# COSC 360 Project

This is **a group project of 4 people**. This project is marked out of 100 points.

## Due Date: **April 13, 2021, 11:59PM**

## Overview of the Project

The project is designed to help develop your skills for full stack development. With this project, you will build an online application that will allow users to register, create and participate in different features of your site. There are two (2) project options to select from.

You are required to keep your code under version control with GIT. Your GitHub public repository link must be provided in your report and all source code must be submitted to Canvas.

### 1. **MyDiscussionForum Website**
The **MyDiscussionForum** website will allow registered users to engage in online discussions and unregistered users to view discussions similar to forums such as Reddit and HackerNews. The goal is to produce a similar type service that allows users to register, post discussions and make replies. The system will be required to support multiple users. Additionally, unregistered users must be able to view the content but will not be able to edit or rely. The forum needs to be updated in real time.

### 2. **MyBlogPost**
The **MyBlogPost** website will allow registered users to create their own blog and unregistered users to view blog postings. The goal is to produce a similar type service that allows users to register, post blogs and make comments on blog entries. The system will be required to support multiple users. Additionally, unregistered users must be able to view the content but will not be able to edit or comment on posts. Blog comments need to be updated in real time.

A first goal is to create the layout for the site. The layout is to be a 2 or 3-column layout with navigation links along the top**. No styling frameworks are not permitted as you are to develop the styling for the page using CSS**. The page requires a masthead as well as a footer. The navigation links need to be available regardless of where a user is viewing the page.

Pages will need to be created for user registration that allows for the entry of user information along with user image. The form will need to be validated before being submitted using the appropriate technology.

## Project Statement

To build a web-based tool that allows users to engage in activities permitted for registered users. Registered users should be able to access specific portions/features of your site that are not accessible to unregistered users.

The system must also support internal use by administrators who can track features of the page and moderate issues, resolve user problems (such as forgotten passwords), and generate usage reports.

## Project Objectives

The objectives are divided into two categories. The first category is the minimal requirements for the project to get a passing grade (C). The other requirements are some of the additional options that can be added to create an improved project. These objectives are further divided based on the implementation of different functional components utilizing different technologies.

**Baseline Objectives:**
    Website user's objectives:
- Browse discussions without registering
- Search for posts by keyword without registering
- Register at the site by providing their name, e-mail and image
- Allow user login by providing user id and password
- Create and comment (specific for each project) when logged into the site
- Users are required to be able to view/edit their profile
- User password recovery (via email)

    Website administrator's objectives:
- Search for user by name, email or post
- Enable/disable users
- Edit/remove posts

As this project is about demonstrating and applying different technologies, you will utilize different technologies in the construction of the site.

**Minimum Functional Requirements:**
- Hand-styled layout with contextual menus (i.e., when user has logged on to site, menus reflect change). **Layout frameworks are not permitted**.
- 2 or 3 column layout using appropriate design principles (i.e., highlighting nav links when hovered over, etc.)
- Form validation with JavaScript
- Server-side scripting with PHP
- Data storage in MySQL
- Appropriate security for data
- Site must maintain state (user state being logged on, etc.)
- Responsive design philosophy (minimum requirements for different non-mobile display sizes)
- AJAX (or similar) utilization for asynchronous updates (meaning that if a discussion thread is updated, another user who is viewing the same thread will not have to refresh the page to see the update)
- User images (thumbnail) and profile stored in database

- Simple discussion (topics) grouping and display
- Navigation breadcrumb strategy (i.e., user can determine where they are in threads)
- Error handling (bad navigation)

**Additional Requirements:**
- Search and analysis for topics
- Hot threads/hot post tracking
- Visual display of updates, etc. (site usage charts, etc.)
- Activity by date
- Tracking (including utilizing tracking API or your own with visualization tools)
- Collapsible posts/threads without page reloading
- Alerts on page changes
- Admin view reports on usage (with filtering)
- Styling flourishes
- Tracking comment history from a user's perspective
- Accessibility
- Your choice (this is your opportunity to add additional flourish's to your site but will need to be documented in the final report)

**Additional allowable technologies:**
In addition to the core CSS3, PHP, HTML5 and JavaScript technologies, Bootstrap js and JQuery are permitted to be used.

## Deliverables

This project should demonstrate your knowledge in full stack web design and programming. All your code and related files should be submitted in a zip file that is based on the correct file structure for the site to Canvas.

## Milestones (roughly, for your reference)

**Monday, February 15, 2021 – 5% (Proposal)**
- Team member selections
- Project description and details:
    - Provide a description of the project you are going to undertake
    - Requirements list of what (at a minimum) your site will do (you will need to explore existing sites to understand their functional offerings). You should be able to understand from reading this document exactly what a user/administrator will be able to do on the site.
    - This will form a list of minimum end deliverables on the project and should be a comprehensive document.

**Monday, March 1, 2021 – 30% (Client-side experience)**
- Layout document (Planned layout of your page in hardcopy/electronic copy showing elements, sizes, placement – this is the plan for what your site will look like)

- Organization of pages (How are pages linked? – site map)
- Logic process (How will a user engage with site?): This needs to include all processes for how the user/admin will engage with site.
- Static design and styles of pages
- Examples of each page type (coded with ipsum lorem as a minimum)
- Client-side validation
- Client-side security

**Monday, March 22, 2021 – 30% (Site should have minimal core functionality)**
- Server-side implementation complete
- Server-side security
- Post storage/Discussion thread storage in database
- Asynchronous updates
- Database functionality complete
- Core functional components operational (see baseline objectives)
- Preliminary summary document, indicating implemented functionality

**Friday, April 16, 2021 – 35% (The full site)**
- Final delivery of site with additional functionality
- Summary of features implemented
- A 2-3 pages walkthrough document that can be used to test the site by performing the walkthrough you describe. It is to your advantage to include sufficient detail to highlight the best features of your website. This should also include things like **required login ids and passwords**, how to test your site as well as identifying any unique features. This document will be used as a guide to test what you did. **This document should be written as a user guide.**
- A 2-3 pages detailed description of your implementation from a system or developer's perspective including: What features did you implement? Include a description of the PHP and JavaScript files of your web site. How does your web site work at a high-level? Identify known limitations of the site?
- 10% is reserved for deployment, client and server-side unit testing (if you do not test or deploy the maximum you can get out of this section is 25/35).

**Comments**:
The milestones will be used for yourself to arrange your work. The percentage will be used to evaluate different parts. You can always improve them until the project deadline.

This project is not intended to be a complex project (in terms of the content and number of pages) but is intended to provide the opportunity to develop and showcase your full-stack skills. In the development of the project, focus on key functional objectives and work through them in a planned fashion. A simple, functional and well-organized site is acceptable as long as it contains the required functionality utilizing the appropriate technology. Please review the functional requirements to ensure your design satisfies the requirements.