**A PROJECT REPORT**

**ON**

**HOTEL MANAGEMENT SYSTEM**

***In Partial fulfillment for the award of the degree***

***Of***

**BACHELOR OF TECHNOLOGY**

**Computer Science & Engineering**



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**DECLARATION**

I hereby declare that this submission is my own work and to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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**CERTIFICATE**

I hereby certify that the work which is being presented in the B.Tech. Project Report entitled **“Hotel Management System”,** in partial fulfilment of the requirements for the award of the **Bachelor of Technology in Computer Science Engineering** and submitted to the Department of Computer Science Engineering of *Amity School of Engineering and Technology, Amity University Rajasthan* is an authentic record of my own work carried out under the supervision of **Dr. Mayank Jain, Assistant professor**,**CSE Department**.

The matter presented in this thesis has not been submitted by me for the award of any other degree elsewhere.

*Signatureof Candidate*

Date:**Name of student**

**Enrollment No.…………….**

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Signatureof Supervisor(s)

Date: ***Name & Designation***

**ACKNOWLEDGEMENT**

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**ABSTRACT**

This report outlines the design and implementation of a dynamic Hotel Management System using JSP (JavaServer Pages), MySQL(database), and Apache Tomcat. The system is aimed at simplifying hotel operations and enhancing user interaction through a responsive and visually engaging web interface. Key features include secure user authentication with login and logout functionality, a dynamic and intuitive menu system for easy navigation, and a dedicated contact page for customer communication.

One of the standout elements is the integration of a background image showcasing the hotel, which not only enhances the aesthetic appeal but also creates a more immersive experience for users. The backend is powered by a MySQL database, which handles user credentials like username and password. Efficient database connectivity ensures real-time data processing and reliable information retrieval.

Robust exception handling is implemented throughout the application to manage unexpected user inputs and runtime errors gracefully, thereby improving system stability. This project demonstrates how combining functional features with user-centered design can result in a practical, efficient, and visually attractive web application suitable for modern hotel management needs.

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**Chapter 1: Introduction**

**1.1 Problem Definition:**

Traditional hotel management methods are often manual, time-consuming, and error-prone, leading to inefficiencies in handling customer data, bookings, and communication. Existing systems may lack intuitive design, real-time access, and user-friendly features. To address these issues, this project proposes a web-based **Hotel Management System** with secure login/logout, dynamic menus, contact support, and database connectivity, all wrapped in a visually appealing interface featuring a hotel-themed background. The system also includes exception handling to ensure smooth and reliable performance**.**

**1.2 Project Overview / Specialization :**

The Hotel Management System is a web-based application developed to automate and streamline essential hotel operations. Built using JSP (JavaServer Pages), MySQL, and Apache Tomcat, the system enables efficient handling of user login/logout, navigation, and customer communication. It provides a responsive and user-friendly interface featuring a hotel-themed background image to enhance the visual experience.

The system is connected to a MySQL database to store and manage user data securely, ensuring real-time access and accurate information retrieval. Features such as exception handling and dynamic menu navigation contribute to system reliability and ease of use. This project aims to offer a modern solution for hotel administration by reducing manual tasks, minimizing errors, and improving user engagement through both functional and aesthetic elements.

**1.3 Hardware Specifications :**

Hotel Management System is a web-based software project, it doesn’t require specific or heavy hardware.Requirements for client side and service side are :

#### **Client-Side (User):**

* **Processor:** Intel Core i3 or higher
* **RAM:** Minimum 4 GB
* **Storage:** 500 MB free space (for browser cache and temp files)
* **Display:** 1024×768 resolution or higher
* **Input Devices:** Keyboard and Mouse
* **Network:** Stable internet connection for accessing the web server

#### **Server-Side (Development/Testing):**

* **Processor:** Intel Core i5 or higher
* **RAM:** Minimum 8 GB
* **Storage:** Minimum 10 GB free space
* **Operating System:** Windows 10 or higher / Linux (Ubuntu preferred)
* **Software Environment:**
  + XAMPP (with Apache Tomcat for JSP support)
  + MySQL (for database)
  + VS Code or Eclipse IDE (for development)
  + Web browser (Chrome/Firefox for testing)

**1.4 Software Specifications:**

#### **Frontend:**

* **Language:** HTML, CSS
* **Technology:** JSP (JavaServer Pages)
* **UI Design:** Hotel-themed background with dynamic navigation

#### **Backend:**

* **Programming Language:** Java
* **Server-side Technology:** Apache Tomcat (via XAMPP)
* **Database:** MySQL (for storing user data, contact info, etc.)
* **Database Connector:** JDBC (Java Database Connectivity)

#### **Development Tools:**

* **IDE/Editor:** Visual Studio Code (with Java and JSP extensions)
* **Server Environment:** XAMPP (includes Apache Tomcat and MySQL)
* **Browser:** Google Chrome / Mozilla Firefox (for testing and deployment)

**Operating System:**

* Windows 10 or later (recommended)
* Linux (Ubuntu) – optional, if hosting on a local server

**1.5 Scope of the project :**

The Hotel Management System aims to provide a simplified and efficient platform for handling basic hotel operations and customer interactions through a web-based interface. The system allows users to securely log in and log out, view dynamic menu options, and contact the hotel through an integrated contact form. Admins or staff can manage user data through a backend connected to a MySQL database, ensuring fast and reliable access to stored information.

