PROJECT SYNOPSIS

PROJECT TITLE:

" ROOM_MANAGEMENT_SYSTEM "

SUBJECT: ADVANCED INTERNET PROGRAMMING LAB

SUBJECT CODE: 24CAP-652

<u>**SUBMITTED TO,**</u>
Faculty Name: Rohini Ma'am

<u>**SUBMITTED BY,**</u>
Name: Devanand Utkarsh
Section: 6 (B)
Uid: 24MCA20454

- **ACKNOWLEDGEMENT:**

I would like to express my sincere gratitude to Assistant Professor Rohini Ma'am at Chandigarh University for her invaluable guidance, encouragement, and unwavering support throughout the course of this project. Her insightful feedback and expertise were instrumental in helping me successfully complete the "Student Management System" project.

I also extend my heartfelt thanks to the Department of MCA, UIC, for providing the necessary resources and a conducive environment for this project. A special mention goes to those who generously contributed their time and knowledge, offering invaluable assistance during the project.

Devanand Utkarsh

24MCA20454

- **Abstract:**

- **The Room Management System (RMS)** is a web-based application developed using **Java**, **Hibernate**, **JPA**, **JSP**, and **MySQL**. This system allows users to book, manage, and view room availability. Admins have the ability to manage room details, view bookings, and handle user requests. The system is designed with the **MVC** architecture, ensuring modularity, scalability, and efficient performance.

- **TABLE OF CONTENTS:**

Project Synopsis: ROOM Management System

1. Introduction:

The Room Management System (RMS) is a web-based application designed to efficiently manage room bookings and administrative tasks. The system allows agents to register, log in, and access room details, availability, booking history, and customer information. Additionally, an admin module enables administrators to oversee room listings and manage agent bookings.

This system enhances user experience by providing an intuitive and responsive interface using JSP and Bootstrap, while Java technologies (Hibernate, JPA, Servlets) power the backend.

---

2. Objectives:

• Provide a secure and user-friendly platform for agents to manage room bookings and availability.
• Allow agents to view and update their profile information and room details.
• Enable agents to access booking history and customer information.
• Implement an admin module for managing room listings and overseeing agent activities.
• Facilitate seamless authentication, updates, and logout functionalities.
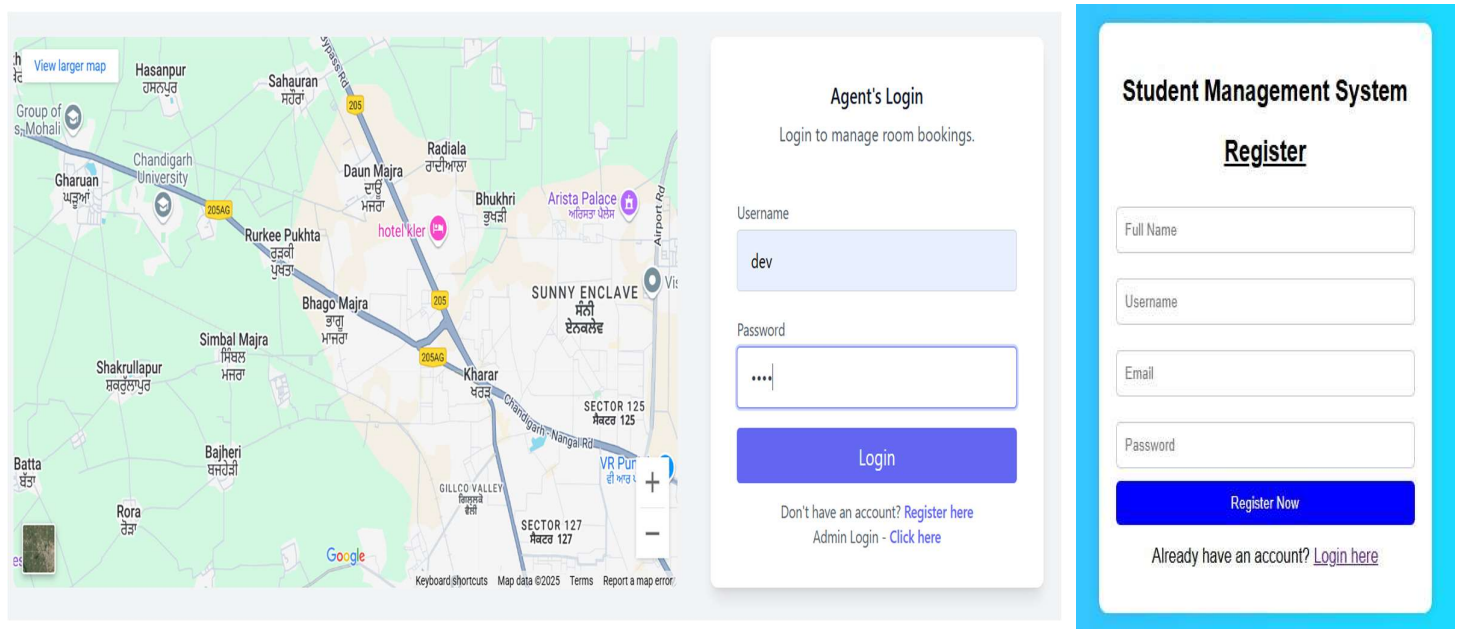
---

