American University of Beirut
Faculty of Engineering and Architecture
Electrical and Computer Engineering Department
Fall 2022-2023

EECE 351 – COMPUTING NETWORKS AND SERVICES

Term Project

HOTEL RESERVATION SYSTEM

Due Date: November 27th, 2022

Project Overview

In this project, you are asked to implement hotel reservation system – front desk activities. The system will record information about the hotel guests, verify room availability, accept reservations, and allocate rooms to guests.

General Requirements

Hotel guests should be able to login and register their accounts. Once the guest is logged in, he/she should be able to search for rooms, choose room(s) (based on its type) and dates of his/her visit and make the reservation. The guest should also have the option to edit or cancel his/her reservation. The server should keep track of all rooms, guests, and reservations and allocate the rooms based on availability. The server should keep a record of reservations and produce reports (per room or per user) for a time interval, if requested.

Client Features:

A guest (client) can

1. create his/her account
2. view the different types of available rooms in the hotel
3. view list of rooms available between the requested check-in and check-out dates
4. reserve one or many rooms
5. view/edit/cancel a reservation
6. view/edit his/her profile
7. view the invoice(s)
8. view the history of his reservations (including the room and date details)

Server Features:

The server should

1. provide guests with an interface, where they create accounts and log in to them. Try to implement features that you may encounter on actual servers when creating accounts, like password verification, human verification (not a robot), etc…
2. manage the accounts that are stored in a MySQL database
    a. create the database in MySQL and its tables to store the guests' data, the hotel rooms, and the tracking information that the hotel server generates
    b. you have the option to provide an alternate solution to store your data (like a file) but **you are encouraged** to use the MySQL option.
3. be multithreaded in order to serve multiple guests concurrently
4. keep track of all room types [single, double, smoking/non-smoking…] and their status (reserved, confirmed, free)
5. keep track of all guests and their history
6. generate activity reports for user activities within a specified time interval
7. generate invoices

Notes

1. During the demos, each student will be asked about the design, code, implementation, application functionality, as well as his/her contribution.
2. Any cheating or unusual commonality will jeopardize the project grade and could result in disciplinary actions.
3. Late projects are penalized with an exponential trend in relation to past due time.
4. Deadline for submitting the final deliverables (see below) to Moodle is Nov. 27th, 2022 at 11:55 PM.
5. For any technical questions or clarifications, contact Miss Shaza El Fakih on sre17@mail.aub.edu.

Deliverables

Your project will be divided into 2 phases:

1. Phase 1 (5% of project grade): due Nov. 1, 2022 at 11:55 PM.

At this point in your project, you are required to submit a progress report. You should indicate where you are in your design, what you have implemented so far, i.e. anything you have accomplished in the project. The report should not exceed two pages. A brief demo of 5 minutes will be scheduled for each group to present its progress and show its work.

2. Phase 2 (95% of project grade): due Nov. 27, 2022 at 11:55 PM.

You should zip all files of the project together in one folder named "group#.zip", and upload it to Moodle, including the source code for the client and the server, executables for all, your final report and a README file (only one submission per group is required).
The report should be a 4-page document including a description of the design, the database tables design, and any additional or unique features. Also describe any problems you ran into and how you tackled them. In addition, add a section that states exactly how the load was distributed among all group members and which parts did each member work on.
In the README file, include your full names, the group number, the operating system you used, and a description of how to run the client and the servers.

Grading Criteria

- Neatness and Readability of the code: 3%
- Completeness, clarity and content of the final report: 2%
- Communication protocols design: client ←→ server ←→ secondary server: 10%
- Functionality of client and servers: 68%
- Presentation and answers during demo: 10%
- GUI design and functionality: 7%