Tutorial on UCD Sprint: Inclusive Process for Concept Design

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ABSTRACT

Integrating User-Centred Design (UCD) methods into the first phases of software development projects has its challenges. A new process called the User-Centred Design Sprint process, UCD Sprint for short, has been suggested to support the project team during concept design. The tutorial introduces the UCD Sprint process, and participants practice two less-known methods that are part of the sprint: the User Group Analysis method and stating user experience goals. By the end of the tutorial, participants know why, when, and how to use the UCD Sprint process. This tutorial appeals to researchers and developers working in the concept design phase of designing software products, focusing on users that might be different from the developers.

CCS CONCEPTS

• **Human-centered computing** → Human computer interaction (HCI); HCI design and evaluation methods; Human computer interaction (HCI); HCI theory, concepts and models..

KEYWORDS

User-Centred Design, User-Centred Design methods, Design Sprint, Software Design, Concept Design

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1 INTRODUCTION

Developing software based on an inappropriate or incomplete understanding of users' needs is one of the major sources of software failure [1]. Developing software for user groups unlike the developers, for instance for lay users, that have difficulties in using software systems, is outlined as a particular challenge since a large part of the development is conducted by a homogenous group of young developers who tend to have a rather narrow understanding of the end users [2]. The developers take the point of departure from their own needs and disregard to a large extent the more heterogeneous user groups, such as frail users, edge cases, or complex needs [2]. As a result, the digitally challenged population in Denmark is estimated to be up to 22% [3] and the numbers in the other Nordic countries have been reported to be similar, yet the exact numbers are unconfirmed.

The new User-Centred Design Sprint, UCD Sprint for short, was proposed by HCI researchers from Finland, Iceland, Denmark, and Estonia in 2021 [4]. It is a fast and cost-effective process to define what to design in the early stages of software development, especially focusing on concept design. The UCD Sprint process was developed through three editions of an intensive interaction design course, focusing on UCD methods in the first edition of the course [5] and integrating the Google Design Sprint process [6] and UCD methods in the second and third editions of the course [7]. In all course editions, students with different backgrounds worked on concept design challenges in teams. After the last edition of the course, the students evaluated the process to be fast, focused, and structured, but when used in education, the teachers need to remember to reserve time for reflection [4]. The UCD Sprint process is based on the experiences gathered through these three editions of the course by asking students to give both quantitative and qualitative feedback on the course content, the structure, and the learning environment. Additionally, an introductory course on the UCD Sprint process was given at the INTERACT 2021 conference [8]. In the UCD Sprint, the step-by-step process of Knapp's design sprint [6] is modified and combined with a user research phase that the HCI community knows from User-Centred Design [1]. It is an inclusive process, as the step-by-step process also allows non-designers to participate in the concept design process.

The process has a well-defined structure of 18 steps in 3 phases: The Discovery phase, the Design phase, and the Reality Check phase. Representatives of the target user group are involved three times during the UCD Sprint: First during interviews in the Discovery phase, then two times in the reality check phase: during paper prototype testing, and during user testing of an interactive prototype. Specific methods have been developed and integrated to UCD Sprint in order to pay ample attention to the users' needs at the early stages of the software development project: User Group Analysis method, setting UX goals, and prototyping. Each step of the process builds on the results of the previous steps. An overview of the UCD Sprint is depicted in Figure 1.

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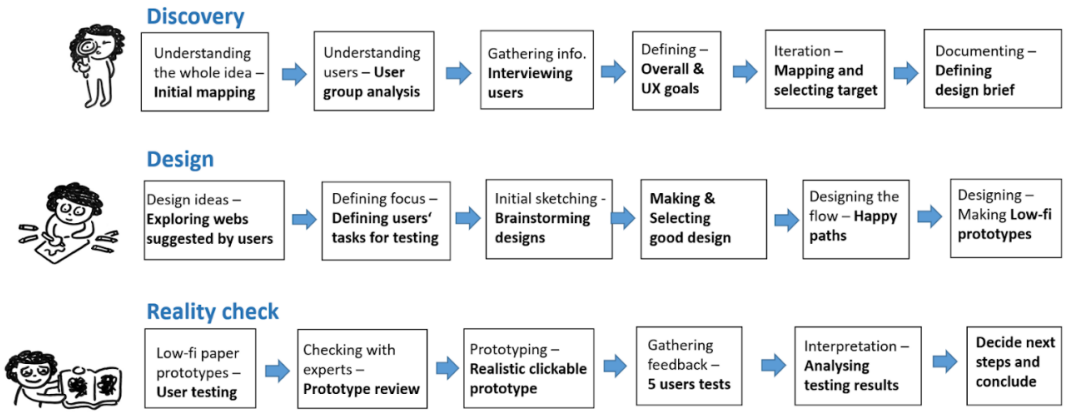

Figure 1: An overview of the 3 phases and the 18 steps in the UCD Sprint (images ©Might Could Studios)

2 INTENDED AUDIENCE OF THE TUTORIAL

The intended audience of this tutorial includes:

- Lecturers in interaction design, interested in including a User-Centred Design Sprint approach in their teaching
- IT professionals that are interested in learning about the user-centred way of running a design sprint
- Researchers and students interested in rapid user-centred design methods

We assume the participants to have some prior experience in prototyping and evaluations with users. It is beneficial if the participants are familiar with design sprints, but it is not a prerequisite.