3. Technologies Used:

• Backend: Java, Hibernate, JPA, Servlets.
• Frontend: JSP, HTML, CSS, Bootstrap.
• Database: MySQL.
• Server: Apache Tomcat.

4. Features and Functionalities:

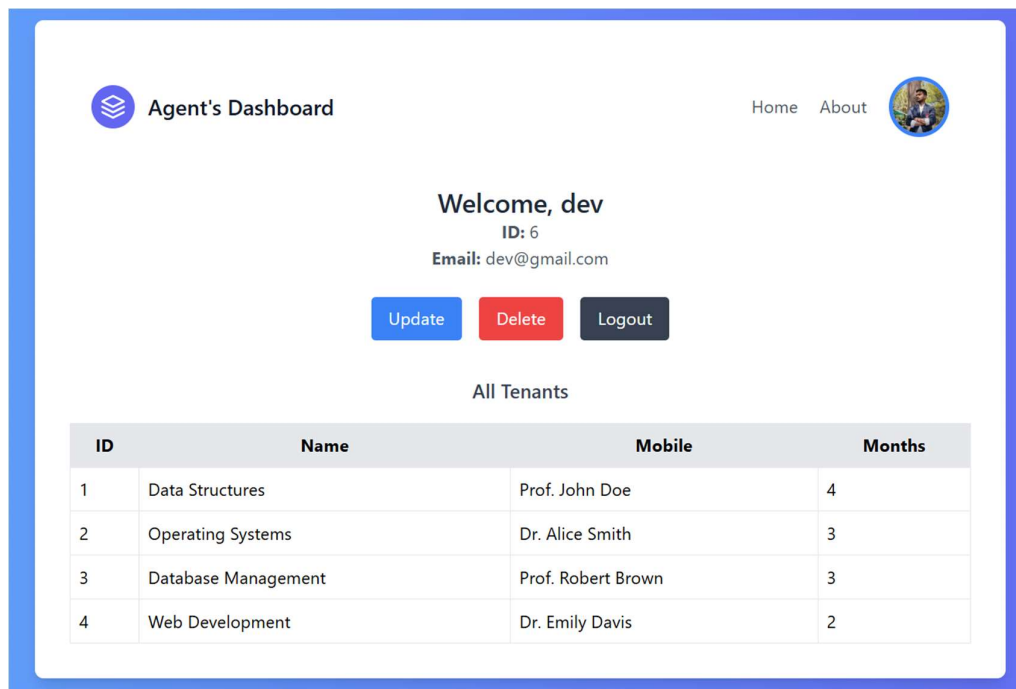## 4.1 Agent Module

