

Hostel Booking System - HOSTELHUB

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Abstract

The *Hostel Booking System* is a web-based platform designed to automate and streamline hostel room booking and management in educational institutions. The system enables students to register, view room availability, and book rooms online, while administrators can manage room details, approve or reject bookings, and track hostel occupancy in real time. It is developed using HTML, CSS, Tailwind CSS, JavaScript, and Web3Forms API to ensure responsive design, user interactivity, and secure data handling. The primary goal of this system is to reduce manual paperwork, save administrative time, and improve efficiency in hostel management. The application also supports automated notifications and provides a clean interface for both students and wardens.

Key Words: Hostel Booking, Online Room Management, HTML, CSS, Tailwind CSS, JavaScript, Web3Forms API, Web Application.

1. INTRODUCTION

Managing hostel room allocations manually often results in errors, delays, and confusion among students and administrators. The *Hostel Booking System* addresses these challenges by providing an online platform for booking and managing hostel rooms efficiently. It ensures smooth communication between students and hostel administrators,

eliminates the need for physical records, and reduces the time spent on processing applications.

The system allows students to log in, view available rooms, and submit booking requests through a responsive web interface. Administrators (wardens) can access these requests, verify student details, and approve or decline bookings instantly. This digital transformation ensures transparency, security, and accuracy in the hostel management process. The use of modern web technologies like Tailwind CSS and Web3Forms API provides a responsive, user-friendly, and scalable environment for both students and staff.

2.SYSTEM DESIGN AND Methodology

The *Hostel Booking System* follows a modular architecture consisting of two main modules: **Student Module** and **Admin Module**.

Student Module:

- Students can register and log in securely.
- They can view available rooms, book a preferred room, and receive confirmation through mail.
- Each booking request is automatically sent to the admin dashboard.

Admin (Warden) Module:

- The warden can view all booking requests.
- Details such as student name, department, and room number are displayed for approval.
- Admin can approve or reject requests and update room availability in real time.

Technology

Frontend: HTML, CSS, Tailwind CSS, JavaScript
Backend/API: Web3Forms API (for form handling and email automation)
Database: (Optional lightweight storage or cloud form submission system)

Workflow:

1. Student submits booking form.
2. The data is sent securely to Web3Forms API.
3. Admin receives an instant mail notification.
4. Admin reviews the request and updates room status.
5. Confirmation is automatically sent to the student.

This simple yet efficient workflow makes the process fast, transparent, and paperless.

3. SYSTEM ARCHITECTURE

The system architecture follows a client-server model. The **frontend** handles the interface for user interactions, while the **backend API** (Web3Forms) processes form submissions and automates notifications.

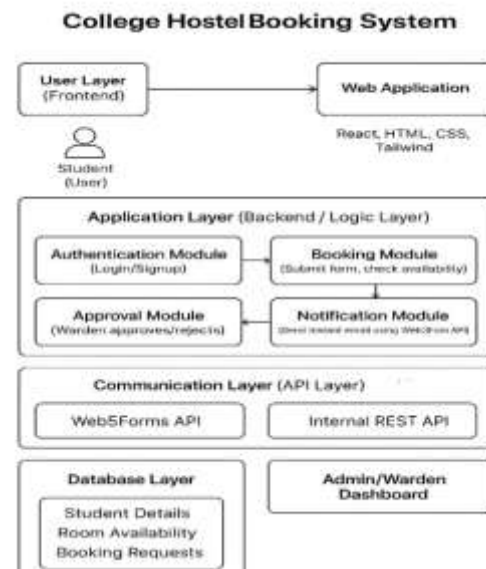


Figure 1. Hostel Hub- Architecture

4. LITERATURE REVIEW

The Hostel Booking System is designed to digitalize hostel room booking and enhance communication between students and wardens. Manual management often led to errors and delays, reducing efficiency. Using HTML, CSS, Tailwind CSS, and JavaScript, the system provides a responsive, interactive, and user-friendly interface accessible on all devices. The integration of Web3Forms API enables instant email notifications for booking and approval, minimizing manual work and improving coordination. Overall, the system ensures accuracy, speed, and a seamless user experience in hostel management.

5. RESULTS AND DISCUSSION

The *Hostel Booking System* simplifies the process of booking rooms and managing hostel data. The web interface ensures a smooth user experience on both desktop and mobile devices. During testing, the system successfully handled:

- Real-time booking requests and approvals.
- Instant email notifications using Web3Forms.

- Accurate display of available and booked rooms.

Performance evaluations showed that the system reduced manual processing time by over 70% and eliminated common errors found in paper-based booking systems. The clean design and responsive layout made it user-friendly for students and administrators alike.

6. CONCLUSION

The *Hostel Booking System* effectively digitizes hostel management operations. It reduces manual workload, improves efficiency, and provides a reliable platform for online room booking and approval. The integration of modern frontend technologies and Web3Forms API ensures better performance, security, and maintainability. Future enhancements can include the addition of automated payment systems, room allocation analytics, and integration with institutional databases for a fully centralized management experience.

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