

Higher Diploma in Software Engineering (IT114105)
Coursework (Semester 4 - 2019/2020)
Enterprise Systems Development (ITP4511)

Students are required to

- Complete and upload software project and the related documents to moodle1920.vtc.edu.hk
- Hand in a hard copy report to drop-in box outside IT Departmental Office at Room C400 (Attention to Lecturer: Mr. Jesse Shum)

Date of Submission: On or before **2019-Nov-30, 4:30 p.m.**

Students are required to submit your work in Moodle platform and demonstrate your assignment during lab session. Late assignment submission will **NOT** be allowed. The late assignment will score **Zero** mark.

A. Scenario

Attendance is the basic requirement for a student in school. A teacher is responsible for recording the attendance for the students. A class attendance system is one of the most important things to keep track of a student who attends classes regularly. If the class attendance of a student is less than 60%, then he would be failed in this semester and excluded from taking an examination. In the past, a teacher needs to mark the student attendance on a paper sheet and count the attendance manually. However, this method can be inefficient and inaccuracy. A computer system can improve the accuracy of the records and generate real-time statistic reports.

A student attendance monitoring system provides monitoring, tracking and reporting student attendance in a class. This system will be a web-based system with a user-friendly GUI. The system will handle the process of recording student attendances by teacher inputs. Every morning, teachers use the attendance system to take a roll call. The attendance data will be stored in the database.

In addition to the functionalities mentioned above, the web-based system provides account management, analytics and reporting function for monitoring student attendance.

Basically, the system involved **teacher**, **student** and **IT administrator**.

- Teacher: can mark attendance, modify the attendance record, and generate reports.
- Student: can view his or her attendance record only.
- IT administrator: can fully access the system, included account management.

You are required to form a team in order to complete following requirements.

B. Function Requirement

Class Management Functions

- Setup class data
- Schedule school day

Attendance Functions

- Show class schedule
- Record attendance for students per class
- Edit/view attendance history
- Generate attendance sheet for each class

Analytic/Report

- Calculate attendance rate for each student by class
- Generate report for attendance rate less than 60%
- Generate report for class schedule

Account Management

- Create different account/user
- Register student according to class
- Modify account information
- Manage the user role

Extra Feature

You are encouraged to add extra feature to score bonus mark, for example,

- Show statistic in **graphical formats**
- Show top search keywords
- Export the attendance report to Excel file

Requirements

- Design your own database for the web-based system

C. Project Requirement

According to the scenario above, you are required to design and develop a web application with Java EE 7.0 features in order to solve the above background needs. You are required to form one project group with Maximum **2 members**. Each student will specify his/her part of the individual work.

Students should share the workload evenly. The group should list down work done by each student.

Work break down	Student 1	Student 2
	50%	50%

The project will be marked according to the following criteria.

Skills requirements

- a) Use JSP/servlets to dynamically generate HTML pages
- b) Use JSP/servlets to accept user inputs from browser
- c) Use JSP Action
- d) Use Custom Tag (taglib).
- e) Use JavaBean
- f) Use JDBC for database connection
- g) Use session checking
- h) Use login control
- i) Apply MVC model
- k) Other skills applied

Functionalities and Web design

- a) Complete the user requirements
- b) Consistent design and easy to use
- c) Smooth navigation to and fro
- d) Tidy Page Layout with logical and related graphics
- e) Error free implementation
- f) Creativity

Report and Presentation

Note: * Please note that you will be asked to recompile all your Java classes during demonstration, and to answer questions regarding your implementation.

D. Guideline

Plagiarism

The submitted assignment must be the group's own work done and finished solely by the group members. Plagiarism will be treated seriously. Any assignments that are found involved wholly or partly in plagiarism (no matter the assignments are from the original authors or from the plagiarists) will score Zero mark.

Submission of Assignment Work

1. The front page of your submission should include the course title, module title, student identity number, student name, and group number.
2. A written report should include the followings:
 - (i) Assumption and the user and system requirements
 - (ii) Site map
 - (iii) System structure on how MVC Model is applied
 - (iv) Database structure
 - (v) Brief description (1 or 2 pages only) on the characteristics or good design of your application
 - (vi) Conclusions
 - (vii) Skill checklist
 - List your used skills (or technologies) in a single page. It highlights the skills and technologies applied in your project
3. **Upload all related documents and software project to moodle1920.vtc.edu.hk on or before the deadline.**
4. You are required to demonstrate your assignment. You will fail this module if you do not demonstrate the assignment in the lab session as required.

- The End -