

Group Assignment 4: Low-Fidelity Prototyping

Date Assigned: Friday, March 1, 2013

Date Due: Monday, March 11, 2013

Points: 60 pts

Overview

The goal of this assignment is to learn how to use low-fidelity prototyping in the early stages of UI design. You will first build a low-fidelity prototype and then perform a simple usability test. You will incorporate the results of the test into design changes in your prototype for the next assignment.

Requirements

Now that you have had a chance to work with your teammates and develop your project idea, create a team mission statement that describes your goal for the project.

Consider the three tasks you developed in the last assignment. These benchmark tasks should include 1 easy task, 1 moderate task, and 1 hard task and they should give good coverage of your interface. In this assignment you will design a low-fidelity prototype to handle these three tasks and then test your prototype design with a set of users.

Use the techniques described in the "Prototyping for Tiny Fingers" paper as a guideline. You should design your prototype using paper and other simple materials commonly used in grade-school art classes. An index card or a large Post-it is a close approximation of the screen size of a mobile device and prototyping with these can give a good sense of the limited screen real estate you'll have on a real device.

Once you have developed the prototype you will find at least three participants to work through your benchmark tasks. The ideal participants will be members of your specific target user group. Your participants cannot be in this class and they should not be your friends or family members. You should get them to sign an informed consent form explaining the test. Remember it must be voluntary.

Testing Procedure

Have one of your teammates demo the system to show each real participant how they would interact with your prototyped system to complete a simple task (don't use one of your three tasks in this initial explanation). Show participants how the system works in general.

You should write up a script of your demonstration and follow the same script with each participant. Once you have shown participants the demo, explain the first task. **Tell them what they must achieve, but do not explain how to perform the task.** When they are finished, you will explain the next task and so on.

During the experiment, you should make a log of critical incidents (both positive and negative events). For example, the user might make a mistake or they might see something they like and say, "cool". Write it down along with a description of what was going on. Collect all the incidents first (all observers do this). Then go over them again as a group to assign severity ratings. The ratings scale looks like this:

1. I don't agree this is a usability problem.
2. Cosmetic problem
3. Minor usability problem
4. Major usability problem: important to fix
5. Usability catastrophe: imperative to fix

Each participant will perform all 3 tasks. You will want to keep the data separate for each task and participant.

Deliverables

You will submit your printed essay of roughly 6-10 pages through the group site and in class as described below. Your write-up should follow the outline below and will be graded using the writing and experimentation guidelines detailed below.

- Each team member's name and role in this assignment
- Introduction and mission statement (1/4 page)
- Prototype description, with sketches and a picture of the entire system (1-2 pages)
- Method
 - Participants (1 paragraph)
 - Environment (1 paragraph)
 - Tasks (1 page)
 - Procedure (1 page)
 - Test Measures (1/2 page)
- Results (1 page)
- Discussion (3/4 page)
- Appendices (as many pages as necessary - link from text into the appendices)

Writing and Experimentation Guidelines

- **Introduction and Mission Statement (6 pts):** Briefly introduce the system being evaluated. State the purpose and rationale behind the project as well as the experiment you are conducting. Then, present your mission statement. The mission statement should represent the common purpose and goal of the project. Each member of the team should agree on and be committed to achieving the mission statement. Describe the role of each team member for this assignment.
- **Prototype (12 pts):** Describe your prototype. Reference sketches of the interface screens in your description. Finally, submit an image file of the entire system with all of its elements laid out.
- **Method (12 pts):** Describe the participants in the experiment and how they were selected. Also describe the testing environment and how the prototype and any other equipment were set up.

Describe some details of your testing procedure. This should include the roles of each member of the team. To prepare for the experiment, you should assign team members to the different tasks (i.e., greeter, computer, facilitator, observer, etc.) and practice with someone playing the participant. The test measures detail what you looked for or measured during the experiment. You should concentrate on process data (i.e., what is happening in the big picture) in addition to bottom-line data (i.e., time or number of errors).

- **Results (12 pts):** Summarize the results of the experiment from your data.
- **Discussion (12 pts):** Discuss your results. What did you learn from the experiment? How will the results change the design of your interface? Was there anything that the experiment could not reveal?
- **Appendix (6 pts):** The appendix should include copies of all materials involved in the experiment. This includes the consent form, demo script, and any instructions or task descriptions you handed out or read out loud to your participants. Finally, it should include all the raw data you gathered during the experiment. Merge the critical incidents logged by the observers and list them here. The appendix materials and screenshots do not count in your 6-10 page total.

Turn in a hard copy of this assignment at the beginning of class on the day that it is due.