NGEE ANN POLYTECHNIC

School of InfoComm Technology

Web Application Development

Diploma in IT

April 2023 Semester

Team cum Individual Assignment

(30% of WEB Module)

8th May 2023 – 4th August 2023

Deadline for Final Submission:

6th August 2023 (Sunday), 11:59 PM

Tutorial Group :			
Team Number :			
Tutor :			
Members :	Assignment Package	Student No.	Student Name
	1		
	2		
	3		
	4		

Penalty for late submission:

10% of the marks will be deducted every day after the deadline.

NO submission will be accepted after 13th August 2023, 11:59 PM.

WEB ASSIGNMENT – COURIER SERVICE MANAGEMENT SYSTEM

1. OBJECTIVES

- To work as a team to develop a Web-based information system.
- To design and code the functions of a Web-based system using ASP.NET Core MVC technology.

2. SCOPE

- To develop a functional and working system described in Appendix A.
- To ensure that all the programs implemented share a common database.
- To ensure that all the programs implemented are tested and robust (input data validated), and where possible, adopt appropriate error handling routines.
- To enable different users to login and access different services provided by the system.
- To ensure the same look and feel across all programs, where possible.
- To ensure the same naming conventions of variables and filenames are adopted for programs, where possible.

3. DELIVERABLES (Except ii, all deliverables are to be submitted in Checkpoint 3)

Each team is required to submit the following in POLITEMall:

(i) A duly-filled assignment cover page.

(ii) A set of design documents for the website (e.g. sitemap, storyboards) – To be submitted in Checkpoint 1.

(iii) An ASP.NET Core Project (including source code from all memebrs) submitted as a zipped file.

(iv) An individual report consists of the personal reflection of the following, **which is not more than two pages**:

a. What you have managed to implement in the assignment, using the knowledge learnt from other modules.
b. Challenges/difficulties encountered during implementation when trying to follow your original design submitted for Checkpoint 1 and 2, and your work around to the challenges/difficulties.
c. Best features that you have implemented for the assignment.
d. Acknowledgement to the persons who had helped you in the assignment and the nature of help, as well as references to any help documentations, sources (including ChatGPT).

Note: Submit your personal reflection during the demo session.

4. PRESENTATION AND DEMONSTRATION

Each team will be given 30 minutes to do a demo to your tutor. Your demo should illustrate how each function works, highlight and explain any special features, as well as answering any queries on technical details on your functions. Your tutor may ask you to explain or modify the code during demo.

During demonstration, you should demo your application with the code submitted in POLITEMall.

A typical presentation should consist of the following:

(i) System overview to show the general look and feel
(ii) Individual member to demonstrate the assigned functions. This means that every student **must** present and answer questions during demo.

5. ASSESSMENT

This assignment constitutes 30% of this module.

Each student will be assessed based on both team and individual components as described below:

- **Team (20%)**
  i. The degree of integration of all the functional packages.
  ii. The consistency in the design of the application.
  iii. The authentication feature for various users of the application.
  iv. The successful integration of a RESTful Web API feature.
  v. The effectiveness of usage of Version Control System
- **Individual (80%)**
  i. The design and implementation of the chosen functional package.
  ii. The implementation of input data validation/error handling.
  iii. The delivery of the demo.
  iv. The individual reflection.

6. PERFORMANCE CRITERIA

A Grade

- Implements the *Basic Features* successfully, with database access.
- Implements all basic *input validations and* other advanced checking to ensure data integrity.
- Implements all the *Advanced Features* successfully.
- Program is robust and does not fail unexpectedly.
- Program provides strong evidence of good programming practice.
- Able to navigate from one function to the next function with ease (i.e. user-friendly) and all functionalities and design of all web pages are well-integrated and well-considered for ease of use and future modification/expansion.
- Able to login as different users to perform appropriate functions.
- A useful and well-integrated RESTful Web API feature.
- The personal reflection on the assignment development process is clear, concise and well organized.
- Excellent explanation during demo.
- Effective use of Version Control System.

B Grade

- Implements the *Basic Features* successfully, with database access.
- Implements some basic *input validations* successfully.
- Implements one *Advanced Features* successfully.
- Program does not fail unexpectedly.
- Program provides sufficient evidence of good programming practice.
- Able to navigate from one function to the next function with ease (i.e. user-friendly) and all functionalities and design of all web pages are well-integrated.
- Able to login as different users to perform appropriate functions.
- A useful and well-integrated RESTful Web API feature.
- The personal reflection on the assignment development process is clear, concise and well organized.
- Good explanation during demo.
- Effective use of Version Control System.

C Grade

- Implements the *Basic Features* successfully, with database access.
- Implements some basic *input validations* successfully.
- Program does not fail unexpectedly.
- Program provides sufficient evidence of good programming practice.
- Able to navigate from one function to the next function with ease (i.e. user-friendly) and all functionalities and design of all web pages are well-integrated.
- Able to login as different users to perform appropriate functions.
- A useful RESTful Web API feature included in the system.
- The personal reflection on the assignment development process shows sufficient understanding of the work done.
- Assignment demonstration and explanation shows sufficient understanding on the work done.
- Use of Version Control System.

D Grade

- Implements the *Basic Features* successfully, with database access.
- Program does not fail unexpectedly.
- Able to navigate from one function to the next function with ease (i.e. user-friendly).
- Able to login as different users to perform appropriate functions.
- A RESTful Web API feature included in the system.
- The personal reflection on the assignment development process shows some understanding on the work done.
- Assignment demonstration and explanation shows some understanding on the work done.

NOTE:

- *Evidence of good programming practice include the use of meaningful variable names, proper indentation of code, appropriate and useful comments, adoption of standard naming conventions etc.*
- *Basic Input validation refers to the checking of the inputs entered by the user, e.g., omitting compulsory fields, invalid data type, invalid range, invalid format.*

IMPORTANT NOTE:

Students from the same team can be given different team grade if tutors are convinced by evidence of widely unequal contribution by the different team members.

7. SUBMISSION

There are 3 checkpoints for submission of deliverables for this assignment:

Checkpoint 1 (10%), Duration: Week 4 - 5
- Deliverables include a site map (team component, 3%) and storyboards for the web pages that you are going to develop (individual component, 7%)
- Softcopy submission on POLITEMall (You tutor will inform you on the details of submission.)

Checkpoint 2 (10%), Duration: Week 6 - 12
- During week 13 (10 – 14 Jul 2023), tutor may ask you to show the progress of your development work.
- You should target to finish 50% of the required functionality (not including integration of works with your team members).
- *(Details on submission will be informed at a later stage)*

Checkpoint 3 (80%), Deadline: 6 Aug 2023 (Sunday), 11:59pm
- You should have integrated all functions created by each member at this point and ensure that your website functions seamlessly and user-friendly.
- Incorporated RESTful Web API feature
- Your team will need to conduct a demo to your tutor in the following week, using the program you have submitted in the network web folder.
- Team Component: 17%, Individual Component: 63%
- *(Details on submission will be informed at a later stage)*

IMPORTANT NOTE:

All deliverables are to be submitted at the designated POLITEMall assignments. There should be **NO submission by e-mailing** to tutors.

PLAGIARISM WARNING:

If a student is found to have submitted work not done by him/her, he/she will not be awarded any marks for this assignment. Disciplinary action may also be taken.

Similar action will be taken for student who allows other student(s) to copy his/her work.

ENCLOSURES:
- Appendix A: Functionality Description of the Case Study
- Appendix B: Entity-Relationship Model of the Database Design
- Appendix C: Data Dictionary of the Database Design