COSC 617 - Project

The focus of this course will be a substantial project involving the design and development of a database-driven web software application.

Your project will include all components of the development of a web application, including

- Design: documents and figures describing the components of the system, tasks, modules, and other detail necessary to convey the important details of how the system will function.
- Implementation
- Testing: A full suite of unit, functional, and integration tests
- Presentation: An in-class presentation of your completed work, similar to how you might present a project to peers and supervisors in a professional setting. Details of your design also need to be in the presentation.

Choice of project

You will choose the application that you develop. However, online stores will not be acceptable, as the textbook uses an online-store as a motivating example. If you have a job, hobby, or research project that could benefit from a web application, these efforts provide excellent inspiration. Alternatively, you can choose to implement a scaled-down version of a popular web site: interesting possibilities might include eBay, LinkedIn or FaceBook, Twitter, etc.

Appropriately defining the functionality and scope of this project will be an important part of the project. Projects that are too modest will not be considered challenging enough to deserve the best grades, you should try to be ambitious. However, excessively ambitious projects may be difficult - if not impossible - to complete in a timely manner. In the tradition of Agile programming, you are encouraged to take an iterative approach, starting from a modest base and working towards a more fully-functional system.

Schedule

The schedule of intermediate deliverables is given in the schedule (blackboard) and designed to help keep you on track towards successful completion of the project. If you have any concerns during the semester, including difficulties in implementation, questions about the appropriate level of complexity, or uncertainty about designs, please feel free to talk to me at any time. We will attempt to follow agile development practices throughout the semester, this will involve meeting multiple times to keep the project development moving along. The meetings are listed in the schedule and are subject to change.

Platform

Subject to my approval, you may choose the implementation platform for your project. As Ruby on Rails is the platform that we will be using during the semester, it is the obvious first-choice, but other web frameworks will be considered. If you wish to use something other than Ruby on Rails, please indicate your preference in your initial proposal and speak to me as soon as possible.

Groups

The project needs to be completed in groups of up to four students. Please keep in mind that the expectations for the project scale with the size of the group: a group of *n* students will be expected to accomplish *n* times what a single student will be expected to accomplish.

At the end of the semester, I will ask you to provide a report at the end of the semester detailing each team member's contributions. *All* team members must contribute to the final presentation. It is your responsibility to make sure that your team works productively. If you have difficulties with your team, please let me know *as soon as possible*. Unless there are clear difficulties, all members of the team will receive the same grade.

Proposal

You will prepare a proposal describing the problem that you are going to address, its importance and your plan for addressing it. Using techniques described in class, you should describe:

- The overall goal of the system
- Major classes of objects that will be needed
- Uses cases: which types of user will use the system, and which tasks will be involved (no need for diagrams in the proposal)
- Other necessary features, including web-services, security, mashups, etc.

If you are proposing to implement functionality similar to that of an existing web site, please indicate which site. Also, if you are planning on using a platform other than Ruby on Rails, please indicate which one you will be using.

The proposal is your contract with me. I will review it to make sure that what you have proposed is adequate without being overly ambitious. I may suggest changes, or revisions as necessary. I also reserve the right to request that you resubmit a new proposal, if your original proposal is inappropriate.

I encourage you to talk to me before then to discuss plans and ideas. This will help you avoid going off-track. The proposal should be a **maximum of two pages** in length, including figures.

Progress Presentation

This should tell me what you have done, how things are going, if you have had any difficulties, where you might need help, and anything else I might need to help you make your project a success.

As with the design proposal, this progress presentation should include descriptions of major changes and screen shots/a small demo of working functionality if available. The idea is for you to show me and others where you are. You will also know where you stand with respect to others, since this is a project based class, your grade will be affected by where you are with respect to other projects. Use this opportunity to get started on your final presentation structure so you don't have to work on it later. Please make your presentations professional and arrive on time (maximum presentation time 10 minutes).

The goal of this project report is to help keep your project on track. You are welcome to talk to me about your progress before or after the progress report is due. I strongly encourage you to do so, particularly if you are having difficulties. Don't wait for the last minute!

Presentations

Each team will present their projects in class. These will be conference-style presentations with slides, demos, and other materials designed to convey your points to others. This presentation should include an introduction, description of the major components of your system, screen shots, and other information necessary to summarize what you've done, and how you've done it. Components from the design proposals should be included as appropriate.

All team members should participate in the preparation of the presentation materials, and in giving the presentation itself.