

UX Portfolio – Personal Review

Charlotte Johanna Bronwasser
Eindhoven University of Technology
Eindhoven, The Netherlands
c.j.bronwasser@student.tue.nl

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This UX portfolio was created for the master course DDM150 *User Experience Theory & Practice* at the Department of Industrial Design at the Eindhoven University of Technology, which includes my personal development on user experience (UX).

This portfolio starts off by briefly discussing my personal attitude towards UX and personal goals. Then some existing UX definitions and descriptions are discussed to understand what UX is. Followed by a reflection on my activities during the course, and explaining my choice for selected theory. After which, new insights from these UX theory, attitudes, tools and methods will be implemented in an earlier project done. This will finally result in a personal UX proposition for my future work as an industrial designer.

1. INTRODUCTION

User experience (UX) was first introduced to me in my bachelor's degree Industrial Design and for a long time I believed this was solely about the experience the user had while using the design. Involving the user when the design was already created, towards the end of the design iteration, and understanding the UX through user testing and feedback. UX was a more theoretical concept to me, which only came to life when you 'put the design in the users hands'. By the time I did my Final Bachelor Project (FBP), I realized that UX was more than just making a product that fitted a specific user. The elective courses I followed introduced me to tools and methods, which gave me a more empathic attitude. I started consciously

considering the user in his/her ecosystem of values, surroundings and stakeholders. No longer as an isolated entity and no longer designing and testing in an isolated context.

This is something I want to improve even more in my masters' degree, by deepening my knowledge on empathy, behaviour and strategies to involve UX in my design process as much as possible. As my vision is to create designs that positively influence and help people alter behaviour. My goals for this course specifically are to collect useful tools and methods, to deepen my knowledge on and understanding of all elements that influence UX. Furthermore, after this semester I want to have a proper strategy to continuously apply my knowledge on UX in design (research) projects and demonstrating this using appropriate tools, methods and explanation.

2. UX DEFINITIONS & DESCRIPTIONS

The meaning of user experience (UX) depends on who you are. As a company you want to satisfy users with the experience of your product or system so that you gain a loyal customer, while as an independent (research) designer you can focus on the implementation of new experiences or enhancing old ones in the world of the user without worrying about profit.

Looking at the academic definitions, Norman first introduced the term user experience, with the aim to "*cover all aspects of a person's experience with the system*" [10]. User experience is now often used as an 'umbrella term', including a range of things such as

usability, user interface, interaction design or customer experience. Leaving us questioning what UX actually entails. This is because everyone looks differently at UX, meaning there is no exact definition of the term that fits all perspectives. [11]

Petterson (2018) found that a "*wide range of frameworks exists, from which can be learnt that user experience is multi-layered and affected by the use context, but a difference can be seen between more holistic and reductionist approaches.*". An example of the reductionist approach is by Hassenzahl and Tractinsky (2006), stating that UX is "*a consequence of a user's internal state, the characteristics of the designed system and the context within which the interaction occurs*". Suggesting that UX is an isolated experience, which can be measured. Roto et al. (2011) concluded however that these factors of user, system and context help give reasoning to an user experience, but cannot define UX itself. Indicating that UX is more than just a description of an experience while interacting with a system, but approaching it more holistic.

3. WEEKLY LOGBOOK & UNDERSTANDING UX

My overall approach to tackle the literature review for this course was to read the recommended literature before the lecture, and highlight interesting, new or provoking parts. In this activity log I reflect on a selection of the literature (for full list of readings see Appendix A). After the lectures I checked the rest of the literature list by focusing on topics that interested me immediately,

sparked my interest during the lecture or fitted my goals for this semester.

I felt the logbook reflection on my activities and the explanation of UX concepts are intertwined, therefore I combined these two elements. This chapter has been set-up by discussing relevant theory first, demonstrating my knowledge about (new) topics. After which I reflect on my choices for certain literature and their relevance to me personally.

Week 1.

