CIS 435/525 Fall 2019 Web Technology- Term Project

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Students taking this course will complete a term project in small groups. The project will allow you to put some of the concept introduced in the lectures into practical use. The project is a big part of the course and accounts for **35%** of the final grade. You will be required to turn in a project proposal, give two presentations on your project, and turn in a progress report and a final report. Details for the presentations and reports are explained below.

Format

You should form a team of no more than FOUR students and then jointly define your project. I expect the size and scope of the project to increase with the team size. Your team can consist of students from any sections of this class. In addition, each of your team members needs to sign up for the same term project group on Canvas.

While each project should be an integrated effort, i.e. there is a single deliverable, you should identify in your project proposal, progress report, and final report what part of the project each team member is responsible for.

Platform

You will need to deploy your projects on the Internet via Amazon Web Services (AWS) or some other web hosting sites. We will mainly use four **Amazon Web Service** (AWS) services: Simple Storage Service (S3), Elastic Compute Cloud (EC2), Amazon Elastic Beanstalk, and Amazon RDS.

You should have received an invitation in your umich.edu email to join AWS Education classroom (Web Technology). Please follow the instruction to create an **AWS Educate Starter** account (if you don't have one) and join the classroom. You will receive $100 AWS credit, which should be enough for you to complete all your assignments, if you use it carefully.

Topics

I encourage you to define a project that fits your interests and skills. The basic requirement for the topic of the project is that it must be a **web-based application**. You are free to use any platforms, technologies, toolkits, web services, or mashups. The following are some sample projects done by the previous students:

- Pickup games
- Auditoria - music sharing community
- Park Review
- Japanese Character Writing Practice Application
- Garage Sale Getter
- Restaurant Order Management System
- "Mobityx" An Online Ticket Will-Call Agent
- Virtual Lost and Found Board
- Snap and Share
- Music community network
- Bookswap in Facebook
- Webflix – Online Movie Rental Application

- Cartesian Mapping: A Web 2.0 Tool for Comparing Bands
- Online Game Arcade
- Versus Solitaire
- Web-based Programming Contest Control System
- Online Book Store
- Content Aware Chat
- Bookmarker
- Electronic flash cards
- Real Estate Financial Analysis
- Playlist/Youtube Hybrid

Proposal format

The proposal can be short (a few pages) but should include the following information:

- Title, team members, description of goals and deliverables, i.e. what you will build, what the system will do, and why it is interesting.
- High-level system design and plan: usage scenarios: user profiles and use-case diagram, what components will build, what tasks have to be performed, what team members will do what, and roughly two intermediate milestones that can be used to measure progress.
- Infrastructure: what platform(s) and technologies that will be used for the project and any open issues you might need help with.

In addition, each team is required to give a short (5-10 minutes) presentation to the class on the objectives and system design of your project. Note, if all your team members are distance learning students, you may skip the proposal presentation.

Progress and final report format

The final report will consist of two parts: a 20-40 page paper, and a 15-20 minute presentation. The final paper should take a form of a well-written technical research report. It should include the following components:

1. Title and Team members
2. A web link to your project
3. Description of motivations and goals for the project: what did you build and why is it interesting.
4. Detailed description of the design and implementation of the system
    a. Usage scenarios: user profiles, use-case diagram
    b. Data model: database schema
    c. System components and functions: activity diagram, sequence diagram, etc.
    d. User interface design
    e. Document what team member was responsible for what part of the project
5. System implementation updates and outstanding Issues
6. Results of a system evaluation: present results that show that your system design and implementation meet the initial goals.
7. What did you learn?

This is a just suggestion. Depending on your project, you may add or remove some components. The presentation should include a **demonstration of your project** and some highlights from the

bullet items above. In addition, a 10-20 page progress report in the similar format should be submitted by November 7, 2019.

Grading Criteria

A+ [95-100%]: exceed the expectation
A [85-95%): meet the expectation
B [70-85%): meet the minimum expectation.
C/D (0-70%): incomplete, does not meet the expectation.
E [0%]: no submission.

I consider the following details:

- The originality of the idea
- The quality of your report.
- The quality of your system implementation.
- The quality of your presentation and demonstration.
- Peer evaluation

Import Dates and Grading

Proposal due: **October 1, 2019** **10%**
Proposal presentation: **October 3, 2019**

Progress report due: **November 7, 2019** **20%**

Final presentation and demonstration: **December 5, 2019**
Final report due: **December 10, 2019** **70%**

Note, students in the same team usually receive the same grade. However, if there is clear evidence that a student does not put enough efforts or does not contribute much to the team project, he/she may receive much lower grade than other team members.