1. **Agent Registration & Login:**
   - **Agents can securely register and log in using their credentials.**
   - **The system verifies user details before granting access.**
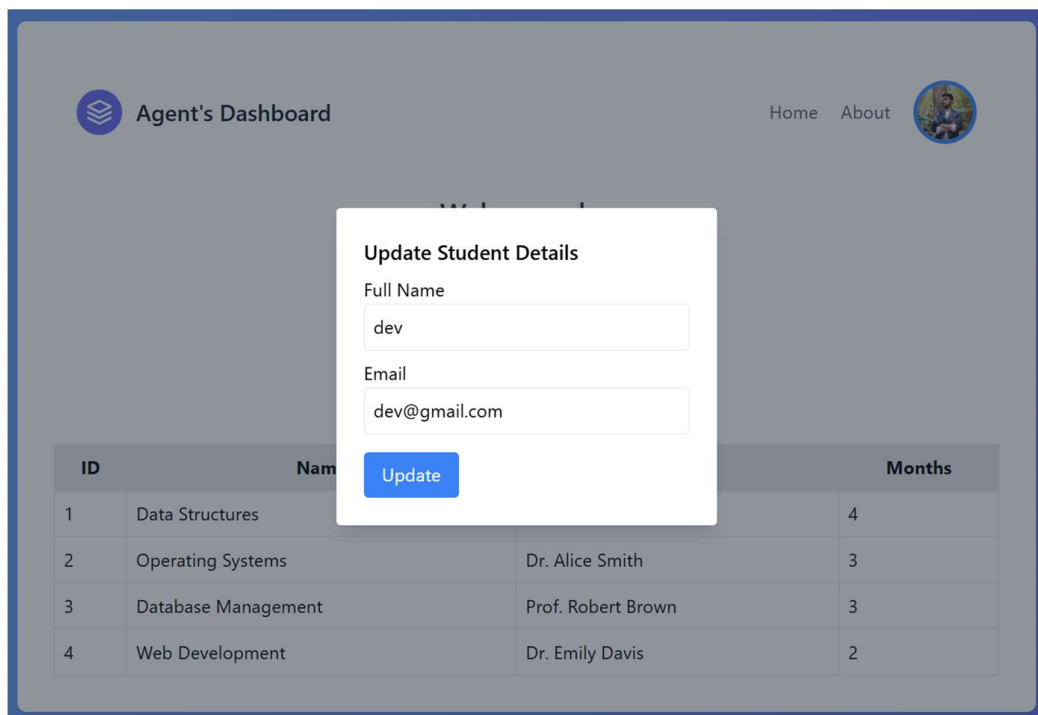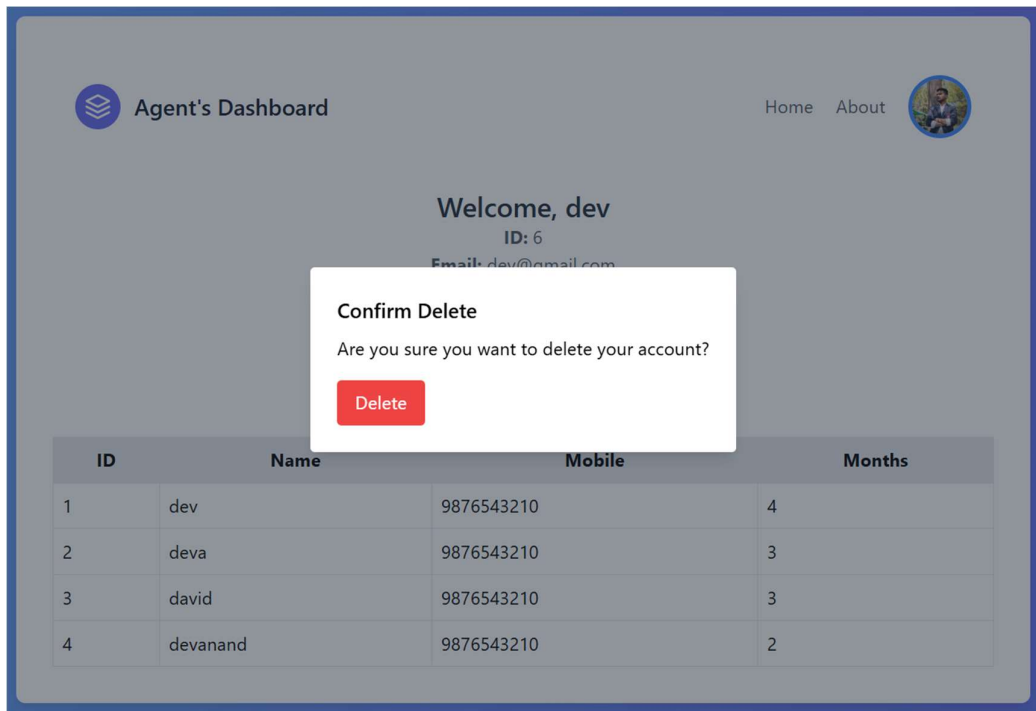

