CSE441 Spring 2013: Assignment 11
Instructor: James Landay

Interactive Prototype #1 (Group)

Due: Tuesday, May 21, 2013

Goals

The goal of this assignment is to learn how to build prototypes of user interface ideas using interactive user interface builders. You will revise your user interface ideas and then use interactive tools to build a running prototype of the design. You will turn in a report and make an in-class presentation this project stage and how you got there.

Interface Redesign

Use the results of your usability tests to design a revised UI. Develop new/revised scenarios (if necessary) for your tasks by storyboarding. The tasks that most of you used in the previous assignment should be sufficient for this. If you are changing your tasks, make an appointment with us to present your new tasks, design ideas, and storyboards for discussion.

Prototyping

You will use a prototyping tool to create an interactive prototype of your application. You will probably use a tool based on the platform (e.g., for Windows Phone use Microsoft Visual Studio, for Android use droiddraw, ADT, appinventor, the Eclipse plug-in, etc. and for iPhone use Interface Builder or something better you've found).

Your prototype should implement the three scenarios that you developed for your tasks. In addition, the design of the prototype should properly account for the size, resolution, colors, and other attributes of your target platform. It is time to apply good visual design principles to your designs. You will lose points on this assignment if the design is still too unprofessional.

The underlying functionality does not have to be *fully* implemented. For example, applications requiring large databases of information can instead have a sufficient number of hard-coded data points for supporting the three tasks.

You have a very short period of time to complete this prototype, so you should focus on showing only what is essential and try to avoid writing code where it is not necessary. You will likely have to make some difficult choices!

Preview of Field Usability Test

In addition to fixing major usability and design problems found in the in-lab usability study and from the comments the teaching staff has given you, you must make sure your prototype will work for an *field usability test* coming up next. You will be performing this test for the next assignment using the prototype you produce from this assignment. (Note: if you change your prototype after turning it in, do not put it up on the web site. We need to grade something dated before the due date for this assignment. You can use the modified version for your field study.) This means that a participant (who is **not** in your group) should be able to use your interface to perform the three tasks outside of the lab environment.

CSE441 Spring 2013: Assignment 11
Instructor: James Landay

Deliverables

1. **Prototype**
   Your prototype must be accessible from your web site/app store. It must be accompanied by a README file that describes any installation requirements and operating instructions, including any limitations in the implementation. The prototype should ideally be executable without installing any additional software.
2. **Report**
   You will submit a report of around four pages of **text** online on your project web site (**images free and required**).
3. **Presentation**
   You will make a 15 minute presentation describing how you got to the new design.

Report

The report should follow this outline with separate sections for the top-level items.

1. **Problem and solution overview (1 paragraph)**
2. **Tasks (1/4 page)**
   - 3 representative tasks to test your interface (simply, medium, complex)
3. **Revised interface design (1 page plus screenshots)**
   - Changes as a result of lab testing and rationale behind the changes (include annotated screenshots before and after for each major change)
     - Sketches for unimplemented portions of the interface
   - Scenarios for 3 tasks
     - Storyboards of scenarios (annotated screenshots)
4. **Prototype overview (2 pages)**
   - Tools
     - Tool used
     - How the tools helped
     - How the tools did not help
   - Overview of the implemented UI (reference figures from next section)
   - What was left out and why
   - Any wizard of oz techniques required to make it work
5. **Prototype screenshots (as many as needed to document entire UI)**

Presentation Guidelines

You will have 15 minutes for this presentation plus up to 5 minutes for questions. Please ***practice*** as we will grade you on how close you are to the time limit (under and over). All team members are expected to work collaboratively on the presentation, though only one should present this time; thus the presentation grade will be based on the content and flow of the slides and not only on the individual presenter(s) themselves.

Suggested Talk Outline:

1. Project title & team
2. Introduction to Problem & Solution
3. Recap of Lab Usability Test Results (3-4 slides)
4. Revised Interface Design (give rationale for each, e.g., study results) (3-5 slides)
5. Prototype Overview
6. Demonstration of Prototype (live or recorded if not possible)
7. Tools Used (& limitations)
8. Summary

Grading

The report and prototype will be graded together (100 pts total):

Design (40 Points)

- Tasks
  - Do the tasks cover the interesting features of the project?
  - Do the tasks have an appropriate difficulty/complexity specified?
  - Do the tasks altogether form a compelling story for the project?
- Changes
  - Were appropriate changes made to address the important problems discovered in the lab evaluation?
  - Are these changes well illustrated with screenshots or scripts?
- Transition from medium fidelity prototype to interactive prototype
  - Were the limitations of the medium-fi prototype addressed?
  - Were appropriate constraints from the final target platform considered?
  - Does the design adequately represent the final target platform?
  - Were any non-standard interactions described and justified?

Prototype (30 pts)

- Is the prototype accessible and working?
- Can users complete the three tasks with the prototype?
- Were appropriate tradeoffs made between functionality and completeness?
- Are the limitations and tradeoffs described and justified in the report?
- Does the README file summarize these limitations and any other details needed?

Report (30 pts)

- Writing
  - Does the report cover all the topics in the outline?
  - Does the organization follow the outline?
  - Are sub-sections used for easy scanning of important parts?
- Screenshots and Storyboards
  - Are important figures referenced and placed inline with the text? *
  - Is there a complete set of screenshots or scripts in the last section?
  - Are screenshots clearly annotated with appropriate captions?

* Use Relevance-Enhanced Image Reduction to create effective thumbnail images.

Presentation (100 pts)

The presentation grading will be broken into two components: the individual grade of the presenter and a group grade for the presentation of the prototype & reasoning. Note that you should use images liberally and try to keep the text on the slides brief (and use large fonts – no less than 20 pt anywhere). The grades for each of these components are explained in more detail below.

Presenter's grades (NAME: _____)

- Suggested Organization
  - ___ Overview of talk (1 slide) – don't read this, tell it like a story
  - ___ Introduction to Problem & Solution (1 slide)
  - ___ Recap of Lab Usability Test Results (1-2 slides)
  - ___ Revised UI Design (give rationale for each change) (3-5 slides)
  - ___ Prototype Overview
  - ___ Demonstration of Prototype (live or video)
  - ___ Tools Used (1-2 slides)
  - ___ Summary of talk (1 slide)

- Presentation
  - ___ Use slides. Ensure that the presentation shows appropriate preparation, and that visual aids are effective, properly prepared, and properly employed. Make sure that people at the back of the room can see your slides.
  - ___ Cover the required scope within the 15 minute time period (there will be 5 extra minutes for questions). **Practice & time your presentation in advance. We will cut you off if you go over and you will not be able to gain points for missed material.**
  - ___ Ensure the presenter makes eye contact and projects well.

Group grade (GROUP NAME: _____)

- Lab Usability Study Results
  - ___ Did they present important results?
  - ___ Where the results clearly explained?
- Revised UI Design
  - ___ Was the interface novel and creative?
  - ___ Did the design changes follow from sound reasoning or study results?
- Prototype
  - ___ Was the demonstration clear in how to use the prototype?
  - ___ Were the key parts of the prototype implemented?
  - ___ Did the prototype follow standards & guidelines for the platform?
  - ___ Was the prototype visually appealing?
  - ___ Were the tools used carefully explained & the limitations illuminated?