The project focuses on creating a visually appealing interface with a hotel-themed background to enhance user experience. It incorporates exception handling to improve system stability and prevent runtime errors during user interaction.

This system is intended for small to medium-sized hotels looking to modernize basic operations such as login management, communication, and data handling. While the current scope covers front-end interaction and database connectivity, it can be extended in the future to include advanced features such as room booking, billing, staff management, and real-time availability checking.

**1.6 Limitations:**

* **No Admin Panel or Role-Based Access:**

There is no separate admin interface for managing users, viewing system activity, or performing administrative operations

* **Basic Contact Form:**

The contact page does not include advanced features like file attachments, live chat, or automated replies.

* **Limited Security Features:**

While basic login/logout functionality is implemented, features such as password encryption, CAPTCHA, or session timeout are not yet included.

* **Single-User Focus:**

The system is designed for small-scale, single-user interactions and may not handle high concurrent user loads effectively.

**1.7 Significance of the project :**

The Hotel Management System plays a significant role in modernizing traditional hotel operations by introducing a digital platform that enhances efficiency, accuracy, and user experience. By replacing manual data entry and paper-based processes with an automated system, it reduces human error, saves time, and ensures secure data handling.

The integration of features like secure login/logout, a contact interface, and a clean user interface with a hotel-themed background not only improves usability but also leaves a professional impression on users. Database connectivity with MySQL ensures that user information is managed in a structured and reliable way, making it easier to maintain records and retrieve data when needed.

This project demonstrates how even basic automation and user-centered design can significantly improve the quality of service in small to medium-sized hotels. It also lays the groundwork for future development of more complex features like booking systems, billing, and inventory management, showing how such systems can evolve into fully functional hotel management platforms.

**Chapter 2:System Analysis**

**2.1 Introduction:**

Hotel operations often face challenges due to manual processes, leading to delays, errors, and inefficient data handling. This Hotel Management System offers a web-based solution to streamline tasks such as login/logout, user interaction, and data management. With a user-friendly interface and hotel-themed background, it enhances both functionality and visual appeal. This section analyzes system requirements and proposes an efficient, scalable solution suitable for small to medium-sized hotels.

**2.2 Objective of system analysis :**

* Analyze current challenges in manual hotel management processes.
* Define system requirements for login/logout, contact handling, and database integration.
* Ensure the proposed system improves efficiency, reduces errors, and provides a better user experience.
* Evaluate the technical feasibility and usability of a web-based solution
* Lay the groundwork for a secure, scalable, and visually engaging application.

**2.3 Requirement gathering :**

* **Secure User Authentication**: Login and logout functionality with session handling.
* **User Interface Design**: Aesthetic and intuitive UI with a hotel-themed background.
* **Contact Module**: A form allowing users to send messages or inquiries.
* **Database Integration**: Use of MySQL for storing user and contact data.
* **Navigation System**: Dynamic menu for easy movement across the site.
* **Error Handling**: Exception handling for stability and reliability.

**2.4 Requirement gathering:**

1. **User Authentication:**

* The system must allow users to register (if signup is included).
* The system must allow users to log in with valid credentials.
* The system must allow users to securely log out of their session.

**2**. **Homepage Display:**

* The system must display a visually appealing homepage with a background image of the hotel.
* The homepage should welcome users and guide them to key areas of the site.

**3. Dynamic Navigation Menu**

* The system must provide a menu to navigate between pages (e.g., Home, Contact, Login, Logout).
* The menu should update based on user login status (e.g., show logout only when logged in).

**4. Database Interaction**

* The system must connect to a MySQL database using JDBC.
* It must store and retrieve user credentials and contact form submissions.

**2.5 Non-functional requirements:**

**1. Performance**

* The system should load pages within 2–3 seconds under normal conditions.
* Database queries should be optimized to ensure quick retrieval of user/contact data.

1. **Scalability**

* The system should be designed in a modular way to allow easy addition of new features like room booking or payment integration in the future.

1. **Security**

* User credentials should be validated securely (e.g., avoid SQL injection, use server-side validation).
* Sessions must be properly managed and terminated upon logout.
* Restricted pages should not be accessible without login.

1. **Usability**

* The interface should be clean, intuitive, and user-friendly, even for non-technical users.
* Form inputs should provide helpful error messages and guidance.