Definitions and descriptions of UX

In this first week the course focussed on giving students a general understanding of what was considered when mentioning UX. For theory insights, I refer back to 2. UX definitions and descriptions.

Reflection

The User Experience White Paper [11] gave me a structured overview of UX, but lacked reference to other papers or findings of other researchers in my opinion. The chapter of Hassenzahl [5] gave more concrete examples of product with a strong UX and demonstrated that our society now is more experience-focused than ever before aiming for personal and unique experiences. I found chapter 2 of the PhD thesis of Petterson [10] interesting as she collected many statements on what UX is, which made it easier for me to see the differences between definitions and positioning of other designers/researchers.

Values and stakeholders

Two papers introduce the different economies we have been going through since the 1920s, putting them in historic context. Four economies or paradigms are introduced: the industrial, the experience, the knowledge and the transformation economy [1,4]. In these economies you see the evolution from buying products to modernize life, to buying experiences and image instead of products, to empowerment of buyers to express themselves and learn, to finally the transformation economy or 4th paradigm. This last economy or paradigm

is where most companies are currently at or should be at, and is meant to create 'a better world' by companies who create value. This can be done through co-creation, thinking within a system, local solutions for world-wide issues, considering ethics and sustainability. [1,4].

To move back to the human level of values, the paper by Kerlin reveals fourteen human values: achieving goals, being inspired, being safe and well, belonging to a group, connecting with others, exploring the world, expressing myself, feeling impactful, growing myself, having autonomy, having stability, pursuing pleasure, receiving recognition and understanding myself [6]. These express needs and drive behaviour as explained by the visual (figure 1.).

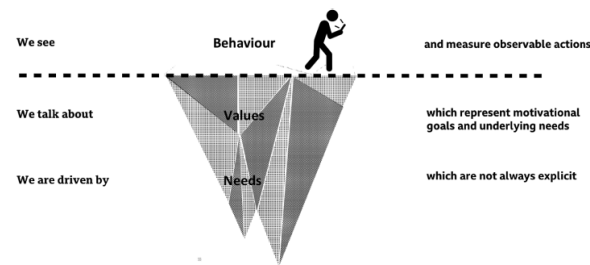


Figure 1. Visual of interaction between human needs, values and behavior by Kerlin (2019) [6].

This brings us to human needs. When talking about needs we often refer to Maslow's hierarchy of needs, however the paper by Sheldon, Elliot Kim and Kasser (2001) suggest this can be brought back to four key needs: autonomy, competence, relatedness and self-esteem [12].

Reflection

The papers on the transformation economy or 4th paradigm gave me a whole new perspective on UX. Clarifying what activities and elements belonged to what type of economy and concluding we need a more holistic view on design considering the whole context we are designing in (and not for). It made me realize how future proof the department of Industrial Design is trying to make us as designers with their program. They

implemented many of the elements mentioned in discussing the transformation economy, and introduced us to all the tools and methods proposed already. In that sense a lot of elements fell into place while reading these two papers.

The paper about human values [6] felt like an important notion of values that should be stuck in the back of my head. Not only when designing, but certainly when co-designing with potential users. A technique I am not experienced in, but want to improve on. I decided to also read the paper on psychological needs to deepen this knowledge, and revealing four most important underlying needs [12]. Needs I can now more easily identify when doing co-design or analysing results. The paper and visualization by Kerlin (2019) (figure 1.) also helped to now better distinguish needs and values from one another.

Context mapping and design probes

The paper on codesign by Sleeswijk Visser (2005) contains a hands-on strategy how to apply contextmapping. The process includes a preparation where the (research) designer sets goals. Then the sensitization phase starts where participants are confronted with the topic in, for example a diary study to make sure they are reflecting on their behaviour and prepared for the sessions which follow. The sessions can take place in groups, in pairs or individually creating, for instance a collage or models. The context mapping sessions encourage to reveal more behaviours, needs, values and feelings, as it lets participants walk the research designer through their thought-process in a particular context. After the session, these are analysed and communicated. [13]

