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Assignment 9.1: Usability Testing (3+3p)

[Mandatory with a bonus point]

In this assignment, we practice *usability testing* with a single user [Note that if recruiting a user, be that a friend or colleague, is impossible, you can find a way to conduct the study yourself.]. The assignment includes pre-readings, test design, execution, and reporting. It is a miniature version of a paradigm used extensively in the industry. The goal is to understand the key choices and main concerns when planning and running a usability test.

Pre-reading: Kasper Hornbaek 2013 (attached in MyCourses)

Preparations: Pick one *Mobile UI* and two representative tasks for test. Pick an interface that you are familiar with but your participant may not be. After designing your test, you will need to find a participant and a quiet place (your "lab").

Your task is to 1) design an appropriate usability test, 2) conduct it with 1 participant, and 3) report the results.

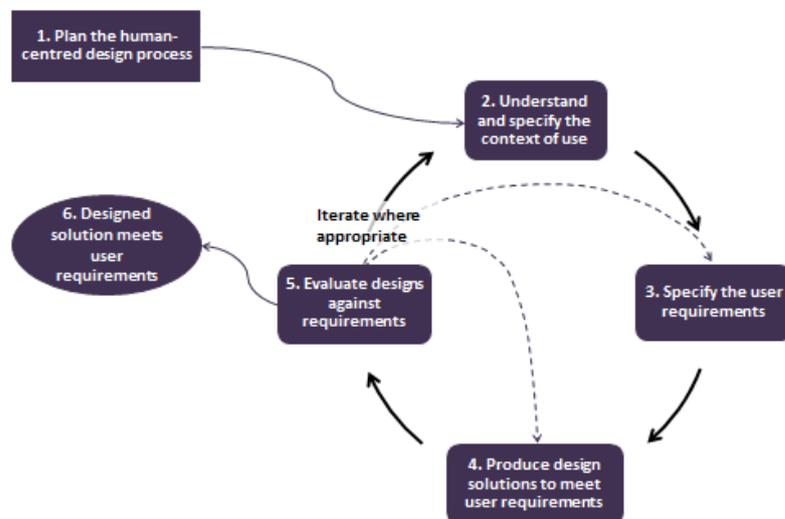
Tips: You will have to choose measures and experimental conditions for your usability test that are appropriate for your UI. What are the 1-2 most relevant metrics? What kinds of threats to validity may occur that you want to eliminate? Pick it/them carefully and justify them. Also, ensure you can measure those properly and that you are not overwhelmed by data. Similarly, you will have to choose where and how you run the study etc. Note that the pre-readings contain points you may not need to worry about (e.g., how to find participants).

Report: In your PDF report, report

1) the UI and the tasks, justifying why the picked tasks are *representative*;

- 2) the usability method, including as separate subsections 1) the participant, 2) the tasks, 3) the measures, 4) the procedure, 5) experimental design, and 6) the lab conditions. Include a photo of the setup in the report; Also, list 1-3 main threats to validity that are relevant and present a way to address them by means of experimental control;
- 3) your obtained data and results, reported one metric at a time;
- 4) your conclusion about the usability and
- 5) 1-2 most useful recommendations for improving the design *that are based on your data*.

Bonus points available: You can get max 4 points for a test that uses speed- (e.g., task completion time) and accuracy (e.g., error) related usability metrics, and a maximum of 6 points for a test that also reports think aloud (verbal protocols) or user experience (e.g., questionnaires) based metrics. Extra points may also be awarded for thoughtful discussion of methodological choices.



A9-2: Planning a Human-Centered Design Project (5 p) [Optional]

Context: The first part of this assignment 1) focused on user research and 2) was meant to sensitize you to the breadth of methods available there. This assignment asks you to re-think a project as a whole, not just user research, and improve on your *reasoning about the choice of methods*.

Goals and task: The goal of this task is to plan a hypothetical human-centred design project. To prepare, pick the UI you analysed in A9-1 (usability testing), and look at it critically from the perspective of what you learned about its usability. How could you organize a project that improved its design? Let us assume a project of 4 months and consisting of 2 professionals, the backgrounds of which you can decide.

Your task: Your task is now to make a plan for the project. You should follow the main phases 2-6 in the ISO 9241-210 standard on human-centred design (main diagram above). Your task is to pick methods for each phase and justify them.

Report: In your written (PDF) report:

- 1) introduce the UI using a screencapture; describe its usability problems, recapping your findings from A9-1.
- 2) describe the objectives of your project in more detail;
- 3) then, report a plan for your project, phase by phase (2-6 above in the diagram). Name each section according to the corresponding phase and list the methods you would use. Template below. Avoid listing too many methods "just to be safe". For each method, briefly (4-5 sentences) explain 1) why you picked it (see the part on Research Strategy on slides), 2) how you would apply it, 3) what you expect to receive as results, and 4) how you would use those results to inform your decisions in the rest of the project.

Report sections

Problem description: The UI and its problems

Project objectives

Phase: Understand and specify the context of use

Phase: Specify user requirements

Phase: Produce design solutions

Phase: Evaluate designs

Phase: Confirm that design meets specifications

Conclusion