

## CS 443/576, Spring 2014

### Project 2 — Iterative design

**Due date:** Class time on Tuesday, Mar. 11.

**Design crits:** Tuesday, Mar. 11 & Thursday, Mar. 13.

#### Project Goals

- To combine aspects of individual designs into one comprehensive, overall team design
- To incorporate feedback from project 1 into next iteration of design
- To gather additional information about your users via questionnaire
- To apply principles of good design as discussed in class and your text
- To create a medium-fidelity prototype
- To present your updated design to your peers for feedback

#### Project Description

**This assignment is a team project, although there are a few individual components as noted below.**

#### Individually:

- 1.) Create a bulleted list of the feedback you received on your individual preliminary design from project 1. Categorize this feedback (e.g., cosmetic changes, changes to functionality, changes to UI widgets and controls, changes to task flow, etc.) and briefly discuss which suggestions you would incorporate into the next round of design. Clearly label this document (including your name please) and hand it in with your final team report.
- 2.) Complete and hand in a peer-review form. This form can be downloaded from Moodle.

#### As a team:

- 3.) Review and discuss your individual designs together with the rest of your team. Determine the best aspects of each and seek to combine them in such a way that you form a whole, cohesive updated design for your system. Note that it is critical that the design you create as a team, which is what you will be moving forward with, must appear consistent and cohesive, not disjointed or separate in any way. To achieve this, you will have to spend a lot of time together with your group. In your final report for this project, **clearly note which aspects of the design came from which initial individual designs**. I would expect to see representation from all the individual designs (project 1) in this next iteration.
- 4.) Gather additional background information about users of your system by creating a questionnaire and administering it to at least 10 potential users. Your survey might ask questions pertaining to how users currently accomplish tasks similar to the ones your system will help with, particular frustrations they may have, motivation for using your system, wish list items, etc. etc. Summarize the results of your questionnaires ***and use them to influence this next stage of your system design***. Explain how you did this.

**IMPORTANT:** Before gathering any user data via questionnaires, you must carefully read and abide by the conditions for which IRB approval is waived. This information can be found at

<http://www.umt.edu/research/compliance/IRB/researchmethods.php>

- 5.) Combine the functional requirements each individual team member created for project 1, refine them, eliminate duplicates, expand and update them if necessary, and then prioritize them as High, Medium, or Low priority. Sort and label each functional requirement in such a way that they are easy to read and understand.
- 6.) Fully design (or re-design) all features associated with the High priority functional requirements your team identified from the previous step, and maybe a few of the Medium priority cases as well. Clearly specify which requirements you chose to implement and which you didn't (and why). I would expect to see approximately 6-10 of the functional requirements fully designed from start to finish; the number depends on the complexity and scope of those you choose to implement. Illustrate your new design via a combination of drawings, screen sketches, annotations, and narratives. It's OK if you use computer software like PowerPoint to illustrate your design at this stage, but do not program anything yet, and expect to make more changes to your design based on subsequent design crits. Be sure to apply principles of good design as discussed in class and the text to your work.

## Project Deliverables

Submit to Moodle one report **per team** that contains the items listed below. I expect that this report is the result of a collaborative effort, and not something that assigned to one member of the team only. Every member of the team should have a chance to review and update the written prose before handing it in. The report should represent the opinions and views of **all** team members. The report must be carefully constructed, formatted, and labeled (i.e., use headings to describe page content), and it must clearly convey all the requirements of this project. If your report is difficult to follow or I have to work hard to find what I'm looking for, your grade will suffer. Organize your report according to the following outline:

1. Cover page, including team members, project # and system name.
2. The individual feedback gathered from project 1, categorized. Make sure this is well labeled by team member.
3. Summary results of user questionnaires. Be sure to indicate how many potential users completed your questionnaire and the questions they answered. Explain how the results of these questionnaires influenced this next stage of design.
4. The combined and updated list of functional requirements for your system, prioritized and clearly labeled. There should be one comprehensive list for the overall team design.
5. New design of cohesive system. All screen drawings and sketches should be easy to read, annotated, and described via narrative. Somewhere between 6-10 user functions should be shown ***from start to finish***.

Individual peer-review forms should be submitted separately from all members of the team. Again, this form is available on Moodle.

## DESIGN CRIT SESSIONS:

The design crits for this project will be held on Tuesday, Mar. 11 and Thursday, Mar. 13, in-class. Each team will have approximately 20-25 minutes to present their work to the rest of the class and solicit feedback. Make sure you plan your time wisely such that you are able to gather comments and suggestions from your peers (users). Since you will be showing your design to the entire class at one time, it is mandatory that your illustrations are easy to see, easy to read, neat and complete. You should plan to use the overhead projector for display. You might also illustrate your system by walking through one or two representative user tasks. All team members are expected to participate fully in the design crit sessions.

**\*\* Note that graduate students will be held to a higher standard than undergrad students in the class. This means that I will expect their systems to be more complex, include more functionality, and have very well-thought out designs.**

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## **EVALUATION**

The following shows the criteria by which I will evaluate this assignment and the relative worth of each section.

### **INDIVIDUAL deliverables**

1. (10 pts) List of individual feedback from project 1, categorized and labeled.
2. Peer-review form.

### **TEAM deliverables**

3. (10 pts) Functional requirements
  - Were functional reqs combined and prioritized correctly? Sorted, labeled?
  - Was the correct format used for listing the functional reqs?
  - Were functional reqs complete and specific?
  - Was enough functionality included in the High priority requirements for a project of this scope?
4. (15 pts) User questionnaires
  - Were questionnaires well thought out? Did they have important questions on them that were applicable to the system being designed?
  - Were enough users sampled by these questionnaires?
  - Was IRB compliance followed?
  - Were results summarized and used in the next iteration of design?
5. (40 pts) Design iteration 2.
  - Were all High priority features and some Medium priority ones included in the new design?
  - Were aspects of individual designs combined to form a cohesive, whole new design?
  - Was there appropriate representation in the design from individual designs (project 1)?
  - Did the team clearly indicate which functional requirements were included in the design and which weren't?
  - For those reqs (and feedback) not implemented, was there a discussion as to why?
  - Was the scope of the functionality designed sufficient?
  - Did the team relay the design appropriately using a combination of sketches, annotations, descriptions, and narratives?
  - Could the reader easily follow the functions designed from start to finish?
  - Did the team illustrate that they understood and could correctly apply principles of good design as discussed in class?
6. (10 pts) Miscellaneous.
  - Did the team follow the instructions given?
  - Was the report the result of a collaborative effort, or did it appear to come from individual members only?
  - Was the report neat, well labeled and easy to follow?
  - Did the team appear to put in sufficient time and effort for this project?

## **DESIGN crits (15 pts)**

Did the team:

- Appear prepared for the crit?
- Present materials that were neat, easy to see, and easy to read?
- Manage their time well and use all of their allotted time?
- Present their design in a logical, easy to follow fashion?
- Take charge of facilitating the discussion afterwards?
- Have particular questions or problems to ask the class for feedback about?
- Appear open to design suggestions and not defensive?
- Adequately explain how they arrived at their design and what factors influenced their decisions?
- Have sample tasks ready to give the class to try?
- Take notes on the feedback the class gave them?