2. **Agent Dashboard:**
   - **Displays personal details such as username, email, assigned rooms, and booking history.**
   - **Provides easy navigation to other features like room availability, new bookings, and customer information.**

Agent's Dashboard   Home   About

Welcome, dev
ID: 6
Email: dev@gmail.com

[Update]   [Delete]   [Logout]

All Tenants

ID	Name	Mobile	Months
1	Data Structures	Prof. John Doe	4
2	Operating Systems	Dr. Alice Smith	3
3	Database Management	Prof. Robert Brown	3
4	Web Development	Dr. Emily Davis	2

3. Profile Management-
- Students can update or delete their profiles.
- Updated details are save in database.

Agent's Dashboard   Home   About

Update Student Details

Full Name
dev

Email
dev@gmail.com

[Update]

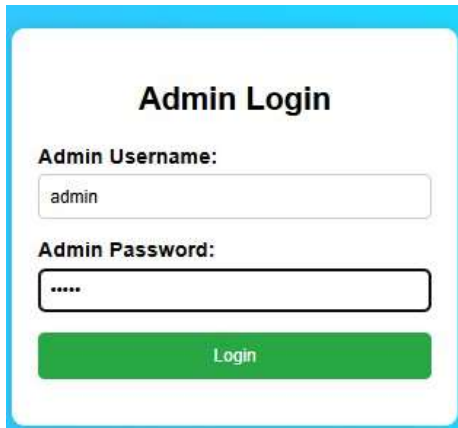| ID	Nam		Months
1	Data Structures		4
2	Operating Systems	Dr. Alice Smith	3
3	Database Management	Prof. Robert Brown	3
4	Web Development	Dr. Emily Davis	2

4. Room Bookings & Events Page:

• Agents can view their current room bookings and customer details.
• This section helps agents stay updated with their room availability and upcoming events or maintenance schedules.

Upcoming Functions

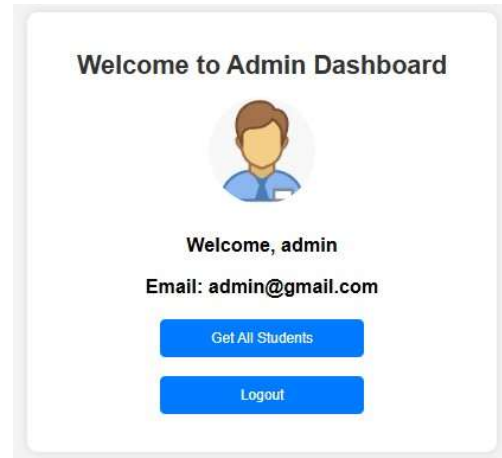| ID	Function's Name	Location	Date
1	Diwali Festival 2025	Delhi, NCR	2025-11-12 00:00:00.0
2	Holi Celebration 2025	Mumbai, Maharashtra	2025-03-06 00:00:00.0
3	Navratri Festival 2025	Ahmedabad, Gujarat	2025-10-02 00:00:00.0
4	Durga Puja Festival 2025	Kolkata, West Bengal	2025-10-14 00:00:00.0
5	Onam Festival 2025	Kochi, Kerala	2025-08-22 00:00:00.0

4.2 Admin Module

1. Admin Dashboard-
   Admins can view **all enrolled courses** and monitor student enrollments.

5. System Architecture-

The system follows the **MVC (Model-View-Controller)** architecture:
- **Model:** Managed using Hibernate and JPA for database operations.
- **View:** JSP pages styled with Bootstrap for a responsive UI.
- **Controller:** Servlets handle business logic and user interactions.

