A7: Refined High-Fidelity Prototype & Usability Study Instruments

Group assignment
Due: Thursday, 15 March before 6:00 pm
Submit on MarkUs: https://markus.teach.cs.toronto.edu/csc318-2018-01
Worth: 5% of your final grade

The purpose of this assignment is to refine your high-fidelity prototype based on insights gained through your internal heuristic evaluation conducted in A6, and prepare for the formal evaluation study with users. You will develop the **second iteration** of your **high-fidelity prototype** that addresses usability violations that you identified in A6, and **develop, pilot and refine usability study instruments** for the formal evaluation of your design with users.

You will **run a pilot** of your usability study in class, on March 13, and **refine your instruments** based on insights gained during the pilot. You will conduct your study with real users in A8.

Your Tasks

- Develop a second iteration of your high-fidelity prototype(s).
- Develop, pilot (in class) and refine usability study instruments for the formal evaluation with users.

Refining High-Fidelity Prototype(s)

Using the master list of violations developed in A6, propose a solution to every one of these violations. Incorporate your changes in a second iteration of your high-fidelity prototype(s).

Prepare a **write-up** that includes a description of your solution and it how addresses the problem identified, **for each violation** in your master list (which should already be organized by screen in A6). **Show** the changes you made to your high-fidelity prototype based on your heuristic evaluation (i.e. first vs. second iteration of screens, along with descriptive annotations).

Usability Study Instruments

You will be formally evaluating the second iteration of your high-fidelity prototypes with users in A8. Here you are asked to prepare the **usability test protocol** and **research instruments**, for usability evaluating your prototypes. You will **pilot** your research instruments in class, March 13, and further **refine** them based on the insights you gain during the pilot session.

Prepare the documents for your usability testing. These will include:

1. Research Protocol
2. Consent Forms
3. Research Instruments
    - Pre-study questionnaire to gather all relevant demographic data
    - Test scripts including detailed questions you will ask users
    - Observation and performance measurement plans
    - Post-study questionnaire / interview

Your usability test should probably follow the typical test flow:

- **Introduction to the test** participants, purpose of the study, consent form, confidentiality, payment if any, explanation of prototype (what it is and how to use it), setting expectations & rules for the study, promise of data confidentiality, introduction and practicing of the **Think Aloud** protocol,
- **Background demographic questions** verifying that the participant does belong in your target user group and their current practices relate to your problem space
- **Task Performance assessment** which uses specific directed tasks including more open self exploratory tasks – what do you think this system is for and what can you do with it. And also include more structured guided tasks – how would you, for example, “reserve a spot at the BBQ event on Sept 9th at 18:00?”
- **Post test questionnaires / interview** assessing your participants’ user experience and conceptual model. Also assess system functionality against users' priorities, usefulness.

IMPORTANT NOTE

You will have **only a few days** to conduct your evaluation with real users, and write the report of your results (due on March 26).

You are strongly encouraged to plan ahead, and **schedule your real study participants for your evaluation sooner than later**, so that you don't have problems recruiting participants at the last minute. If you encounter difficulties recruiting or scheduling participants, please let your TA and instructor know **well before** the due date for A8.
If your target participants group includes any **special populations** which may be difficult to recruit or assess, make sure to speak to your instructor and TA well in advance of your testing to allow for sufficient planning.

What to submit

1. Refined High-fidelity prototype. A document called `hi-fi-prototype-v2.pdf`, including:

- A **title page** including your names, group name, TA name, etc...
- A **discussion** of the problems that were identified in your heuristic evaluation and how you addressed these problems in your second iteration of your high-fidelity prototype. Include a description of the changes you made to your prototype (i.e. first iteration vs. second iteration, along with descriptive annotations) organized by screen, and violations (i.e. same structure as your master list of violations in A6). You should discuss different alternatives that you considered to resolve the same issue, and how, as a group, you reached consensus. (no page limit, but try to be concise)
- A **link to the second iteration of your hi-fi prototype** (see prototype implementation requirements from A6.)

2. Usability study instruments. A document called `study-instruments.pdf`, including:

- A **title page** including your names, group name, TA name, etc…
- You **usability testing plan** and **usability testing instruments** after corrections resulting from piloting your instruments (no page limit).

3. Project calendar in a document called `calendar.pdf`.

How will it be graded?

Second iteration of your High-Fidelity Prototype (40%):

30% for the discussion of how you addressed violations identified in A5
10% for the second iteration of the hi-fi prototype itself

Usability study instruments (60%):

5% for the research protocol and consent forms
15% for the test scripts
15% for the pre-study questionnaire
10% for the observation and measurement plans during the study
15% for the post-study questionnaire and interview script