BMIT3173 Integrative Programming

ASSIGNMENT SPECIFICATION

Introduction

Students will work in a team comprising 4 to 5 members from the same practical class as this will provide an appreciation of the effects of scale that is present when creating a non-trivial system and how various technologies may be integrated to create a complete system. Each student will be individually assessed based on the quality and scope of work completed by him/her.

Learning Outcomes Assessed

CLO	Description	Contribution to Coursework
CLO2	Construct programs that use integrative technologies (P4, PLO3).	85%
CLO3	Demonstrate self-advancement through independent learning of integrative programming technologies (A3, PLO9).	15%

Problem Statement

Objective

Students are required to select **TARUMT** as the organization of focus. Assume that **TARUMT** has commissioned your team to initiate a project to improve its business operations and overall performance.

You are required to conduct the necessary research on the **business workflow and operational processes within TARUMT** and develop a **web-based application** that is applicable and beneficial for use within the university environment to enhance its performance and efficiency.

Scope of Work

Initial Deliverables (Due Week 2 - Group Submission)

1. **System Description**
   Provide a brief description of the system that you will be developing.

2. **Analysis Class Diagram**
   - Submit an analysis class diagram (including entity classes with relationships, excluding methods, attributes, and interfaces).

3. **Team Member Modules**
   - Each team member should outline the module(s) they are responsible for, explaining the functions and scope of their module(s).

Individual Responsibilities (Due to week 6):

Each student must:

1. Implement at least **one (1) module** of the system.

2. Ensure that your module design and implementation incorporate the following technologies and practices:
    - **PHP and MySQL**
    - **Design Patterns**
    - **Secure Coding Practices**
    - **Web Service Technologies**

3. The **entire system** must follow the **Model-View-Controller (MVC) architecture**, and you are required to use **Object Relational Mapping (ORM)** in your program.
   Note: Marks will be deducted if the above requirements are not strictly followed.

4. Using a framework (e.g., Laravel, CodeIgniter) is optional, but students are **encouraged** to utilize a framework to improve the organization, scalability, and maintainability of their code.
   Note: Frameworks provide built-in tools and libraries that can help streamline development, enhance security, and speed up the process of building robust, feature-rich applications

Please refer to the **Assignment Rubrics** for detailed assessment criteria and the allocation of marks.

Submission Deadline

- Sunday, 21st December 2025 (Week 6)
    - Assignment report
        - Each student must prepare an individual assignment report using the **provided document report template**.
        - Include the following section of the assignment:
            - **PHP and MySQL**
            - **Design Patterns**
            - **Secure Coding Practices**
            - **Web Service Technologies**
        - Refer to the template for detailed instructions on each section.
            - **Submission Format**
                - Convert the report to a **PDF file**, rename it with your **full name**, and submit it to the **Google Classroom Assignment**.
    - Team source code - to be uploaded to a specified Google drive folder. Include:
        - The complete project for your application (group leader to submit).
        - Each file should have the author's name included in the header comment.
        - The complete SQL scripts for creating the database and tables, as well as populating the database tables with initial data.
- You will also be required to give a demo of your completed work to your tutor during

Week 7.

Academic Integrity and Plagiarism

There must be originality in your work, i.e., do not copy or refer to other teams. You may only work with your team members(s) to produce the solution of this assignment. You must not share with or refer to any part of the assignment (including the code) of anyone else except your team member(s) and your tutor.

Before submitting your assignment, ensure that you have complied with TAR UMT's plagiarism policy. Any attempts to cheat, plagiarism, collusion, and any other attempts to gain an unfair advantage in assessment will cause the students concerned to be penalized.

Students found to be dishonest are liable to disciplinary action.

Note on AI Usage:

A certain percentage (30%) of AI-generated content is allowed in your assignment, provided that it is used responsibly and within the context of academic integrity. However, students are expected to ensure that the majority of the work reflects their own understanding and efforts.

If AI tools are used excessively which is exceeded 30%, students may be penalized for not adhering to the expected standards of independent work and originality.

Please ensure that AI-generated content is clearly cited or referenced where applicable and always align with the guidelines set.

Late Submission

Refer to TAR UMT's Guideline on Late Submission of Coursework.