FINAL PROJECT

INSTRUCTIONS TO STUDENTS

SUBJECT: BUILDING WEB BASED APPLICATIONS

STAGES	DATES
Start Date	**17 February 2021**
Submit Proposal	**18 February 2021**
Submission Date	**09 March 2021**
Total Marks	**110**

NB: You are required to push all your work daily to Github, so that your lecturer can monitor your progress. Any challenges faced or support required should be communicated to your lecturer through the LMS ASAP. Failure to push your work on a daily basis will be subjected to disciplinary action.

PROJECT BRIEF

This is a practical application task which tests your ability to apply the knowledge and skills gained during the classes (Backend and Frontend). The final project is an important and compulsory component of your studies, since we use it as the yardstick for checking whether you are competent/not competent and if you qualify for the internship or not.

GENERAL INFORMATION

1. Study the task carefully
2. Note the submission date(s). Avoid doing your work in a rush. Although, we may put expected dates of completion, you are highly encouraged to start working on your final project immediately.
3. You are expected to use (HTML/CSS/JAVASCRIPT/ PYTHON/SQLite/FLASK).
4. Use the assessment tool as a guideline on how your work will be assessed.
5. Originality is expected when you submit your work. Plagiarism has disciplinary implications and will result in a failure.

DESCRIPTION OF THE TASK

In your final project you will need to create a web based application. This application can be an **e-commerce**, **customer relationship management**, **social media platform**, **blog, e-voting system, inventory management systems, airline reservation system, point-of-sale system, booking management system** e.t.c. Majority of the transactions carried out on these platforms includes (but not limited to) sales, payments, stock taking, customer feedback etc. Please find Appendix 1 with detailed description. In this task, you are asked to select a business practice of your choice.

This task will challenge you to create the application and you are encouraged to look at multiple processes in the business you choose.

INSTRUCTIONS FOR THE TASK

You are expected to use any resources at your disposal to complete the task.

SUB-TASK 1: Preparation – Requirements & Design structure interface

Identify at least one process of your choice (for instance, ticketing, purchases e.t.c) in the practice selected. You may identify multiple business processes to improve your chances of displaying your abilities.

However, please be informed that you will not be penalized for selecting one business process. When you identify a process or multiple processes, it is important that you give due consideration to the time constraints in completing the subsequent activities.

By Thursday 18th Feb, you will need to submit a proposal and draw up a wireframe of your application. In this task, you are expected to write explanatory and descriptive comments to the designs, this will be submitted in an electronic form (link ro be supplied). You will also be required to book a slot with your assigned lecturer to go through the proposal and wireframe. The lecturers will release a table of times, in which you are required to contact the lecturer to book your own time. Your project cannot proceed without being seen by a lecturer.

SUB-TASK 2: COMPONENTS OF THE WEB-BASED APPLICATION

In this task, you will need to create the front-end interfaces for your web based application implementing HTML/CSS/JS. You can use different design styles depending on your preferences.

FRONTEND-SYSTEM

Some of the common expectations on your site include (but not limited to):

- Landing page
- About section
- Contact section
- All products/ All posts/ All items page
- Single product/ Single post/ Single item page
- Modals / Carousel / Charts
- Animations
- Mobile Responsiveness
- Navigation

Functionality

- Search functionality
- Fetching data
- Form handling(Adding data)
- Component creation
- Login / Register
- Event handling (onclick and onsubmit)

Deployment

- All your code must be pushed in Github
- Deploy the Front End to Netlify
- Share the links with your lecturer

BACK-END SYSTEM

Adding functionality to the code using Flask. Some of the expected concepts are:

- File structure.
- Routing, variable/class usage, URL route binding, URL parameter passing.
- Input validation or method action validation.
- Handling form data using Flask request module.
- Handling data from endpoints or databases.
- Demonstrate understanding of API's.
- Use SQLite to create databases and manipulate data (Create, Read, Update, Delete (CRUD) operations. Here, you are expected to implement different DDL(Data Definition Language), DML(Data Manipulation Language), DCL(Data Control Language) & TCL(Transaction Control Language).

Functionality

- Make sure all endpoints are doing what they are supposed to when visited
- Adhere to python coding convention standards. Remove all unused code.

- Test your application - You are advised to swap your projects with your colleague and try to show each other weaknesses of your application. This must be done before deployment.

Deployment

- All your code must be pushed in Github.
- Deploy the Flask application on Heroku or PythonAnywhere. We highly recommend Heroku.

NB: **Please submit three links to the LMS. The *netlify link*, the *heroku link* as well as the *github link* to your project.**

Please note that all projects need to be fully functional and submissions that do not support that will be penalized.