Furthermore, a paper on design probes was offered. This revealed what elements of a design probe did or did not work in the past and what is communicated to a participant in a particular study-setup with design probes. This makes the outcome of the study a bit more predictable. [16]

Reflection

In my bachelor I did a course on evaluation methods, which were mentioned in the literature list. So I decided to (re)read them to refresh my memory, however I focussed more on the papers about contexts mapping and design probes as these were unfamiliar and presented me with new techniques fitting my goals for this course. The paper about context mapping [13] triggered me, as I feel like this can reveal things to (design) researchers about human behaviour that are unexpected. Something I currently miss in many other new scientific papers, as ethic boundaries are getting sharper. Giving a lot of control to the potential user in this type of codesign sessions, leaves room for showing uncovered needs, values and feelings, and opens research up for more (often extra) unexpected findings. Additionally, I felt that the paper about design probes [16] shows why certain probes did or did not work, which gave me some practical insights to revisit and apply in for possible future work.

Week 2.

Design with empathy

Empathy of a designer towards a user can be represented in a empathy framework of four phases: discovery, immersion, connection and detachment. With these phases it is important that the designer has a motivation in order to effectively empathize with the user, but also understands when to feel with the user (affective resonance) and when to imagine being the user (cognitive reasoning). Additionally, the designer has to have enough time to empathize as this process cannot be rushed. [7]

The mixed perspectives paper showed a different take on the first, second and third person perspective you can take when empathizing. This entails respectively drawing from own experience (first), co-design with users in context (second) and expert knowledge (third). They argue that transitioning between these perspectives and combining them can lead to deeper insights about your user by empathizing in different ways. [15]

Reflection

I already understood that empathy is essential to understanding the user group you are designing for. My strength lies in this element of designing as I am a social and empathic person. However, I have only recently connected to this personality trait as I felt for a long time it was irrelevant to designing and only 'got in the way'.

The paper on a framework for empathy [7] made me realize that as an empathic designer, you have to consciously step into and out of the user's world in order to effectively design for the context. My strategy has often been to constantly wanting to be a part of the users world in order to empathise, while this paper focusses on the fact that you have to be able to take a cognitive stance every now and then. Empathize without being the other person and also finally leaving the user's world to be helpful. I drew the same conclusion from the paper about mixed perspectives [15]. The perspectives approach is something I have tried in my Final Bachelor Project, which I will discuss later in chapter 4. However, I feel like this could have been more effective using the mixed approach.

Week 3.

The chapter by Montaño & Kasprzyk (2008) explains the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and Integrated Behaviour Model (IBM) and gives insights on what elements should be identified before implementing a behaviour change intervention. Also, this chapter provides questions which belong to the models to ask the target group to get these insights. [9] Kuijer (2017) introduces practice-oriented design, linking the analysis of behaviour, similar to Montaño & Kasprzyk (2008), but linking it back to design. Demonstrating that understanding historic, similar and target practice, can lead to seeing opportunities and consequently finding suitable triggers to enable this behaviour. [8]

This week, the paper about social translucence was also presented to us. Which identifies three elements that are building blocks for social interactions: visibility, awareness and accountability [3]. It shows how to

implement these elements in digital design, to mesh human behaviour.

Reflection

I found myself highly invested in the paper about social translucence [3], since this is relevant for my current research project as well as my vision on design. I am highly invested in how technology can adapt to fit and respect the social qualities of humans, and supporting inclusivity (in the sense of stimulating people to reach out and help on another). Looking at Social Media for example in this day and age, a lot of people feel more socially isolated than socially comfortable. It makes me realize how obnoxious most (social) platforms are to these human behaviours and ignoring the social needs of humans. Rather to exploit them where possible for company profit, preferably through addiction.

