



# GEETHANJALI COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Cheeryal (V), Keesara (M), Medchal Dist., Telangana - 501 301

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### MINI PROJECT ABSTRACT IV B.Tech. I SEM CSE - C Section

<b>BATCH NUMBER:</b> C7	<b>Mini Project</b>	<b>Academic Year:</b> 2024-2025
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#### **PROJECT TITLE:**

Smart Room Accommodation & Tracking System

#### **TEAM MEMBERS:**

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#### **GUIDE DETAILS:**

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## **ABSTRACT**

Hostels play a crucial role in providing accommodations for students, faculty, and staff in educational institutions. Effective management of hostel facilities is essential to ensure optimal resource utilization, comfortable living conditions, and efficient operations. The Hostel Management System is designed to streamline room allocation, occupancy tracking, and resource planning processes. At its core, the system maintains a detailed database of the hostel's physical infrastructure, including the number of floors, rooms, and their respective dimensions. This information serves as the foundation for intelligent room allocation algorithms. The room allocation module employs advanced optimization techniques to assign rooms based on predefined criteria, such as occupant preferences, room size, and occupancy limits. The system dynamically updates the room occupancy status, using a color-coded system to provide a clear visual representation: green for vacant rooms, ash for fully occupied rooms, and other colors for partially occupied rooms. One of the key features of the system is the ability to accept advance bookings for rooms. The system intelligently manages these reservations, preventing double bookings and optimizing room utilization. Furthermore, the system incorporates robust reporting and analytics capabilities, enabling hostel administrators to generate detailed reports on occupancy rates, room utilization, and resource allocation. These insights facilitate data-driven decision-making and informed planning for maintenance or renovation. The system's user-friendly web-based interface provides seamless access to hostel residents, allowing them to view room details, occupancy status, and make reservations or report maintenance issues. Administrators can easily manage room assignments, update occupancy records, and monitor overall hostel operations through an intuitive dashboard.

### **Objective:**

- By leveraging the proposed Hostel Management System, educational institutions can effectively manage their hostel facilities.
- To ensure optimal room allocation, and provide a comfortable and well-organized living environment for their students, faculty, and staff.

### **REFERENCES:**

<https://insider.in/hyderabad>

<https://github.com/topics/hostel-management-system>

<https://www.ijraset.com/research-paper/hostel-management-system-hms>

**Date of Submission:** 27-04-2024

**Signature of the  
Guide with Date**

**Signature of the  
Project In-charge**