

HOTEL MANAGEMENT SYSTEM APPLICATION

Debayan Mitra

A20501783

College of Computing, Illinois Institute of Technology

ITMM 510: Object Oriented Application Development

Prof. James Papademas

December 9th, 2022

Table of Content

Topic	Page number
Abstract	3
Topics Covered	3
Application Go-Through	4
Launch Guide	5
App Photos	6-12

Abstract

This hotel management application can be used to manage tasks including keeping track of client information, reserving rooms of four distinct types, ordering food for specific rooms, unreserving rooms, and displaying the bill. Additionally, it can be utilized to view various room amenities and room availability.

The application is menu-driven and runs until the user closes it. In order to preserve the existing information when we restart the program, file handling has been utilized to store the current status of the hotel (client details, booked rooms, and meal orders) in a file once the application closes. When the software is restarted, it examines the file to determine the hotel's prior status. Since it may be done concurrently, writing to files has been done in a separate thread. The user defined exception is thrown if they attempt to reserve a room that has already been reserved. Any unexpected exception is carefully handled in order to handle it.

Topics Covered

Classes and Objects, Inheritance, File Handling with Objects, ArrayList, implementing Interface, User defined exception and Exception handling. JavaFX is used to generate GUI driven applications which runs on top of java programming language.

Software Contains:

- Database Creator, It automatically connects to papa server using JDBC MySql driver Database connection manager.
- Basic Operations - Add a guest, Add room, user, Book room, Payment
- Role based access control for user and admin

About Software Design:

- Neat MVC architecture.
- Clean understandable and result oriented code.
- An object oriented approach is used to achieve maximum efficiency.

Purpose and aim of app:

- To simplify hotel booking and management
- To create a thin lightweight desktop application.
- Practice it for learning purpose to improve Object Oriented software development.
- Understand best practices of software development.

ABOUT THE APPLICATION

Users of the desktop application hotel management System can reserve hotel rooms and leave service-related reviews. Managers are able to manage rooms and reserve rooms for new clients. The administrator of this application can also add, edit, and remove staff for their application and view the total revenue generated by their hotel.

In this manner, using this program will make hotel administration simpler than manually recording every data in their ledger. With this new approach, the management, customers, and staff may all be happier.

Requirements to run this application executable Jar file:

- To run on a local server, Install MySql and it should be running on localhost:3306.
- Your Java Version Must be 8 or above.
- Make Sure to edit the Controller/FXMLDashboardAdminController.java' class.
Where you need to edit database name, your database username and password which should be according to your own MySql database setup.

Things that I used to create this desktop application:

- Eclipse IDE for Java Developer version 2022-06
- SceneBuilder 8.5 (for JFoenix 8.0.10 & java 8 compatible)
- Java 8
- JavaFX
- MySql
- MySql JDBC connector
- JFoenixUI Components
- Font Awesome Glyphicon library

Disclaimer:

This is a JavaFX-based hotel management system. features tabs for making a reservation, adding a client, searching, and paying. We will upgrade the software shortly with a database-connected, fully functional system using a simple, gorgeous material design using fxml and CSS.

HOW TO LAUNCH APPLICATION

Main Window: All windows will open on this scene, check your current user, date, currency exchange and rooms as live from nav bar, admin can manage your application from menu bar exit, change user, update password, send email, open calculator, exchange, change user interface theme etc..

Rooms Interface: Just focus on the room to read the tooltip text and manage all of your rooms from one page. Additionally, there are various shortcuts for quick check-in, setting the room as clean, filthy, dnd, etc., showing reservations, performing checkouts, etc. */* To enter the room, simply click on the room to manage it (posting, payment, client information, etc.).

