Semester Project

COMP 442 – Web Programming Technologies

## Purpose

A web application is comprised of a diverse collection of technologies working together to provide a user with a unified service. Building a web application will demonstrate not only mastery of various web technologies, but also proficiency in using them together.

## Overview

For this project you will define, design, and implement a complete web application. You will work in a group of four. This document describes the requirements for your final website.

## Breadth Requirements

Your web application should do the following **[64 points]**:

1. Use CSS or a CSS-based toolkit like Bootstrap to style the content. The website should be responsive to different screen sizes (e.g., mobile phone, tablet, desktop monitor) **[8%][[1]](#footnote-1).**
2. Use client-side scripting (JavaScript) to create an interactive web site **[8%].**
3. Use server-side scripting (Python-Flask) and a database to present content **[16%].**
4. Allow the user to add and/or modify content stored in the database so it persists across browser sessions and across devices **[8%].**
5. Use AJAX for dynamic loading or updating some content on a page **[8%].**
6. Have login functionality with at least two types of users that have different privileges **[8%].**
7. Use some library, framework, or API (not including Bootstrap or jQuery) **[8%].** Part of your project is to research possibilities for this component. **Your choice must be approved!**

As long as you meet these requirements, you have considerable freedom to build a web application that is of interest to you. The proposed application is subject to the instructor's approval.

While you are encouraged to use existing libraries and toolkits, your group should create something for your final product that is substantially different than what is provided by the existing resources. Your contributions should include both server-side and client-side scripting.

In addition to the general requirements listed above, your application should fulfill the product requirements you propose, correctly implementing the features you list therein.[[2]](#footnote-2)

## Complexity and Quality Requirements

In addition to functioning correctly and meeting the general requirements above, part of your grade is determined by the quality and the complexity of your application **[36 points]**.

* Complexity **[10%]:** More complex applications require more work and will be rewarded with a higher score when completed successfully. Your peers and I will evaluate the complexity during your project demo to give you guidance about how complex of a project will be challenging but still reasonable to complete in the time we have.
* Quality **[16%]:** Quality encompasses user experience as well as professional appearance. Since this is not a graphic design class, the goal here is not an eye-popping design. However, you should avoid sloppy or inconsistent UI elements, hard-to-navigate websites, and color schemes that are hard to read or painful to the eyes. There will be opportunities for you to get peer feedback on the quality of your website during the development process, so you can make improvements as needed for the final project.
* Presentation **[10%]:** Your project is presented clearly and in a professional manner. The purpose and usefulness of your project are clear, and the most interesting and complex features are explained clearly and concisely.

## Deliverables

Details about what you are to submit for each deliverable are found in separate instructions documents for each assignment. This overview describes the tentative breakdown of points between components. **Dates and point values in this summary are subject to change at any time at the instructor's discretion.**

* October 25th | Project Proposal — **2%** (20% of presentation score)
* November 18th | Project Check-in Demo
  + Product — **27%** (30% of breadth, complexity, and quality score)
  + Demo — **3%** (30% of presentation score)
* December 10th | Final Project
  + Product — **63%** (70% of breadth, complexity, and quality score)
  + Documentation — **Projects will not be graded without documentation.**
  + Presentation — **5%** (50% of presentation score)

1. The percentages here indicate the assessment of your final product. Other deliverables and presentation evaluations will also be part of the "Project" category of your course grade, as listed later in this document. [↑](#footnote-ref-1)
2. There are no separate points for this category, since different product requirements will entail a different mix of server-side scripting, client-side scripting, styling, etc. Failure to implement your product requirements will lead to deductions in the relevant categories. [↑](#footnote-ref-2)