

Design Thinking and Electronic Prototyping

Week 04



Aalto University
School of Electrical
Engineering

Salu Ylirisku

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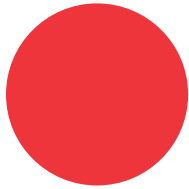
Salu records the lecture

You need to also record your attendance!

Login to MyCourses

> DTEP22 > Assignments > Attendance

Write the password (on side screens)



Course Outline – Period I

1. L: Introductions
 2. L: Design Thinking and Context Mapping
 3. L: Electronics for Experience
 - 4. L: Interactions with Users**
 5. L: Problems and Requirements
 6. L: Design Concept
- SEMESTER BREAK / Exam Week --

Course Outline – Period II

7. L: Prototyping and Testing (25.10.)

8. L: Finalising the Design Concept (8.11.)

Presentation Rehearsals with Susan Gamache (21.-25.11.)

9. Final Presentations (29.11. 10-15, AS2)

Today's learning goals

- **Learn about the significance of involving real potential users of your design in your design process**
- **Learn about several methods for user-involvement**
 - Query
 - Interview
 - Observation
 - Probing
 - Co-design

Next lessons

Interpreting user-study findings

- How would you represent the users? **Personas, templates**
- Is your design problem relevant to them? **Needs**
- Is there something surprising in the findings? **Opportunities**

Involving Users in Design – Why?

Why to involve users?

Key reasons

- **Empathy**
 - Richness of real-life context
- **Inspiration**
 - People may surprise you
- **Facts**
 - Helps you to argue for your decisions
- **Validation**
 - You can check if your ideas make sense for the users

Different levels of involvement

- Query
- Interview
- Observation
- Co-design
- Self-documentation

Query / web forms

- **Using a questionnaire – typically online**
 - Pros
 - Easy to share -> Wide reach
 - Little time required per users -> Many responses
 - Clear formatting -> Easy to make quantitative
 - Cons
 - Rigid -> You only get what you ask
 - Possibly irrelevant -> You might have the wrong questions
 - Context is missing -> You cannot see how things fit

Interview

- **Different forms of interviews**
 - ‘Facing’ a person at a station with quick questions
 - E-mail / Text chat interview
 - Phone interview
 - Contextual interview



<https://vimeo.com/289212203>

Interview – Pros and Cons

Pros

- Can be open-ended and dialogical -> helps to build better understanding of what is relevant for them

Cons

- You only learn what talk about things, not what they actually do or dream of (Sanders & Dandavate, 1999)

Sanders, E. B.-N., & Dandavate, U. (1999). Designing for Experiencing: New Tools. In J. O. C & H. P (Eds.), *Proceedings of the First International Conference on Design and Emotion*. TU Delft TU Delft.

Observation

- **Observation**
 - You go to your user's environment with the user and observe how they do something related to your project topic
 - You may combine this with an interview
- **Participatory Observation**
 - You try to participate in the activity of the user
 - Learning to do what the users are doing



<https://vimeo.com/289212192>

Observation Pros and Cons

Pros

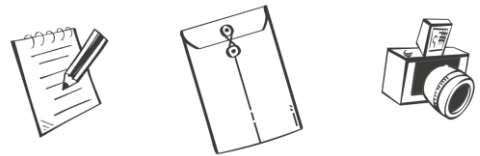
- You can see what people do and get a rich image of the real context

Cons

- Accessing a user's context takes time
- Documentation and interpretation are laborious

Self-documentation (Probes)

- **Give users a diary with tasks**
 - You can ask users to keep a diary about your project-relevant things
 - The diary can include tasks, such as photographing, reflection, drawing, etc.



<https://vimeo.com/289212213>

Self-documentation Pros and Cons

Pros

- **Get data over a longer time period**
- **Get access to contexts you may not enter otherwise**
- **Help people to become more ready for interview**

Cons

- **Takes a lot of time per user**
- **Documentation and interpretation are laborious**

Co-Design

- **Ask users to design with you**
 - Show a sketch and ask the user to change it to their preference
 - Give users 'stuff' to build with – and ask them to design an ideal tool for themselves, something they would find desirable

Co-Design – Pros and Cons

Pros

- Enables dialogue on project-relevant issues and design aspects
- Users can also have a good ideas
- Can be used in any part of the design thinking process

Cons

- Co-design may require a lot of preparation
- Requires facilitation skills/tools to enable users to contribute

How to get users involved – the process

Involving users

- Invitation
- Meeting
- Documentation

Invitation

- **Tell who you are and what is your project about**
- **Tell what would you expect from the users**
 - e.g., to participate in a 30 min interview

Meeting

- **Introduce yourself and your project**
- **Ask users permission for documentation**
 - If you record the meeting (audio or video)
 - If you take photos
- **Tell how you are going to use the materials**
 - i.e., only within your project – and delete identifiable materials after the project
- **Finally – thank the person for participation**

Documentation

- **Write a memo of each interview on the same day (within 24h)!**
 - Your memory fades quicker than you think
- **If you have audio, transcribe it (or parts of it) to text**
 - Sometimes it matters a lot how people talk about their things, and it may be too quick in the situation to capture that
 - It helps in building empathy and for building justifications for your decisions
- **Save the materials in your team's shared place**
 - Do not put identifiable user data in Miro

Data Privacy

Keep identifiable user data confidential

- You can use nick name
- Do not spread identifiable photos (or other identifiable user data), unless you have user's permission to do so
- Do not put identifiable data into Miro (or into other open online platform)
- Remove identifiable materials after the course

Team Exercise – 10 mins

Prepare for interview

Where do you find your user?

And – what would you ask from them?

This week's tasks

1. **Diary – Deadline on Friday 23:59 (delays, -1pt/day)**
2. **Chapter 2 – rest**
 - The Psychology of Everyday Actions
 - Blaming the Wrong Things
 - Falsely Blaming Yourself
 - The Seven Stages of Action: Seven Fundamental Design Principles
3. **Exercises**
 4. Sensor Experiment
4. **Project**
 1. Find users and do the interviews / observations