

CS160 SP06 Pilot Usability Study (Group)

Due: Monday, April 17, 2006

Goals

The goal of this assignment is to learn how to perform a simple usability test and to incorporate the results of the test into design changes in your prototype. In practice, this "pilot" study would be used to redesign your experiment before running the study with a larger pool of participants.

Prototype

You will be performing this test using the latest version of your interactive prototype.

Participants

You will find three 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.) Its best to use subjects who didn't participate in your lo-fi tests, but they are acceptable if you can't find others.

Benchmark Tasks

Your test will use three tasks. They should include 1 easy task, 1 medium task, and 1 difficult task. These tasks should give good coverage of your interface; if they don't then this is a good chance to redesign them.

Measures and Observations

Although it will be hard to get statistically significant bottom-line data with only three 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 happen to have access to a video camera, it is fine to use it (but make sure your subjects consent) -- note the time that you start taping so that you can find your critical incidents later on tape. You may wish to use a tape recorder if you don't have a video camera.

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

Location

Try to replicate the natural environment for your prototype. For mobile applications, try to find a quiet place nearby and have your subject sit down, if possible.

Results

You must report your results (values of dependent variables, summaries of those values, and summaries of the process data) and 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.

Write-up

Your write-up, turned in on paper and on Bspace, should follow this outline with separate sections for the top-level items (number of pages/section are approximate). It should be about 5 pages, plus appendices & sketches that illustrate what you did:

1. Introduction (8 points)

Introduce the system being evaluated (1 paragraph)

State the purpose and rationale of the experiment (1 paragraph)

2. Method (12 points)

Participants (who -- demographics -- and how were they selected) (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]

describe each task and what you looked for when those tasks were performed

Procedure (1/2 page)

describe what you did and how

3. Test Measures (4 points)

Describe what you measured and why (1/4 page)

4. Results (8 points)

Results of the tests (1 page)

5. Discussion (8 points)

What you learned from the pilot run (1 page)

what you might change for the "real" experiment

what you might change in your interface from these results alone

6. Workload breakdown (5 points)

Percentage and nature of contribution from each group member (1 page)

7. Appendices (5 points)

Materials (all things you read --- demo script, instructions -- or handed to the participant -- task instructions)

Raw data (i.e., entire merged critical incident logs)