Furthermore, the chapter on Integrated Behaviour Model (IBM) among other models, gave me some insights into what elements to clarify before even starting to intervene with behaviour. I did realize before that people are influenced by for example context and culture, but I never realized you can just plainly ask about it. The chapter gave me clearer hands-on questions to ask to potential target users before designing to get deeper understanding of their behaviour. [9]

4. INTEGRATION OF NEW INSIGHTS IN EARLIER PROJECT WORK DONE

Final Bachelor Project – 'Lichtje'

In my Final Bachelor Project (FBP), I created a new ritual experience for people in a care-home. The question of the care-home was to design something that could take the place of the candles in the silence room, since people with certain neuro-physiological diseases like Dementia, were also using the room and creating dangerous situations. The result was the design of 'Lichtje', a design-concept for people using the silence-room in the care-home to light a candle in remembrance of loved once. Moving away from candles, but keeping the peaceful nature feeling to the design and an interaction resembling the interaction with a candle (figure 2.).



Figure 2. Impression of the design concept Lichtje

While designing, I asked for help and feedback from the elderly people in the care-facility. A co-design session was set-up to come up with ideas for a new item to replace the candles. People were more close minded than I anticipated for and very little showed up to participate. In the end the managers of the care-facility provided their feedback, and evaluated my design-concept of Lichtje instead.

Improvements

Even though I did take various perspectives in this project, I would now pick the mixed perspectives approach [15]. I was not aware that shifting between or combining multiple perspectives would have given me deeper insights and made it easier to de-attach when necessary to create better designs. In this project my

designs kept a character close to the original interaction with candles as I felt like the potential users did not enjoy having to learn new things or were even unable to. Following a framework like the ‘stepping in and out of the user’s life’ [7] would have also improved the quality of my designs, by more consciously empathizing with the user in some phases while de-attaching in others. Perhaps providing recognizable yet different interaction in the silence room.

Secondly, I would adapt my set-up for co-design sessions. The steps of the framework of contextmapping [13] by sensitizing the user first would have worked way better to involve the target-user. A diary study or perhaps a drawing book of their actions would have given me more involved participants for the co-design and creations sessions, and would possibly also have led to deeper insights in the reason for people’s behaviour. Asking feedback from stakeholders like the management, would still be part of my process as this provides a more holistic picture. Although, I do realize after this course that feedback from stakeholders that are not the main user, should not be used in a central role.

Finally, relating this back to values and needs, I mainly observed behaviour, recorded and analysed it. Using what I know now, I would categorizing findings by the fourteen human needs [6] and the four underlying key values of autonomy, competence, relatedness and self-esteem [12]. Even if I mentioned them in my report back then, I realize now that I would have a more structured approach, relating it back to theory.

UX PROPOSITION

My aim as an industrial designer is to design empathic, behavioural changing experiences for real-life context. For this I want to focus on designing for societal issues which leads to a user to design for. Keeping an holistic view, focusing on the user, the context and think about issues through a system.

I want to be a part of a R&D team which allows me as an empathic designer, to apply empathic frameworks and tools from the beginning to the end of the design process.

As a designer in the RDD track, in my future projects I will therefore strategically apply empathy frameworks to empathize and de-attach from users, to create stronger UX. Using context mapping as one of my main tools and a mixed perspectives approach is what I think will offer deeper and more meaningful results to create a more fitting and pleasing UX at the end. Finally, I will continue to expand my knowledge on human behaviour and relate it back to the human needs and values introduced to me in this course and literature. I believe that the more I know, the more the empathic designer in me can grow.

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- [4] Gardien, P., Djajadiningrat, T., Hummels, C., & Brombacher, A. (2014). Changing your Hammer: The Implications of Paradigmatic Innovation for Design Practice. In International Journal of Design (Vol. 8, Issue 2, pp. 119–139) [Journal-article].

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- [10] Pettersson, I. (2018). Eliciting user experience information in early design phases: The CARE approach to in-vehicle UX [PhD]. Gothenburg, Sweden.
- [11] Roto, V., Law, E. C., Vermeeren, A. P., & Hoonhout, J. (Eds.). (2011). *User Experience White Paper:: Bringing clarity to the concept of user experience* [Outcome of Dagstuhl Seminar 10373: Demarcating User Experience.]. <https://experiancesocietysociety.org/wp-content/uploads/2023/01/UX-WhitePaper.pdf>
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- [16] Wallace, J., McCarthy, J., Wright, P. C., & Olivier, P. (2013). Making design probes work. CHI '13: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. <https://doi.org/10.1145/2470654.2466473>

APPENDIX A. READING ACTIVITIES

All references that are orange are read, the ones in **bold orange** were obligatory reading materials for the course.

