Term Project Guidelines

COSCI 125a Human Computer Interaction

Spring 2005

The term project will take you through the complete development lifecycle for an interactive product. Many of the requirements are adaptations and rewrites of the assignments for chapters 7, 8, 11, 13, and 14 of the textbook for the class: Interaction Design, Preece, Rodgers, and Sharp, John Wiley & Sons, 2002.

Goal of Project

The design goal is to add new functionality to, or change the design of, one of the software tools that you already use. The addition or change would be something that everybody said: "Wow, I wish my software tool allowed me to do that!!!" Examples of software tools you may choose to consider are: a browser, email, text formatter, the desktop, or file management / organization. The functionality should require the user to engage in several tasks. The functionality you propose to add or change should be sufficiently meaty so that your project will allow you to explore issues in the design and development of interfaces.

Working Together

Each student must do a different project, but you are encouraged to work together on all parts of the project. For example, when you are working on identifying needs and requirements, it is perfectly fine for any number of students to get together and identify needs and write requirements. Ditto for the rest of the project. If you want to collaborate with different students at different times, that is fine too. But please remember, you will be graded on your individual project.

Evening TA Supervised Work Sessions:

Thursday, March 17, 7 PM -- Needs, Requirements, Prototype
Thursday, March 31, 7 PM -- Evaluation Plan
Thursday, April 14, 7 PM -- Asking & Testing

All evening sessions will be held in Volen 101

Good Luck! And have fun!

Project Write-up

The class webpage has a template (in Microsoft Word) for your write up on each part of the term project. Please download the relevant template ASAP so that as you do your work you will be aware of what information we want you to turn in. Occasionally it may be necessary for us to update the template to clarify questions that come up as you work on your project.

For each part of the project please hand in both an electronic copy and a hard copy of the template and all your other work. Send the electronic copies to cs125a@cs.brandeis.edu, and the paper copies bring to class. The templates are used for formatting your write-up. We want to be able to see all of your work, so in addition to each template you will be asked to turn in various material that you used to do your work.

Grading

The term project is worth 35% of your total grade. We will not grade your project proposal (Part I); but you will lose points off your total grade if you turn in your project proposal late. Parts II & IV are worth 35 points each. Part III is worth 20 points. The overall quality of your product you produce is worth 10 points.

	Due Date	Points
Proposal	Wednesday, March 9, noon	0
Needs, Requirements, Prototype	Monday, March 28, noon	35
Evaluation Plan	Monday, April 11, noon	20
Asking & Testing	Monday, May 2, noon	35
Final Product	Monday, May 2, noon	10
Total		100

Lateness Policy

For Part I, the penalty for lateness is 5 points per day. The exception to this is if your proposal for a term project has already been proposed by somebody else.

For all other parts of the assignment, you will lose 5pts for the first 24 hrs it is late (first day), and you will lose 10pts for the next 24 hrs (second day). You will receive no credit thereafter.

I. Project Proposal

Due: Wednesday, March 9, Noon

Send us a one-page project proposal. **All project proposals must be different**. Read all the term project requirements before sending us your proposal.

1. Tell us about the software tool.
2. Tells us what your idea is.
3. Convince us this is a good idea.

Please give careful consideration to your choice of project. This is a binding commitment.

If two people propose the same project, the earlier project proposal will be accepted. If you have to change your project proposal because somebody else has already proposed it, we will help you to find another project.

This is a very important part of the project. Having a good idea and being able to carry it out is what interaction design is all about.

II. Needs, Requirements, Prototype
Due: Monday, March 21, Noon

A. Needs & Requirements (adopted and revised from chapter 7 of the text)

1. Identify needs and establish requirements for at least three tasks (p. 228). You can do this any number of ways: observe other people using the software tool, look at other software tools with different designs, think about your own experiences, talk to friends or family about their experiences, and so on. Record your data carefully.
2. Based on your requirements, choose two different user profiles for each of the three tasks and produce one main scenario for each user profile, capturing how the user is expected to interact with the system.
3. Using the scenarios generated from your data gathering, perform a task analysis of the interface work the users will perform for each of your three tasks.

B. Design and Prototyping (adopted and revised from chapter 8 of the text)

1. Suggest three different conceptual models for the kind of software tool that would include the functionality you propose. You should consider each of the aspects of conceptual model discussed in chapter 8 of the text: interaction paradigm, interaction mode, metaphors, activities it will support, relationships between functions, and information requirements.
2. Using the scenarios you generated in Part IIA, produce story boards for all of the tasks using one of your conceptual models. Show it to two or three potential users and get some informal feedback.
3. Develop a prototype based on cards and post-it notes to represent the structure of the tasks, incorporating the feedback from the first evaluation. Show this new prototype to a different set of potential users and get some more informal feedback.
4. Use a software-based prototyping tool (e.g., Visual Basic or Director) or web authoring tool (e.g., Dreamweaver) to develop a software-based prototype that incorporates all the feedback you've had so far.
    a. Consider the screen layout, use of widgets, colors, navigation, audio, animation, affect, etc.
    b. Use Shneiderman's eight golden rules of interface design (see pages 266-267 of the text) to guide your design decisions.
    c. You will need to submit jpeg files of the prototype when you turn in this part of the project.

III. Evaluation Plan (Chapter 11 of the text)
Due: Monday, April 11, Noon

Use the DECIDE framework to develop an evaluation plan.

1. Determine the goals of your study.
2. Develop a set of questions that will explore the goals of your study.
3. Consider at least two different evaluation paradigms and techniques that could be used to answer your questions.
    a. What are the trade-offs between using one or the other paradigm?
    b. Address the issues of reliability, validity, and bias (p. 354-355).
4. Select what you think is the best evaluation plan and address some practical issues. In each case explain your decision.
    a. Who will be the subjects of your study?
    b. What equipment and facilities are needed to do the study?
    c. What scheduling complication could there be?
    d. What kind of expertise is needed to do the evaluation?
5. Write out an informed consent form that the subjects would need to sign. You can find an example of the form on the class website.

IV. Asking & Testing (Due: Monday, May 2, Noon)

A. Asking Users and Experts (Chapter 13 of the text)

1. Re-design your prototype after doing each of the following:
    a. Perform open-ended interviews with at least two potential users.
    b. Decide on an appropriate set of heuristics and perform a heuristic evaluation of the prototype.
2. Design a questionnaire to evaluate the system (at least 4 questions). You will give this questionnaire to your subjects when they test your prototype.

B. Testing (adopted and revised from chapter 14)

1. Select two typical users, who can be friends or colleagues, and ask them to do the task using the prototype.
    a. MAKE SURE THEY SIGN YOUR CONSENT FORM
2. Note the problems that each user encounters. If you can, time their performance.
3. Ask your subjects to fill out the questionnaire you developed in Part IV A2.
4. Did the kinds of problems that user testing revealed differ from those obtained from a heuristic evaluation? If so, in what ways?
5. What are the advantages and disadvantages of each of the evaluation techniques that you have used, i.e., open-ended interview, heuristic evaluation, questionnaire, and user testing.