Assignment

ITS1027 - Software Engineering

BSc (Hons.) in Computer Science via GDSE

Take-home assignment and VIVA

Total Marks: 100

Objectives

Getting an approach to develop standalone applications using Java

- Usage of Java swing/JavaFX for application development.
- Ability to create standard user interfaces for standalone applications.
- Usage of Event Handling.

Coursework Requirements and Instructions

- You have to focus on how to implement user interfaces using your knowledge in JavaFX / Java Swing.
- This assignment consists of 2 components. Component A and Component B.
- Both components carry marks. In order to face the viva-voice at the end of this assignment, it is compulsory for you to complete the said two components successfully.

Submission

- You should submit the deliverables of the assignment on or before the due date specified.
- Your work is to be made into a .zip file with the file name format "[GDSE*BatchNo*_ITS1114_*YourName*]" and should be submitted to the Google class room.
- EXAMPLE: If your GDSE batch is 57 and your name is Nimal Perera,
    - The .zip file name: GDSE57_ITS1114_NimalPerera.zip

Room Reservation System

Introduction

Blue Ocean Hotel is a newly established hotel. This hotel is a medium-sized hotel with 25 rooms in total. This hotel includes single, double, triple and quad rooms. Additionally, they offer three meal plans, including local meals, Chinese meals and French meals. These meal plans can be requested while making room reservations. This hotel requires a Room Reservation System customized to the business process.

Roles

Following types of people accessing the system:

1. Admin
2. Receptionist

(Please refer to the use case diagram in the Appendix for functionalities of the given users)

Business Process.

The following business process when a customer reserves a room from the system:

1. A customer can come to the hotel in person or contact the front desk over the phone for a reservation.
2. Once the customer inquires about rooms and packages, the receptionist provides them with the relevant details by referring to the system.
3. Once the customers make their pick, the receptionist will check the availability of the rooms and inform them. If the requested type is not available, the receptionist should find other suitable types and suggest them to the customer from the information in the system.
4. The following information will be requested from the customer when making a reservation:
    a. Name
    b. National Identity Card Number
    c. Telephone Number
    d. Email
    e. Address
5. Once the reservation is made, the system will print a token for the customer. The receptionist will email the receipt to the customer later on(if the customer contacts through phone). If it's a walk-in customer, the receptionist will print the token for the customer.
6. If the customer makes a reservation for a night, the hotel room should be emptied by 11.00 am the next day.
7. If the customer books a room for a day or longer period, they should move out of the room by 9.00 am on the day after the requested period.
8. Cleaners of the room will take one hour to clean a room after a customer moves out, so the rooms will not be available for reservation until the cleaning ends.

9. Additionally, the receptionist will be informed if a particular room is under maintenance. Thus, the receptionist marks that room under maintenance, and it will not be displayed in the "available rooms" view.
10. The receptionist can cancel a specific reservation if the customer requests it.
11. The receptionist can view the details of the customers if necessary.
12. The hotel manager has access to the admin account, and he/she can add rooms, meal plans and, if necessary, edit them.
13. The manager also can edit the prices of the given packages.
14. The manager gets an income report to be viewed freely according to the records in the system.

You are requested to develop the Room Reservation System for the Blue Ocean Hotel. This system should cover all the **required** aspects of the business process, and it should follow the Use Case diagram provided in the Appendix.

PART A

1. Create the user interfaces and prototypes for the system given above. Please use Figma or Adobe XD for user interface design.

PART B

1. Implement the user interface designs you made using JavaFX or Java Swing.

PLEASE SUBMIT THE PROJECT FILES OF **PART A** AND **PART B** AS INSTRUCTED BY THE ACADEMIC INSTRUCTOR ON OR BEFORE THE DUE DATE.

Guidelines

1. You can use other image editing software to create vector and raster graphics required for your user interfaces. However, your final UI design should be made by Figma or AdobeXD.
2. Please consider the situations that may occur between receptionist and customers and try to make the user interfaces user-friendly as much as possible.
3. You are not allowed to use any other technology than JavaFX to implement your user interfaces.
4. Please note that a use case is not considered a User interface.

Research

Research colour psychology briefly and use appropriate colour schemes for your user interfaces.

Evaluation Criteria

Method	Marks
Part A	40
Part B	50
User experience and colour schemas	10

Pass Marks: 50

Appendix

1. Use Case Diagram