



Hostel Management System

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Abstract

The Hostel Management System (HMS) is a comprehensive, web-based solution designed to streamline and automate the diverse operations involved in managing hostel facilities within educational institutions. Traditional hostel administration relies heavily on manual paperwork, registers, and spreadsheets, which often lead to errors, delays, and inefficiencies in critical processes such as room allocation, attendance monitoring, fee collection, and complaint handling. HMS addresses these challenges by providing a centralized digital platform that integrates all core hostel functions into one structured system.

The platform includes modules for **room and bed allocation**, **student attendance tracking**, **mess and meal management**, **maintenance request handling**, **fee management with payment tracking**, and **real-time reporting** for wardens and administrators. Built using the modern MERN stack (MongoDB, Express.js, React, Node.js), the system ensures a responsive user interface, secure authentication, and scalable performance. Role-based access control provides differentiated functionalities for students, wardens, and administrators, enabling self-service capabilities for students while ensuring oversight and control for management staff.

By replacing outdated paper-driven workflows with auditable, structured digital records, HMS not only minimizes errors but also speeds up approvals, enhances transparency, and supports data-driven decision-making across the hostel lifecycle. This innovation improves service quality, reduces manual effort, and creates a scalable, technology-driven hostel ecosystem adaptable to institutions of varying sizes.