

## Low-fi Prototyping and Usability Testing (Group)

***Due: Thursday, November 15, 2007***

### Overview

The goal of this assignment is to learn how to use low-fi prototyping in the early stages of UI design. You will first build a low-fi 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.

Your low-fi test will use the **three (3)** tasks that you turned into scenarios in the last assignment (unless we ask that you change them). These benchmark tasks should include 1 easy task, 1 moderate task, and 1 hard task. These tasks should give good coverage of your interface.

Design and construct your low-fidelity prototype. Use the techniques described in the Snyder chapter as a guideline. Your low-fi prototype will be made on **paper**.

You will find *at least three (3)* participants to work through your benchmark tasks. You should not use friends or other members of the class. The type of people you use should be based on your contextual inquiry. Remember it must be voluntary. You should get them to sign an informed consent form saying the test will be confidential (see an example form at [http://www.cs.washington.edu/cse440/assignment\\_files/consent-form.htm](http://www.cs.washington.edu/cse440/assignment_files/consent-form.htm).)

### Testing Procedure

Have one of your teammates demo the system to show the real participant how they would interact with your prototyped system. Do not show your participants exactly how to perform your tasks. Just show how the system works in general and give an example of something specific that is different enough from your tasks.

You should **write up a script of your demo** and follow the same script with each participant. The participant will then be given task directions for the first task that tells them what they are trying to achieve, **not** how to do it. When they are finished, you will give them the directions for the next task and so on. Keep each task on a separate **card**.

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. Later you should prioritize these events and assign **severity ratings** to the problems (use the ratings we discussed in the Heuristic Evaluation lecture – 0 for no problem to 4 for usability catastrophe).

Each participant will perform all 3 tasks. Keep the data separate for each task and participant.

## Deliverables

You will write up your design, experiment, and results, *put the report online on your new web site*, and one member of your team will make an in-class presentation.

### *Written Report*

You will submit **two copies** of your printed essay of *no more than 6 pages* of text in class (images are free). **You must also put a copy of the essay online**. Your essay should follow the outline below and will be graded using the guidelines detailed at the end of this handout.

1. **Title**, each team member's **name, role**, and a **URL** to an online copy of this essay
2. Introduction and Mission Statement (1/4 page)
3. Prototype description, with sketches and a picture of the entire system (1 page)
4. Method
  1. Participants (1 paragraph)
  2. Environment (1 paragraph)
  3. Tasks (1/2 page)
  4. Procedure (1/2 page)
  5. Test Measures (1 paragraph)
5. Results (3/4 page)
6. Discussion (3/4 page)
7. Appendices (as many pages as necessary - link from text into the appendices
  1. include all forms handed out to participants
  2. include raw data (cleaned up)
  3. include any extra figures that don't fit in the body

hint: put images inline (i.e., where they belong in the text) along with a caption and figure number (reference the figure number in the body of the report).

### *Web site*

Create a group web site to display your project materials. It should include the project title, group members (optional), a 1 paragraph description of your group project, an image or logo representing your idea, and links to your reports for the project proposal, contextual inquiry, video prototype, and this assignment. Include the link to this assignment with your report.

### *Class Presentation*

One member of your team will present your project in class during a **six** minutes PowerPoint-based presentation. See the grading guidelines for information on how to structure your talk. Practice in advance! You must **make the slides available for download on your web site**. Look at the final presentations from this class in 2006 to see what good slides look like (they are now online).

## ***Writing and Experimentation Guidelines***

### **Introduction and Mission Statement (10 pts)**

Briefly introduce the system being evaluated, and state the purpose and rationale behind the experiment. Then, present your *mission statement*. As described in *The Discipline of Teams*, 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.

### **Prototype (20 pts)**

Describe your prototype. Reference sketches of the interface screens in your description (scan them in). Finally, take one picture of the entire paper-based system with all of its elements laid out.

### **Method (20 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., computer, facilitator, 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 # of errors).

### **Results (20 pts)**

Summarize the results of the experiment from your process data.

### **Discussion (20 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 (10 pts)**

The appendix should include copies of *all* materials involved in the experiment. This includes your 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 process 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 page total.

## **Presentation Guidelines**

The presentation grading will be broken into two components: the individual grade of the presenter and a group grade for the presentation of the study results & initial UI design ideas. 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)
  - \_\_\_ Overall problem & solution (1 slide)
  - \_\_\_ 3 representative tasks (1 slide)
  - \_\_\_ Lo-fi prototype structure (1 slide – mainly images)
  - \_\_\_ 3 scenarios shown carrying out each task w/ lo-fi (1 slide + animation/each)
  - \_\_\_ Experimental method (1 slide)
  - \_\_\_ Experimental results (1 slide)
  - \_\_\_ Suggested UI changes (1 slide)
  - \_\_\_ 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 6 minute time period (there will be 2 extra minutes for questions). **Practice & time your presentation in advance as we will cut you off if you go over and you will not be able to gain points for uncovered material.**
  - \_\_\_ Ensure the presenter makes eye contact and projects well.

### **Group grade Presenter's grades (GROUP NAME: \_\_\_\_\_)**

- Representative Tasks & Scenarios
  - \_\_\_ Did they provide coverage of the functionality?
  - \_\_\_ Where the tasks too easy or too hard?
- Lo-fi Prototype
  - \_\_\_ Was the interface novel and creative?
  - \_\_\_ Was it appropriate for the supported tasks?
  - \_\_\_ Did it follow from sound reasoning?
- Experiment
  - \_\_\_ Was the experiment carried out in a sound manner?
  - \_\_\_ Were the results given in sufficient detail to understand what occurred?
  - \_\_\_ Were the suggested UI improvements sound & follow from the results?