CS 443/576, Spring 2014
Project 5 — Usability Testing with Users

Due date: Final Exam period, Thursday, May 15th @ 8am.
Design crits: Final Exam period, Thursday, May 15th @ 8am-10am.

Project Goals

- Create a test plan and testing materials
- Conduct usability testing on your system prototype

Project Description

This project involves conducting usability testing on your system using real (or potential) users based on the following steps, which you must complete in the order given. Note that this project is a **team-based** project.

Step 1: Prepare a Test Plan.

Based on our class discussions, before you conduct any usability testing sessions, you should put together a carefully constructed test plan. This test plan, which will be submitted as part of your final report, must contain the following components:

a. Test purpose
b. Problem statement / test objectives
c. User profiles – what kind of users will you recruit for your testing? (don't use any real names if you've already started recruiting)
d. Test environment / equipment (Where will you conduct the tests? What equipment will you use?)
e. Roles (What role will each group member play during testing? If you plan to play, how will you manage?)
f. Evaluation measures (What will you measure / look for during testing?)

Step 2: Prepare Testing Materials.

After finalizing your test plan, you are now ready to create the testing materials you'll need. These materials, which will also be submitted as part of your final report, should contain the following components as discussed in class:

a. Test script (you can alter the one I posted/used in class)
b. Checklist
c. Data capture forms
d. Scenarios & Task lists -- as a recap:

   You already started working on these for Project 4. Each team should create a number of scenarios of use and task lists for your system. This is what you will give to your users during user testing. Your scenarios/task lists should include the high-level representative tasks that your users should be able to perform using your system, accompanied by the lower level tasks that make up each scenario. These tasks are critical to the success of your user testing, so think them through carefully. Be sure to make them clear and realistic, and try to incorporate as much of your system's functionality in them as possible. You'll need to communicate to the users ***what*** their tasks/goals are without telling them ***how*** to complete the tasks (as this is what you'll be testing). I'll try to give you feedback quickly from the Scenarios & Task Lists you submitted as part of Project 4.

e. Post-test questionnaire (should include both quantitative and qualitative data)

f. Post-test interview questions (i.e., what did they like, what didn't work so well, what suggestions for improvement would they offer, etc.)

Step 3: Recruit Participants and Conduct the Test.

Remember to strive for consistency as you test. Adhere to the following requirements:

1. Using your test plan and the testing materials from Steps 1 & 2, conduct 4-5 usability testing sessions with 1-2 users per session. For all groups, at least one of the testing sessions **must** include a pair of (i.e., two) participants. This is so you get first-hand experience with the differences (advantages, disadvantages, etc.) of testing with one user vs. two.
2. **All** team members must be present for **all** testing sessions.
3. The tasks you give your users (from Step 2 above) should be written down and not presented orally.
4. Video and audio tape each testing session (or optionally use screen capture software and audio combination).
5. If you use a video camera, it should be positioned behind the user, above one of his/her shoulders, and focused on the computer screen during testing as discussed in class.
6. You do not need to use a formal consent form for this study. However, you must be sure to fully explain to your users what the test is all about, why you are conducting it, what you will do with the information you gather, how you will handle the video tapes, etc.
7. The videotapes you take are to be used by team members for analysis only, and possibly to show snippets of to the class. They **MUST** all be destroyed by you at the end of the semester. There is to be NO dissemination of video, data or results to the public.
8. Remember to reassure your users that the purpose of the test is so that you can evaluate your design and that *they* are not being evaluated in any way (if they have problems completing a task, it is a weakness in the design and not an indication of the user's abilities).
9. Encourage your users to think aloud as they work through the tasks (if participants are working alone, you may have to continually prompt them to do this throughout the session).
10. Be silent during the testing unless your users get irretrievably stuck.
11. Remind your users that their participation is greatly appreciated and totally voluntary. They can stop the test at any time if they wish.
12. When the testing is complete (i.e., when the user is done working through the tasks you give them using your system), follow-up with your questionnaire and some open-ended interview questions (i.e., what did users like, what didn't work so well, what suggestions for improvement would they offer, etc.).

Step 4: Analyze Results.

After you are done with your testing sessions, re-watch and analyze the videotapes and/or screen capture. Review and analyze all data capture forms. Summarize and write down all the problems your users encountered during testing sessions (the more detailed you can be here the better), and any other performance measures that you tracked during testing (e.g., time, errors, etc.). For each of the problems listed, briefly discuss possible solutions for future designs (it is not necessary to include new screen shots or mock-ups here).

Step 5: Prepare Written Team Report.

Each team is to hand in one written report that is organized according to the above steps. Your report must contain the elements of the Test Plan described above, all Testing Materials used (including **completed** data capture forms, questionnaires, and post-test interview questions and answers), and an Analysis of your Test Results (including brief descriptions of possible solutions for problems encountered by users). Clearly indicate how many testing sessions your completed, and which one(s) had pairs of users. For confidentiality purposes, do NOT identify by name any of the users you tested with in either the report or your design crit presentation.

Design Crits

For the design crits, your team should prepare a 15 minute presentation showcasing your usability testing sessions. Your discussion should focus on specific problems users had completing the tasks you gave them, as well as any interesting anecdotes from your testing and/or any AHA! moments you experienced. When discussing problems your users encountered, it would be helpful to illustrate these using the actual working prototype. Towards the end of your presentation, summarize the problems your team discovered and possible solutions for each.

Hand-in

At the end of your presentation, hand in the following items:

- Your team report (see step 5 above)
- A sampling of screen shots from the videotapes or screen capture of your usability testing sessions. Include at least a couple of shots from each testing session, and label them (again, don't include names).
- A one-page **individual** reflection write-up describing your experience with the user testing process including what went well, what could have gone better, what was unexpected, what was most useful, etc.
- A peer evaluation form.

Project Evaluation Rubric

Requirements	***Max value***	***Your score***
Test Plan. a. Test purpose b. Problem statement / test objectives c. User profiles d. Test environment / equipment (Where will you conduct the tests? What equipment will you use?) e. Roles (What role will each group member play during testing? If you plan to play, how will you manage?) f. Evaluation measures (What will you measure / look for during testing?)	10	
Testing Materials. a. Test script b. Checklist c. Data capture forms (completed) d. Scenarios & Task lists e. Post-test questionnaire (completed; should include both quantitative and qualitative data) f. Post-test interview questions and answers (i.e., what did they like, what didn't work so well, what suggestions for improvement would they offer, etc.)	20	
Conduct Test. • Conduct usability testing sessions with appropriate number of users. Included at least one pair of users.	35	

• Screen shots from video recordings included in report. • Adhered to all other listed requirements.		
Results Analysis. • Summary of all the problems your users encountered during testing sessions (the more detailed the better) and any other measurements that you tracked during testing. • For each of the problems, brief discussion of possible solutions for future designs.	15	
Quality of Written report • Is it complete? • Does it follow the outline provided by each of the Steps listed above? • Is it neat, clear, and well-written? Does it have subject headings?	5	
Design Crit Presentation • Is it polished, professional, well-prepared? • Do all team members participate equally?	5	
Individual Reflection and Peer Evaluation • A one-page individual reflection write-up describing your experience with the user testing process including what went well, what could have gone better, what was unexpected, what was most useful, etc. • Peer evaluation	10	
TOTAL	100	