

cis20.2-spring2008-sklar, term project task 1: project proposal

instructions.

- In this assignment, you will write a detailed *proposal* and *design document* for your term project.
- This assignment is worth 10 points, or 10% of your term grade.
- It is due on MARCH 9. Email the written document and presentation slides to Prof Sklar. **PDF** format is STRONGLY PREFERRED.

technical/functional requirements.

Your term project, which you will do by yourself or with a partner, has the following *technical requirements*—because I want to make sure you learn a number of skills and know how to implement various techniques, as outlined below. In a real-world situation, you will be given a list of *functional requirements* and you will have to create the technical specifications from those. The list below is a combination of functional and technical requirements.

You will build an interactive, data-backed system that:

- is web-based, containing (1) an **administrative interface** for your system's administrator and (2) a **user interface** for users of your system;
- contains **static** and **dynamic** elements; for example, the "about" page on a web site is considered static, because the user's actions do not cause the page's content to change, whereas the "shopping cart" page on a shopping site is considered dynamic, because the user's actions do cause the page's content do change;
- must be backed by a **mysql** database (you will learn about the specifics of databases and the mysql database system in Unit II—for now, just think of a database as an organized place to keep data);
- must have two databases:
 1. one that is relatively static, where change to the content of this database is implemented through the administrator's interface; for example, on a shopping web site, the database where the store's catalog (what they sell) is stored; and
 2. one that is relatively dynamic, where change to the content of this database is implemented through the user's interface; for example, on a shopping web site, the user's account and shopping cart, and the store's inventory (i.e., how many of each catalog item is in stock, as distinct from which items are stocked—which is the catalog database);
- has a **graphical** component, using images and/or pictures and/or animations to enhance the user interface of your site—this is your chance to be creative and innovative, as well as exercise some of the concepts and skills you learned in cis20.1;
and
- has an **intelligent** component (you will learn a bit about artificial intelligence in Unit III—for now, just think of the intelligent component as an adaptive part of the site that improves the site's performance as users access it more).

project proposal.

This assignment is a **project proposal**. You have to explain what you want to do and why—and convince me and your classmates (who will act as reviewers) that you have good ideas and strong plans to achieve them. Your proposal will consist of a written document and an oral presentation. The written document will contain all the detailed specifications and should answer all the questions listed below. The presentation will cover a subset of what is in your written document. You (and your partner, if you're working with a partner) will present in class on March 10. We will have a **design review** in class on March 10; everyone will present their projects, and we will all discuss the pluses and minuses of everyone's designs.

The written proposal must have the following components:

- **description**—*what* are you going to build?
In one concise paragraph, describe what you are going to build and how your project will fulfill the technical/functional requirements listed in above.
- **justification**—*why* are you going to build it?
In one concise paragraph, explain why you want to build this project and why we (me and your classmate reviewers) should support your activity. Say something thoughtful, not just “because prof sklar said we had to do it” or “because it will be cool”.
- **system design**—*how* are you going to build it?
This is the meat of your proposal!
 1. You need to include at least one UML diagram here (refer to the first lab from Unit I) that shows the relationships between the entities incorporated in your system (i.e., user(s), user interface(s), databases and any system processes). This will serve as a *high level system architecture* diagram—a must for any believable software project proposal. The diagram should show how/where the users (system administrator and regular users) interact with the system and which components they interact with. The diagram should show which databases the system will use (you can just draw a box labeled “database” for each one—remember you need two—and we will fill in more details of the database design in Unit II).
 2. You need to include a storyboard (i.e., screen drawings/sketches) for both the administrative interface and the user interface. Plan out what each screen will be and what functionality will be accessible from each screen.
- **work plan**—*who* is going to build each component and *when*?
 1. List the tasks that you foresee needing to complete for the project.
 2. “Guesstimate” the number of hours it will take to complete each task.
 3. Show the distribution of work, if you are working with a partner. Who will take responsibility for which part(s)?
 4. Include a description of your plan for **testing**. How will you test the project components?
 5. Include a **documentation** plan. You will need to submit both **user documentation** (a guide targeted to general users so that they will know how to use the system) and **system documentation** (software documentation so the system administrator will know how to maintain the system).

On the next page is a **timeline** that you should work from and fill in the specifics for your project. Note the DUE DATES. Be sure to submit a completed timeline with your project proposal.

The whole project is due at the end of the semester. Final presentations will be on MAY 5. Final software and documentation MUST be submitted by MAY 23 (NO EXTENSIONS!).

project timeline and points distribution.

The project is out of 100 points, distributed as indicated below.

task	due date	in-class activity: date	points
1. project proposal	Mar 9	discussion: Mar 10	10 pts
2. interface component: – 2a. design storyboard for user interface – 2b. implement user interface front-end – 2c. test user interface front-end – 2d. design storyboard for admin interface – 2e. implement admin interface front-end – 2f. test admin interface front-end	Mar 25	demonstration: Mar 26	5 pts 4 pts 4 pts 4 pts 4 pts 4 pts
3. database component: – 3a. design database architecture – 3b. design database queries – 3c. create databases – 3d. build database queries – 3e. test database queries	Apr 6	discussion: Apr 7	5 pts 5 pts 5 pts 5 pts 5 pts
4. intelligent component: – 4a. design intelligence – 4b. implement intelligence – 4c. test intelligence	Apr 13	discussion: Apr 14	5 pts 5 pts 5 pts
5. operational system (i.e., connect components)	May 4	demonstration: May 5	5 pts
6. project completion: – 6a. perform system-level testing – 6b. perform user testing – 6c. complete user documentation – 6d. complete system documentation	May 23	– – – –	– 5 pts 5 pts 5 pts 5 pts