3 STRUCTURE OF THE TUTORIAL

In this NordiCHI tutorial, we explain the structure of the UCD Sprint process, when to use the process, and whom to invite to attend the UCD Sprint. Participants practice two less-known methods that are part of the UCD Sprint: the User Group Analysis method (step 2) and setting UX goals (step 4). At the end of the tutorial, there is time for discussions on how to use the UCD Sprint in various types of projects. The tutorial is scheduled in two sessions and the content of each session is described below.

Session 1 (80 minutes):

- Introduction to the tutorial schedule and the presenters (10 minutes).
- Introduction to the User-Centred Design Sprint process (20 minutes).
- Introduction to the User Group Analysis method - one of the methods in the UCD Sprint process. Participants do a short exercise using the User Group Analysis method (30 minutes).
- Discussing the benefits of the user group analysis (20 minutes).

BREAK (20 minutes)

Session 2 (80 minutes):

- Introduction to UX goals, which is another UCD method in the UCD Sprint process. (20 minutes).
- Participants do a short exercise on stating UX goals (20 minutes).
- Introduction to how the process could be used in industry and research (20 minutes).
- Q/A session at the end (20 minutes).

4 INSTRUCTORS

Marta Larusdottir is an associate professor in the Department of Computer Science at Reykjavik University. She has taught HCI courses in Iceland for over 20 years and participated in teaching HCI courses internationally. She was one of the proposers of UCD Sprint and the responsible teacher of a two-week course when it was taught in Iceland in 2018. In her teaching she wants the students to be active in solving projects and understanding the material through developing skills. She was also one of the proposers of the UCD Sprint course at INTERACT 2021 [8].

Virpi Roto is a Professor of Practice in Experience Design in the Department of Design, Aalto University, Finland. She has 20+ years of experience in user-centred design both in industry and academia. She was one of the original proposers of User-Centred Design Sprint and the responsible teacher of a two-week course when it was taught in Helsinki in 2019. She was also one of the instructors in the UCD Sprint course at INTERACT 2021 [8].

Rosa Lanzilotti is an associate professor in the Department of Computer Science at the University of Bari (UNIBA), Italy. She teaches and has taught HCI courses both for bachelor's and master's degrees. She is also a member of the IVU (Interaction Visualization Usability and UX) Lab at UNIBA, where she coordinates the research on Usability Engineering and UX, which aims at promoting the use of usability and UX practices in software development processes in industry and public institutions.

Ioana Visescu is a PhD student in the Department of Computer Science at Reykjavik University under the supervision of Dr. Marta Larusdottir. With a background in business and technology, and an interest in user experience, her research focuses on Design Sprints and Design methodologies and their applications in academia.

REFERENCES

[1] International Organization for Standardization. 2019. Ergonomics of human-system interaction: Part 210: Human-centred design for interactive systems.

[2] Anna S. Islind. 2018. 'Platformization: co-designing digital platforms in practice', PhD Thesis, University.

[3] Digitaliseringstyrelsen. 2021. Digital inklusion i det digitaliserede samfund, Apr. 2021. [Online]. Available: https://digst.dk/media/24389/digital-inklusion-i-det-digitaliserede-samfund.pdf

[4] Virpi Roto, Marta K. Larusdottir, Andrés Lucero, Jan Stage, and Ilja Šmorgun. 2021. Focus, structure, reflection! integrating user-centred design and design sprint, in IFIP Conference on Human-Computer Interaction, 239–258.

[5] Marta Larusdottir, Virpi Roto, Jan Stage, and Andrés Lucero. 2018. Get realistic!-UCD course design and evaluation, in International Conference on Human-Centred Software Engineering, 15–30.

[6] Jake Knapp, John Zeratsky, Braden Kowitz. 2016. Sprint: How to solve big problems and test new ideas in just five days. Simon and Schuster.

[7] Marta Larusdottir, Virpi Roto, Jan Stage, Andrés Lucero, Ilja Šmorgun. 2019. Balance talking and doing! Using Google Design Sprint to enhance an intensive UCD course in IFIP Conference on Human-Computer Interaction, 95–113.

[8] Marta Larusdottir, Virpi Roto, Åsa Cajander. 2021. Introduction to User-Centred Design Sprint in IFIP Conference on Human-Computer Interaction, 253–256.