---
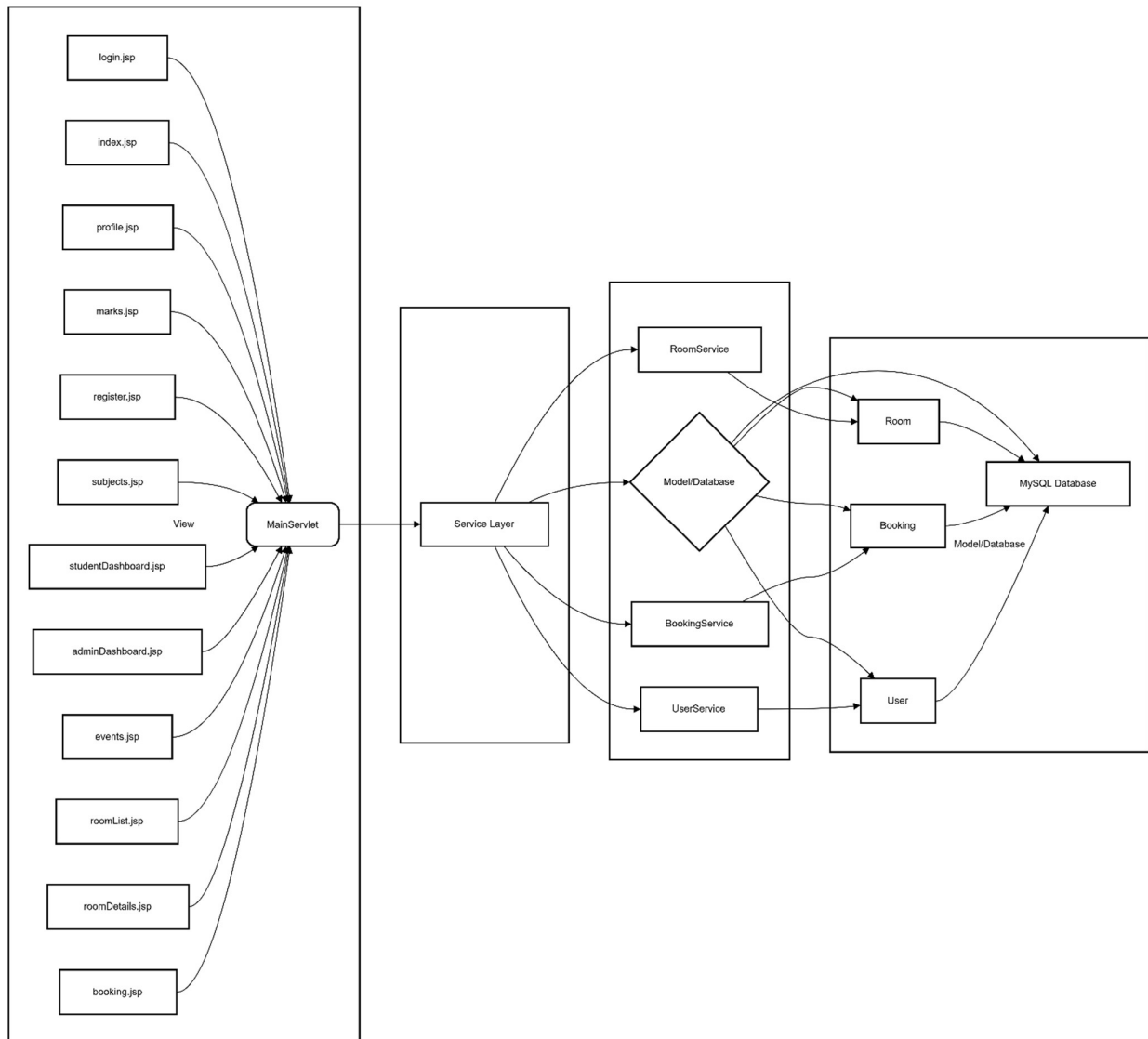
6. Database Design:

1. Table Schema

- agents (id, name, email, password)
- admins (id, name, email, password)
- room_bookings (id, agent_id, room_id, customer_name, booking_date, checkout_date
- events (id, name, date, description)
- rooms (id, room_type, availability_status, price)

7. Advantages:

• Enhances data security and access control for agents and admins.
• Simplifies room booking and management tasks.
• Provides an intuitive user interface with a responsive design for both agents and admins.
• Ensures efficient data retrieval and management using Hibernate and JPA.

---

8. Conclusion:

The Room Management System effectively manages room bookings, agent details, and administrative tasks. By using Java-based technologies, the system offers a scalable and secure platform that streamlines operations, providing a seamless experience for agents and administrators while ensuring efficient room management.

---

9. References:

1. Hibernate Documentation: https://hibernate.org/documentation/
2. Java Persistence API (JPA): https://docs.oracle.com/javaee/7/tutorial/persistence-intro.htm
3. MySQL Reference Manual: https://dev.mysql.com/doc/