CSC-347 Fall 2020

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Functional Prototype and User Evaluation Protocol

Due: Wednesday, November 11, 3pm

See deliverables for other deadlines.

Goal: Develop an initial prototype of your system, conduct a heuristic evaluation, and write a protocol for a user evaluation study.

Action:

1. Working from your paper prototypes, implement an interactive prototype of your system that will enable you to conduct your user evaluation. Note that **your interactive prototype does not need to function like a "final product."** For example, if your designing an iPhone app, maybe you want to create a Java program that mimics how your system would function, but not an actual iPhone app. Or you could develop an iPhone app that has basic functionality but not a completely polished look. Or you could create an interactive website version of your system that would be used on a regular computer rather than a portable device. You could even create an interactive PowerPoint. Think about what you want to evaluate, and be creative about how to make something users can interact with remotely to support your evaluation. When designing your prototype, consider the timeline for this assignment, your team's skills, and the logistics for conducting a remote user evaluation.

2. Conduct a heuristic evaluation of your prototype. To conduct a heuristic evaluation, you walk through the system and identify violations of Nielsen's usability heuristics that we went over in class, and for **each violation**, you create a problem report that includes: (1) a one-sentence description of the problem; (2) what heuristic is violated and why (may be more than one); (3) a rating of the severity of the problem (see: https://www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems/ for how to rate severity); (4) a suggestion for how to fix the problem; and (5) a rating of the difficulty of fixing the problem (high, medium, low). **All team members should (independently) participate in the heuristic evaluation and create problem reports**. Review your findings together, make decisions on what to change, and revise your prototype based on your evaluation.

3. Write a protocol for usability study that includes several tasks with your system (hint: what were your scenarios?). Be sure to include the EXACT script you will use

to give instructions to your participants. You may want to pilot the script on another student in the class. Also prepare your informed consent form (on qualtrics for the study.

4. Create a 10-minute presentation for class that includes a demo of your prototype, a discussion of your heuristic evaluation, and a description of the methods for your user evaluation. Be sure to keep in mind who your audience is (as described in the syllabus) and the class presentation requirements outlined on the syllabus. Your demo can be a pre-recorded video, which is often easier than a live demo.

5. Create a write-up that includes: (1) an introduction to your problem and a claim about the solution; (2) the functionality of your prototype; (3) the implementation of your prototype (i.e., technical description of how it works); (4) the results of your heuristic evaluation and the resulting changes you made to your prototypes; and (5) your proposed methods for your user evaluation. Include and refer to images. Attach your heuristic evaluation problem reports and your protocol for your user evaluation, including a complete script, as appendices. Recall that a scientific write-up should support replication – for this assignment that means someone should be able to recreate your prototype from your description. Your write up should be 6 pages max (not including image/appendices).

6. Reminder: Don't forget to maintain your project journal (see syllabus for details).

7. Note: You will not be working with users for this assignment (except perhaps a classmate to test out your script) but you will be planning your final evaluation. Recall that all meetings with your project group and interactions with users must be done via Zoom or similar – no face-to-face meetings.

Deliverables:

1. Division of labor, schedule, and checkpoints due Friday, 10/16, 11:59pm via Slack (in your group channel). Include checkpoints you will complete by (Wednesdays) 10/21, 10/28, and 11/4. **List each checkpoint separately**. Be sure your checkpoint is specific, quantifiable, and reasonable (i.e., you can accomplish it, but it will reflect progress, and I can clearly determine that it has been achieved).

2. Classroom presentation (10 min). Please be prepared for one member of the group to share their screen with Slides in Zoom. Include a .pdf or .ppt file with your Moodle submission.

3. Written report, including heuristic evaluation problem reports and complete user evaluation protocol with script (as appendices). Submit as one .docx or .pdf file on moodle.

4. Project journal entries (see syllabus for details; include with your submission on Moodle either as part of your written report or a separate file).

For items 2-4, the team member whose name comes first alphabetically should submit in the Moodle assignment submission.

5. Individual reflection (see syllabus for details) submitted individually on Moodle (separate assignment description from the project).

6. Share consent forms with me on Qualtrics.

7. All data collected vial Qualtrics should be shared with me on Qualtrics.

8. All notes from other data collection should be shared with me on Box.

9. All participant IDs should be stored in the separate Box folder.