Hotel Management System

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1. Abstract

The Hotel Management System (HMS) is a full-stack web application that simplifies hotel room booking.

Built using React.js and Tailwind CSS for the frontend and Node.js/Express with MongoDB in the backend,

it includes secure login, room selection, booking confirmation, and a modern user interface.

2. Introduction

HMS automates hotel operations like room booking and customer management. Traditional systems rely on

manual methods, which are inefficient. HMS solves this by providing a digital platform for booking, room selection, and user login/registration.

3. Literature survey

Existing hotel booking systems use manual entries or outdated digital tools. These lack real-time data

and efficiency. Studies support the move toward fully automated systems using web and mobile apps.

4. Problem statement

Manual hotel booking systems lead to errors, inefficiency, and delays. Customers may book unavailable

rooms, and hotels lack insights from booking data. An automated system addresses these problems.

5. Existing system

Traditional hotel management relies on manual logs or spreadsheets. There are no real-time updates,

limited automation, and lack of analytics. These systems cannot scale with growing customer demands.

6. Proposed system

The HMS uses React.js, Tailwind CSS, Node.js, and MongoDB. It features secure authentication, room

selection, booking confirmations, and responsive design. Real-time updates ensure accuracy.

7. Working Methodology

Data is collected and preprocessed. Users register and log in, then select rooms and book. Room data,

user data, and feedback are stored in a backend database, ensuring efficiency and security.

8. Source code

Frontend (React.js):

- Components: Navbar, Home, Login, Register, Booking, Confirmation

- Uses React Router and Hooks

Backend (Node.js/Express):

- User authentication, room data APIs, booking handlers

- MongoDB for database operations

9. Results and Discussion

The HMS provides a smooth user experience. Users can register, log in, and book rooms. Bookings are

confirmed and stored in the backend. The UI is responsive and supports dark mode.

10. Output

Screenshots included in the final pages:

1. Homepage with Hero Section and Navigation Bar

2. Login and Registration Interface

3. Room Booking and Confirmation Page

11. Conclusion

HMS successfully automates the hotel booking process. It enhances user experience with modern UI,

authentication, and real-time updates. The system is scalable, secure, and adaptable for future features.

12. References

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