers gain empathy with their focal user groups, and should be used throughout any project. The most known tools are observations and interviews, where the behaviour and thinking of users are analyzed to come up with ways to add value to their everyday lives.

Another classic UX tool is the Customer Journey Map: this visual deliverable shows a timeline where the journey a user makes is analyzed per segment. By using a storytelling narrative, the researcher is more easily able to get closer to feeling what the users are feeling, thus facilitating the process of generating empathy.

UX practicioners have a number of evaluative tools that help them assess the otherwise hard-to-evaluate experiences. The User Experience Questionnaire (UEQ) is a widely used tool, which provides researchers with six dimensions to evaluate an experience: *attractiveness, efficiency, perspicuity, dependability, stimulation* and *novelty*. Users of a service or system can rate their experience on these scales, which helps researchers find areas of improvement.

Finally, a personal favourite tool for evaluating designs is *Usability Testing Task Scenarios* [17]. This is a form of usability tests where participants of the study are given concrete tasks to perform with an accompanying narrative. This tool allows experience designs to be evaluated with resulting qualitative and quantitative data.

4.3 Attitude

User Experience design is characterized by its empathic attitude. In order to solve another's person, one has to have rich insights in the context. Empathic design tools accompany this attitude. A result of this attitude is the drive to add value to the lives of our focal users, which now more than ever means designing for self-actualization and meaningful living.

An important part of the attitude required for UX Design is an iterative nature. Modern design aims to create a better future, a future that did not exist when the design was being developed. As such, it is impossible to have full knowledge regarding the design context and the latent user needs.

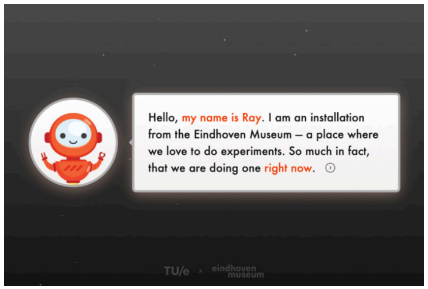

Figure 2: *The final result: a conversational user interface that shares predictions regarding museum visitors with them.*

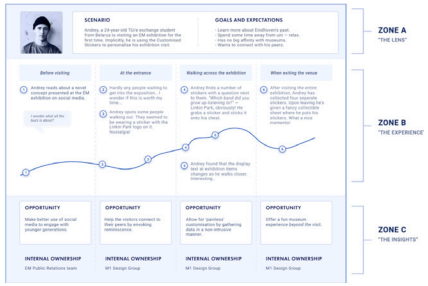

Figure 3: *A customer journey map created to analyze how museum visitors might experience one of the proposed concepts.*

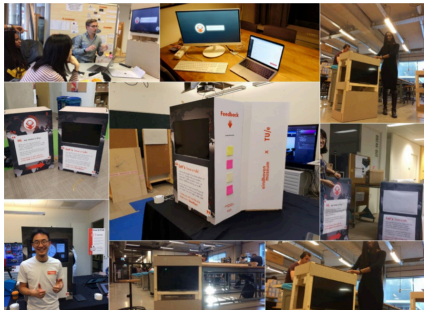

Figure 4: *Photo collage showcasing parts of the demonstrator prototype.*

Designing user experiences is an iterative process, where the proposed designs act as an embodied hypothesis, representing all assumptions the designer has made about the context and user needs. Iteratively, the designer can navigate to a holistic truth by evaluating design prototypes in-context.

5. Reflection on Past Work

In this section I reflect on my M1.1 design project where we designed a novel experience for Eindhoven Museum (Figure 1). In short: the museum is able to produce a lot of data regarding its visitors, yet it has no use for it at the moment. In this project, we explored what it would be like if an artificially intelligent system is able to make personal predictions about its visitors.

In this project, we adopted a UX Design attitude: working iteratively, and focusing on gaining a rich understanding in the needs of all stakeholders. One of the tools we used for gaining empathy was the customer journey map (Figure 2). We used these to predict how early concepts would be experienced by museum visitors.

The demonstrator prototype and report were received well among all stakeholders, though we as a team were self-critical in how the concept could be improved. Due to limitations in time, the interactions were kept simple in favour of ensuring the supporting technology was operating well. Because of this, we were more concerned with how the information was *delivered* by the system rather than how it was *experienced* by the visitors. This was a major learning point: we should have reflected on how design decisions impacted the user experience, yet we stopped exploring the aesthetics of interaction in order to deliver a prototype in time.

In future work, this can be avoided by employing an approach that utilised so-called experience prototypes. These prototypes are not necessarily functional, but can be used alongside theater to simulate a genuine experience. By doing so, we could have more quickly explored different styles of interaction, resulting in a better user experience.

6. Future Work in UX

In order to evaluate my future as a UX Designer, I reflected on the following questions:

— *What can I offer clients, UX-wise?*
— *How do I envision myself being employed?*
— *How can I keep growing as a UX Designer in the future?*

I am confident in my abilities to design experiences in a digital context. Using my theoretical- and practical knowledge, I am able to iteratively develop an experience from concept to interactive prototype. I have a big affinity with designing digital interfaces: helping people solve common tasks with an enjoyable and intuitive digital application. As such, I hope to continue working in a company where I am responsible for designing experiences in a digital context.

I imagine my role resembling my current work ethos: myself taking a self-directed role as a part of a multidisciplinary team, doing project-based work alongside developers and external stakeholders. I expect to work iteratively: developing an idea from a series of sketches to wireframes to fully polished aesthetic designs, conducting empathic design research in all steps of the process.

I see opportunities for personal growth in my design maturity: gradually gaining experience and intuition in knowing what approach fits the situation best. I expect to grow in this over time: through literature studies and with practical experience.

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