WEEK 1.

User Experience, needs, paradigms, value based design

- Roto, V. et al (2011) User Experience White paper <https://experianeresearchsociety.org/wp-content/uploads/2023/01/UX-WhitePaper.pdf>
- Hassenzahl, Marc (2011). Encyclopedia entry on User Experience and Experience Design. from Interaction-Design.org: <https://www.interaction-design.org/literature/book/the-encyclopediaof-human-computer-interaction-2nd-ed/user-experience-and-experience-design> Interesting introduction to academic UX including some video introductions
- Ilpo Koskinen (2023) Design, Empathy, Interpretation: Toward Interpretive Design Research, MIT Press http://direct.mit.edu/books/book-pdf/2157927/book_9780262376877.pdf
- Pettersson, Ingrid (2018) , chapter 2 Related Theory, from Eliciting User Experience in Early Design phases. PhD thesis, Chalmers University of Technology, Gothenburg. This chapter contains a recent and valuable overview of theory and different methods for UX and empathic design that are used in academia and industry.

Values and stakeholders

- Brand, R., & Rocchi, S. (2011). Rethinking value in a changing landscape. A model for strategic reflection and business transformation. A Philips Design paper. https://www.researchgate.net/publication/272941478_Rethinking_value_in_a_changing_landscape_A_model_for_strategic_reflection_and_business_transformation
- Lianne Kerlin (2019), Human values: understanding psychological needs in a digital age. BBC Research & Development <http://downloads.bbc.co.uk/rd/pubs/whp/whp-pdffiles/WHP371.pdf>
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More-than-human experience design

- **Brand, Reon (2019) Co-Emerging Futures A model for reflecting on streams of future change.** https://www.researchgate.net/publication/333972702_Co-Emerging_Futures_A_model_for_reflecting_on_streams_of_future_change Anthropocentric bias, posthumanism, alternative futures.
- Wakkary, Ron (2021), Things we could design; For more than Human-Centered Worlds, MIT Press. Replace *human subjectivity* for a *relational subjectivity*: beings are not independent entities but defined by the relations they form in the world, i.e. to always think-with other humans, technologies, things, plants and animals in dynamic relations.

Evaluating User experience

- **Ozcelik Buskermolen, D. and Terken, J.(2013); The co constructing stories method, in Design through exploration, pp 25-34. Available on Canvas.**
- User Experience Questionnaire <https://www.ueq-online.org/>
- Schrepp, M.; Hinderks, A. & Thomaschewski, J. (2017). Construction of a benchmark for the User Experience Questionnaire (UEQ). International Journal of Interactive Multimedia and Artificial Intelligence, Vol. 4, No. 4, pp. 40-44. Show on Research Gate
- Attrakdiff questionnaire, for instance <https://www.uid.com/en/publications/attrakdiff>

- Evangelos Karapanos. 2010. Quantifying Diversity in User Experience. Thesis Industrial Design TUE, DOI: <https://doi.org/10.6100/IR658635> Overview of elicitation methods focusing on interpersonal diversity and long term experience.

Context Mapping and Design Probes

- Visser FS, Stappers PJ, van der Lugt R, Sanders EB-N (2005) Contextmapping: experiences from practice. CoDesign 1:119–149. <https://doi.org/10.1080/15710880500135987>

- Bill Gaver, Tony Dunne, and Elena Pacenti. (1999). Design: Cultural probes. Interactions 6, 1. DOI: <https://doi.org/10.1145/291224.291235>

- Jayne Wallace, John McCarthy, Peter C. Wright, and Patrick Olivier. (2013). Making design probes work. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. DOI: <https://doi.org/10.1145/2470654.2466473>

WEEK 2.

