National University of Sciences & Technology

School of Electrical Engineering and Computer Science

Department of Computing

CS 344: Web Engineering (3+1) BESE-11AB Fall 2022

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| Semester Project: Dynamic Web Development | |
| CLO4: Design Static and Dynamic Websites and applications using modern tools and frameworks.  CLO5: Understand the societal and cultural issues related to web application and apply them in professional web development practices | |
| Maximum Marks: 100 | Instructor: Dr. Qaiser Riaz |
| Announcement Date: 25.11.2022 | Due Date : 24.12.2022 |

**Description:**The semester project is an important activity that will help the students to work on real-life dynamic web development. You have already learned how to develop static and dynamic websites using different languages, tools, frameworks, and technologies including HTML/CSS, Bootstrap, javascript, server-side programming with PHP and Laravel, and development of single page web applications using MERN stack. The following are the important tasks to be carried out in the project.

(Semester project is a group activity. The number of group members must be 3 or 4).

1. Choose any topic of your interest for which you want to develop a website e.g. social networking, content management systems, online shopping stores (e-commerce), online portfolios, blogs, forums, news, fashion, etc. You can also extend the topic you have worked on in assignment 2/3. Come up with fresh ideas!!!
   * Rule of thumb: You must be able to create at least 20-30 different web pages. In the case of single-page applications, you must be able to demonstrate that your website is comparable with a website of 20-30 pages (in terms of the amount of work/development).
2. Create at least 15 different dynamic web pages for your website (for PHP/Laravel based projects). If you are choosing MERN stack to develop single page applications, then your website must be large enough and it must be comparable with 15 dynamic webpages requirement.
3. You have to create your own database and use it as a data source.
4. Use external CSS and javascript/jQuery files only. Use maximum concepts you have learned in the lectures to design and develop your website.
5. The layout of your website must be div-based and the website must be responsive in nature (RWD). For this, you will use the bootstrap library
6. The website must be completely dynamic i.e. no static content in any web page. All of the data must be retrieved from the backend database using PHP/Laravel or MERN.
7. Use MVC architecture pattern by employing the Laravel or MERN framework. You should use Blade template and Eloquent ORM to create dynamic web pages for Laravel based projects. If you are using MERN stack, then utilize React and Express for implementing front-end and back-end logics.
8. Write a small report (at least 10 pages) about the potential website you are going to develop. The report must include the following sections:

* Introduction including motivation
* Description of the website e.g. type of content, how you will organize it (sections, subsections, web pages, etc.)
* Description of the layout of the website (must be responsive web design)
* Screenshot of the layout and all pages along with a brief description
* Functional and non-functional requirements
* Conclusion

1. **Important Note: Don’t use existing open source codes and present them as YOUR work i.e. No plagiarism. This will lead to a straight ’zero’ in the project for all team members.**

**Submission:** Submit a single zip file for each group containing two folders: report and html. “Report” folder must contain your report, presentation, and an “html” folder containing all html, PHP, CSS, JS, or any other resource files. Include a readme file and given details of setting up the project/database etc.