

**Higher Diploma in Software Engineering (IT114105)**  
**Coursework (Semester 5 - 2022/2023)**  
**Enterprise Systems Development (ITP4511)**

Students are required to upload software project implementation and the related documents to <http://moodle.vtc.edu.hk> on or before the submission date.

Date of Submission: On or before **2023-Apr-28 04:30 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 a **Zero** mark.

### **A. Scenario**

PL, or the Event Point Limited, operates five venues in Hong Kong - Tuen Mun, Sha Tin, Tsing Yi, Lee Wai Lee, and Chai Wan. The primary business of EPL involves providing rental venue services to its members for event organization. To improve the efficiency of the venue booking process, EPL is searching for IT consultants to digitalize the system. Currently, members must check the availability and complete the booking process in person or by phone reservation for each venue. All booking records are manually recorded in a notebook, making them error-prone and challenging for staff to verify. Additionally, it is difficult for senior management to assess the utilization rate of each venue and booking attendance of each member, rendering the current method inefficient. The implementation of a computer system can revolutionize the booking process, allowing for real-time record verification and the generation of statistical reports.

The implementation of the new venue booking system is intended to offer venue booking and management, monitoring, tracking, and reporting features. This web-based system will feature a user-friendly graphical user interface (GUI) and will be available to Senior Management (Administrator), Staff, and Members, each with their respective usage requirements as detailed below:

Member	Staff	Senior Management
<ul style="list-style-type: none"><li>• Create an account, venue booking,</li><li>• Guest list management,</li><li>• Check personal booking records, and</li><li>• Update personal booking records.</li></ul>	<ul style="list-style-type: none"><li>• Venue information and timeslot management,</li><li>• Handle members' booking records (approval, check-in/checkout).</li></ul>	<ul style="list-style-type: none"><li>• Check the analytic &amp; report,</li><li>• User account management.</li></ul>

The system should record the procedures involved in a typical venue booking scenario. Members will use the system to create a guest list (including names and email addresses) and submit booking requests (with details such as the date, time, guest list, and a notification template for guest invitations) for the available venues. They can book multiple sessions and venues with a single request. After receiving the booking requests, the person in charge of the venue will receive a notification to check and reserve the venue for 24 hours while using the system. The booking records will then be updated, and the results, along with the booking fee, will be notified to the member. Once the member has settled the payment and uploaded the receipt to the system, the person in charge of the venue will receive a notification to confirm the booking request, and the member and guests will receive notifications as well.

When a member arrives at the venue, the venue staff will use the system to check them in. Once the member has finished using the venue, the staff will use the system to check them out and make any necessary remarks about damages or special issues. The member can also leave comments after completing their booking. The check-in and check-out records will serve as a reference for management to prevent any abuse, such as blocking

the booking function for specific member users. The system will update the venue and member records accordingly, and members can find their booking requests and history in their profile.

Senior management is responsible for periodically checking the venue booking records and reporting them to the Chairman of EPL. Additionally, they are responsible for maintaining the member profiles.

You will a team to complete the following functional requirements.

## **B. Function Requirement**

### **Venue and Guest List Management**

- Show a list of all venue and guest
- Add / edit / delete venue\* and guest
- Enable/disable listing of venue on booking system
- Confirm/decline booking request
- Handle booking check-in / check-out

### **Venue Booking**

- Show a list of venue and related features (e.g. Image, name, type, capacity, location, description, person-in-charge, booking fee)
- Send booking request / check booking request status
- Booking reminder
- Check/ Update personal booking record

### **Analytic / Report**

- Show a list of booking records of the selected venue
- Show the booking rate of selected venue (calculated by month/year)
- Show the booking attendance rate of selected user (calculated by month/year)
- Show the monthly/ yearly income generated by each venue

### **Account Management**

- Show a list of existing users
- Create and delete users
- Edit users with detail and roles
- Manage the user role

### **Extra Feature**

You are encouraged to work on the extra features to score bonus mark, for example,

- Show statistic using graphs
- Keywords/ Tags search to find suitable venue / guest
- Export the overall booking records to Excel or CSV file (.xls / .csv)

\* Each venue's hourly rate may differ from the others. However, the hourly rate of venue is fixed for every timeslot. The hourly rate could only be changed for an entire year. For example, EPL(Sha Tin)'s hourly rate is \$200/hr for 2022 & 2023, and would be adjusted to \$250/hr for 2024.

### C. Project Requirement

According to the scenario above, you are required to design and develop a web application with Java EE 7.0 features to solve the above background needs. You are required to form one project group with 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 the 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 with the application
- 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 the 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
2. number, student name, and group number.
3. A written report should include the followings:
  - a) Assumption and the user and system requirements
  - b) Site map
  - c) System structure on how MVC Model is applied
  - d) Database structure
  - e) Brief description (1 or 2 pages only) on the major characteristics and design of your application
  - f) Conclusions
  - g) Skill checklist which lists your used skills (or technologies) in a single page and highlights the skills and technologies applied in your project
4. Upload all related documents and software project to moodle.vtc.edu.hk on or before the deadline.
5. 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 -