Empathy Theory

- Zaki, J. (2014). Empathy: a motivated account. Psychological bulletin, 140(6), 1608. <https://progressiegerichtwerken.com/wp-content/uploads/2015/10/Zaki-Empathy-a-motivatedaccount.pdf>
Excellent, recent review of empathy. NOTE: Do not read this from A to Z, but try to get an impression of the main parts of how Zaki defines, models, structures, and positions empathy (e.g., relates it to motivation and intention, construction of empathy).

Design with Empathy

- Kouprie, M., & Sleeswijk Visser, F. (2009). **A framework for empathy in design: Stepping into and out of the user's life.** Journal of Engineering Design, 20(5), 437-448. doi:10.1080/09544820902875033 <https://studiolab.io.tudelft.nl/manila/gems/sleeswijkvisser/koupriesleeswijkemp.pdf>

- Stephen Lindsay, Katie Brittain, Daniel Jackson, Cassim Ladha, Karim Ladha, and Patrick Olivier. 2012. **Empathy, participatory design and people with dementia.** In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12). Association for Computing Machinery, New York, NY, USA, 521–530. <https://doi.org/10.1145/2207676.2207749>

- Sydney Pratte, Anthony Tang, and Lora Oehlberg. 2021. **Evoking Empathy: A Framework for Describing Empathy Tools.** In Proceedings of the Fifteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '21). Association for Computing Machinery, New York, NY, USA, Article 25, 1–15. <https://doi.org/10.1145/3430524.3440644>

- Luce Drouet, Froukje Sleeswijk Visser, and Carine Lallemand. 2023. Using Empathy-Centric Design in Industry: Reflections from the UX Researcher, the Client, and the Method Expert. In Proceedings of the 2nd Empathy-Centric Design Workshop (EmpathiCH '23). Association for Computing Machinery, New York, NY, USA, Article 10, 1–9. <https://doi.org/10.1145/3588967.3589130>

Please read the following papers in preparation for the workshop in week 2:

- Smeenk, W., Sturm, J., & Eggen, B. (2017). **Empathic Handover: How would you feel? Handing over dementia experiences and feelings in empathic co-design.** CoDesign: International Journal of CoCreation in Design and the Arts, 1–16. Taylor & Francis. <https://doi.org/10.1080/15710882.2017.1301960>

- Smeenk, W., Tomico, O., & van Turnhout, K. (2016) A Systematic Analysis of Mixed Perspectives in Empathic Design: Not One Perspective Encompasses All. International Journal of Design [Online] Available: <http://www.ijdesign.org/index.php/IJDesign/article/view/2543>

Design Thinking

- Norman, D. A., & Verganti, R. (2014). Incremental and radical innovation: Design research vs. technology and meaning change. Design Issues, 30(1), 78-96 https://doi.org/10.1162/DESI_a_00250 Interesting discussion on design research for either User Centred Design or Radical Design. After reading this paper, consider (again) what good methods for empathic design are.

- “Design thinking is generally defined as an analytic and creative process that engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign” Razzouk, R., & Shute, V. (2012). What is design thinking and why is it important?, Review of Educational Research, Vol. 82, No. 3, pp. 330–348, DOI: 10.3102/0034654312457429 <https://journals.sagepub.com/doi/10.3102/0034654312457429> <https://www.interaction-design.org/literature/topics/design-thinking> Clear introduction and many references to IDEO / Stanford

Design Thinking, embracing empathy for users and stakeholders and the (social) context as the first phases in a design process. Applicable as “problem solving” strategy for wicked problems and multiple stakeholders.

- Leonard & Rayport - Spark Innovation through Empathic Design. Harvard Business Review, November - December 1997
https://www.researchgate.net/profile/Dorothy_Leonard/publication/13122911_Spark_Innovation_Through_Empathic_Design/links/55ddc9ee08aeaa26af0f1a0d/Spark-Innovation-Through-Empathic-Design.pdf

Week 3.

Behaviour and practices

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