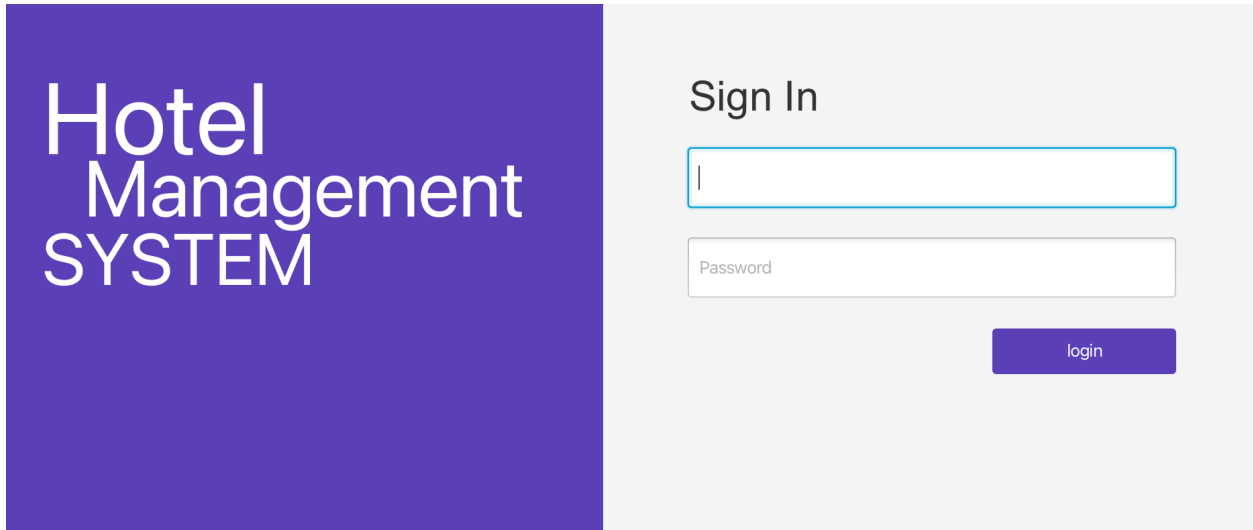
Guest Window: Guests can book rooms, view rooms and bookings, once a guest clicks on the book now button, a room booking form pops up, the guest can fill that form and confirm booking. Additionally the table in the guest page contains all of the information about your customers, making it easy to quickly find them.

Reservation Window: A guest user made by admin is given privilege to check out the current reservations on all rooms in the hotel. Admin can control all of your reservations, including hotel capacity, vacant rooms, wait lists, and canceled reservations. You may search for reservations by date, reference number, or agency reference number, and make new reservations with all of the necessary information.

Room Status Window: A guest is permitted by admin to view status of room, it can check whether a room is available or not, can book and cancel his reservation. Set your room's status to clean, dirty, dnd single, or plural, conveniently from this page.

APP RUNTIME PHOTOS

1) App Main Page



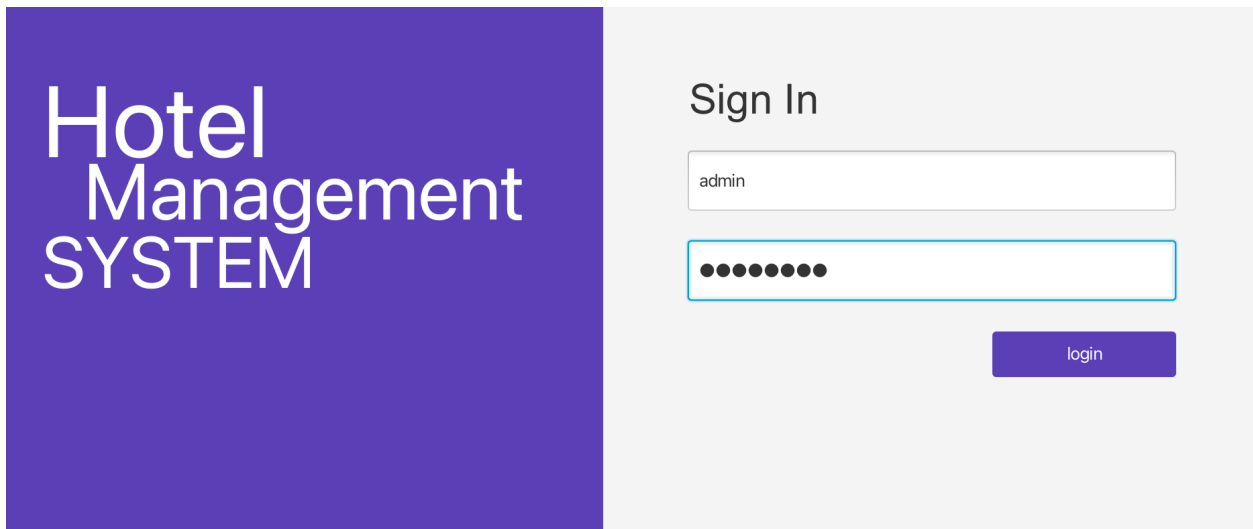
The screenshot shows the main page of the Hotel Management SYSTEM. On the left, a purple rectangle contains the text "Hotel Management SYSTEM" in white. On the right, a light gray rectangle contains the "Sign In" form. The form has a title "Sign In", a username input field with a cursor, a password input field labeled "Password", and a purple "login" button.

Hotel Management SYSTEM

Sign In

login

2) Admin Login



The screenshot shows the admin login page of the Hotel Management SYSTEM. On the left, a purple rectangle contains the text "Hotel Management SYSTEM" in white. On the right, a light gray rectangle contains the "Sign In" form. The form has a title "Sign In", a username input field pre-filled with "admin", a password input field with ten black dots, and a purple "login" button.

