

# Pilot Usability Study (Group)

**Due: Tuesday, April 30, 2013**

## Goals

The goal of this assignment is to learn how to perform a simple usability study. In practice, this “pilot” study would be used to redesign your experiment before running the study with a larger pool of participants. You will perform the study using your high fidelity prototypes that you built in your last assignment. The new UI you designed for that prototype and the results of the usability study will be presented in an in-class presentation. You will incorporate the results of the test into design changes in your prototype due on the next assignment.

## Prototypes

You will be performing this test using the prototype you produced from the last assignment. Please do not make changes to the previous system before your tests unless you get permission (Make sure to include descriptions of the changes in your write-up).

## Participants

You will find five participants (i.e., volunteers who are not in this class) to work through your benchmark tasks. Remember, it must be voluntary. You should get the participants to sign an informed consent form and obtain other demographic information (e.g., age, sex, education level, major, experience with your type of tasks & application, etc.). Make sure they are representative of your target customers.

## Benchmark Tasks

Your test will use the tasks that you have been working on all quarter. They should include at least 1 simple task, 1 moderate task, and 1 complex task. These tasks should give good coverage of your interface at this point; if they don't you better redesign them in advance.

## Measures and Observations

Although it will be hard to get statistically significant *bottom-line data* with only five participants and a rough prototype, you should measure some important dependent variables to get a feel for how it is done (i.e., task time, # of errors, etc.).

You will concentrate on *process data*. For example, you should instruct your participant to think aloud. You should make a log of critical incidents (both positive and negative events). For example, the user might make a mistake and you notice it or they might see something they like and say “cool”. Set up a clock that only the observers can see (one or more of you should observe), and write down a log containing the time and what happened at that time when a critical incident occurred.

If you have access to a video camera or smartphone with a tripod, it is good to use it – note the time that you start recording so that you can find critical incidents later in the video.

## Procedure

You will give the participant a short demo of the system. Do not show them 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 benchmark tasks (if necessary at all). You should write-up a script of your demo and follow the same script with each participant. If

your application is so limited in terms of what is possible for a user to do that this would bias the test considerably, do not demo your application.

The participant will then be given task directions (e.g., on a single card) for the first task that tells them what they are trying to achieve, not how to do it. Make sure that you have given them enough scenario information (e.g., who they are, who their friends are, etc.) to put them into the right context for the tasks. When they are finished, you will give them the directions for the next task and so on. Each participant will perform all 3 tasks. You will want to keep the data separate for each task and participant.

## Location

Due to the noise in the computer labs, it would be preferable to find an empty room or a space with only a few other people in it in which to conduct your experiment.

## Results

You must report your results (values of dependent variables, summaries of those values, and summaries of the process data). In the “Discussion” section you should draw some conclusions with respect to your interface prototype. You should also say how your system should change if those results hold with a larger user population. This should be the most important part of the write-up. We want to understand how you would fix your system as a result of what you observed.

## Deliverables

The primary deliverable for this assignment will be a short write-up and the class presentation. One team member will present your project in class during a 15 minute 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.**

## Write-up

Your write-up, turned in on the team web site, should follow this outline with separate sections for the top-level items (number of pages/section are approximate). It should be about 4 pages, plus appendices and any sketches that illustrate what you are describing:

1. Introduction
  - Introduce the system being evaluated (1 paragraph)
  - State the purpose and rationale of the experiment (1 paragraph)
2. Method
  - Participants (who – demographics – and how were they **selected & compensated**) (1/2 page)
  - Apparatus (describe the equipment you used and where) (1 paragraph)
  - Tasks (1/2 page) [you should have this already... fix it up if we have commented]
    - i. describe each task and **what you looked for** when those tasks were performed
  - Procedure (1/2 page)
    - i. describe what you did and how
3. Test Measures (1/4 page)
  - describe what you measured and why
4. Results (1 page)
  - Results of the tests

5. Discussion (1 page)
  - what you learned from the pilot run what you might change for the “real” experiment
  - what **you might change in your interface from these results alone**
6. Appendices
  - Materials (all things you read -- demo script, instructions -- or handed to the participant -- task instructions)
  - Raw data (i.e., entire merged critical incident logs)

## **Report/User Study Grading (100 Points)**

The report and user study will be graded together. The grade will mainly be based on the thoroughness of your experimental design, the analysis of your results, and the quality of your written presentation. Here is the grading for the study and the report (100 pts total):

- Writing (20 points)
  - 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?
  - Are images used and referenced properly?
- Study (35 points)
  - Is it clear how the experiment was run and what was measured?
  - Do the measures make sense?
  - Is it clear what the tasks were and what you were looking to find during each task?
  - Are you able to tell whether participants succeeded on the tasks?
- Study Results & Recommendations (40 points)
  - Is it clear what worked, did not work, and why?
  - Are the recommendations for design changes based in the results?
  - Are the recommendations for changes good ideas?
- Screenshots (5 points)
  - Are any changes to the design made after the last report clearly included?

## Presentation Guidelines (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 study results & new 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
  - \_\_\_ Project title, value proposition, team (1 slide)
  - \_\_\_ Overview of talk (1 slide) – don't read this, tell it like a story
  - \_\_\_ Introduction to Problem & Solution (1-2 slides)
  - \_\_\_ Previous Quarter's Design (multiple slides)
  - \_\_\_ Major Design Changes & Why (multiple slides)
  - \_\_\_ Method for User Study (multiple slides)
  - \_\_\_ Test Measures (1 slide)
  - \_\_\_ 3 representative tasks (3 slides)
  - \_\_\_ Experimental Results (1-3 slides)
  - \_\_\_ Suggested UI changes (1-3 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 3 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: \_\_\_\_\_)

- Representative Tasks & Scenarios
  - \_\_\_ Did they provide coverage of the functionality?
  - \_\_\_ Where the tasks too easy or too hard?
- UI Design
  - \_\_\_ Was the interface novel and creative?
  - \_\_\_ Was it appropriate for the supported tasks?
  - \_\_\_ Did the design changes follow from sound reasoning or HE results?
- 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?