Hotel Management SYSTEM

Sign In

login

3) Admin Can Add a room

Dashboard

Room

Users

Admin Dashboard

Add New Room

Delete

Search

Room No	Type	Capacity
101	Single	2
222	Double	4

4) Admin - Can view a user

Dashboard

Room

Users

Users

Add New User

Delete

Search

Id	Name	Username	Role
2	aryan	aryan	1
3	admin	admin	1

5) Admin - Can add a new room, Form View

Dashboard

Room

Users

Add New Room

Room Number

Room Type

Room Capacity

Price

USD

Save New Ro...

Cancel

6) Table Auto refresh when new room is added

Dashboard

Room

Users

Add New Room

Add New Room

Delete

Search

Room No	Type	Capacity
101	Single	2
222	Double	4
111	King	6

7) Admin - Can add a new user

Dashboard

Room

Users

Add New User

Name

Username

Password

Role

Save New User Cancel

8) Admin can add a new user - Form View

Dashboard

Room

Users

Add New User

Name

Username

Password

Role

Save New User Cancel

9) User list updates when admins adds a new user

Dashboard

Room

Users

Add New User

Add New User

Delete

Search

Id	Name	Username	Role
2	aryan	aryan	1
3	admin	admin	1
31	Test User	Brian	2

10) User - can see a available room

Dashboard

Room

Guest

Dashboard

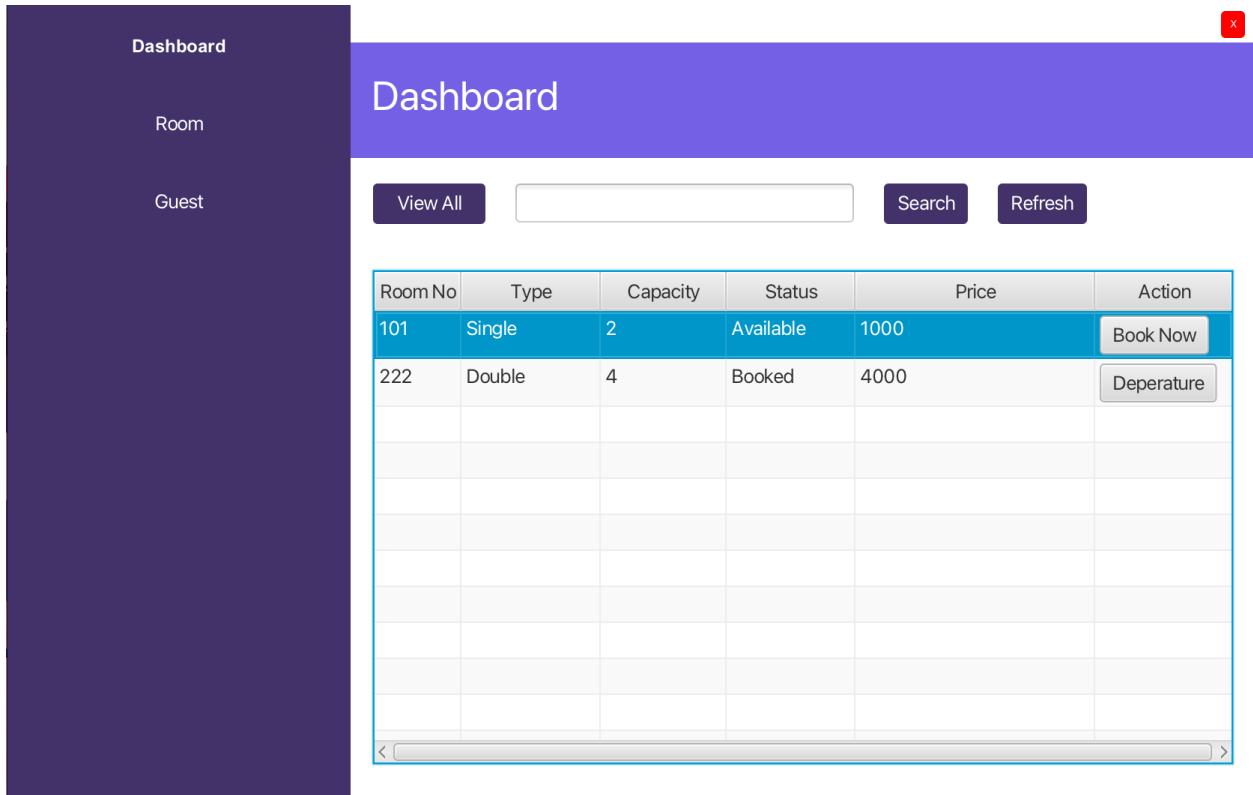
View All

Search

Refresh

Room No	Type	Capacity	Status	Price	Action
101	Single	2	Available	1000	Book Now
222	Double	4	Booked	4000	Deperature

11) User - select room to book

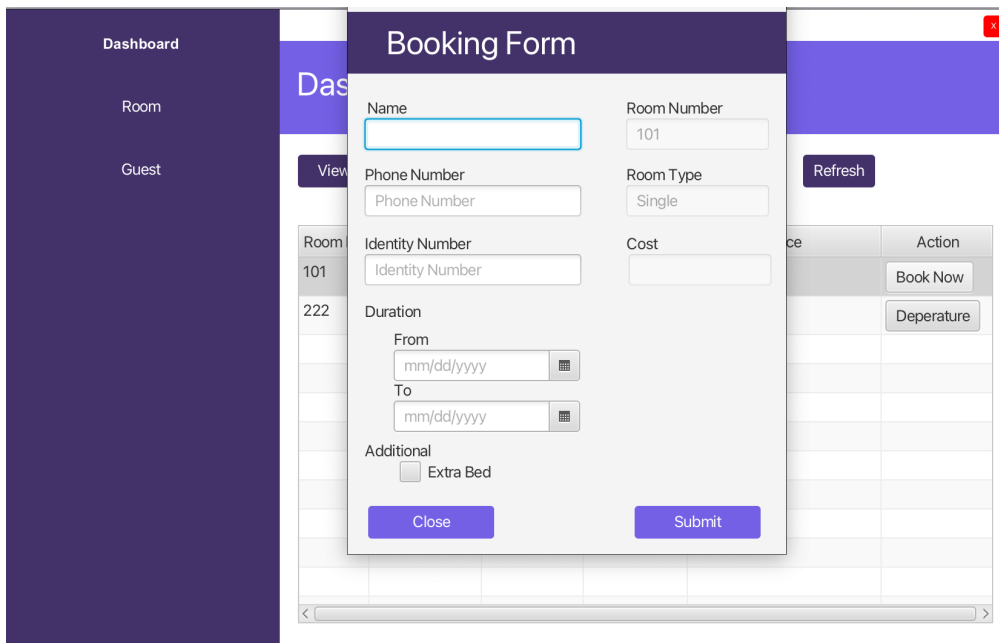


The screenshot shows a web application interface with a dark purple sidebar on the left containing the menu items "Dashboard", "Room", and "Guest". The main content area has a purple header with the word "Dashboard" and a red close button in the top right corner. Below the header, there are three buttons: "View All", a search input field, "Search", and "Refresh". A table displays the available rooms:

Room No	Type	Capacity	Status	Price	Action
101	Single	2	Available	1000	<button>Book Now</button>
222	Double	4	Booked	4000	<button>Deperature</button>

The table has a scrollbar at the bottom.

12) User - fills booking form to reserve a room



The screenshot shows the same dashboard as in the previous image, but with a "Booking Form" modal window open in the center. The modal has a dark purple header with the title "Booking Form" and a red close button in the top right corner. The form contains the following fields:

- Name:
- Room Number:
- Phone Number:
- Room Type:
- Identity Number:
- Cost:
- Duration:

From

To
- Additional: ☐ Extra Bed

At the bottom of the modal are two buttons: "Close" and "Submit". The background room table is partially visible behind the modal.

13) User - booking form validation

The screenshot shows a 'Booking Form' modal window. On the left is a dark sidebar with links: 'Dashboard', 'Room', and 'Guest'. The modal has a purple header 'Booking Form' and a red close button. It contains several input fields: 'Name' (Brian Phillips), 'Room Number' (101), 'Phone Number' (+13128743467), 'Room Type' (Single), 'Identity Number' (V6962890), and 'Cost' (₹ 4,000.00). There is a 'Duration' section with 'From' (12/10/2022) and 'To' (12/14/2022) date pickers. An 'Additional' section has a checkbox for 'Extra Bed (\$20)'. At the bottom are 'Close' and 'Submit' buttons. In the background, a table with columns 'Room' and 'Action' is visible, showing rows for rooms 101 and 222 with 'Book Now' and 'Deperature' buttons.

14) User can check current bookings

The screenshot shows the 'Guest' page with a sidebar containing 'Dashboard', 'Room', and 'Guest'. The page has a purple header 'Guest' and a red close button. Below the header are 'View All' and 'Search' buttons. A table displays current bookings with the following data:

Booking ID	Name	Phone	Identity Number	Room
8	Akshay	999999999	999999999	222
9	Brian Phillips	V6962890	+13128743467	101