

# Project Title: Hostel Management System

**Category:** Web Application

## PURPOSE

The purpose of developing this “Hostel Management System” is to keep the students and the hostel administration connected through a virtual platform rather than maintaining records manually using registers.

## SCOPE

For colleges in their development phases such as ours, digitizing physical records would accelerate the process of keeping track of various bits and pieces of hostelry activities.

It will integrate the benefits of better organizability with effortless accessibility leading to an increased efficiency for the workforce and convenience for all.

This small piece of software can help in creating systematic and structured records leading to a coherent use of the information.

It can later be used in other institutes too.

## INTRODUCTION

Introduction contain the following sub categories

### Existing System

The present system used is a manual system for record keeping. Manual system involves paper work in the form of maintaining various files and manuals. Maintaining critical information in the files and manuals is full of risk and a tedious process.

A manual system has following disadvantages:

- ❖ It's a limited system and less user friendly.
- ❖ Searching of particular information is critical it takes lot of time
- ❖ In the existing system students need to approach warden in person.
- ❖ In the manual system students need to bear a lot of time and cost.
- ❖ The existing system needs to save the information in the form of files.
- ❖ Limited sharing is possible if the data is in the form of the paperwork.

- ❖ The manual system gives us less security for saving data, some data may be lost due to mismanagement.

## Proposed System

Colleges being in a phase of digitization in present times, the online management system aims to give students and the hostel employees a digital experience far better and easier to handle than the rigorous task of standard record keeping. There are a lot of advantages of digitizing the process to everyone from students to caretakers, wardens and to all the associated employees including guards and room cleaning service. After careful analysis we propose the following features:

- **Login Interface:** Interface for students, warden / caretaker, guards / cleaning services to login onto the virtual platform.
- **Dashboard Updates:** Notification window where warden / caretaker / guards can post some hostel regarding updates.
- **Record Storage:** Keeping a centralized database which would be maintained via the online system
  - Managing courier / deliveries
  - Managing room related issues
  - Managing sports equipments
  - Managing hostel cleaning issues
- **Authentication:** Restricted authentication for only institute employees and students
- **Administration Access:** Administration would be able to keep an eye on the records of students

## Advantage for Students

- **Time and Cost Saving:** Stating issues in a virtual digitized platform saves lot of time comparing to visiting the respective hostel staff in person
- **Remove Traveling:** Virtual platform removes the need to travel to register complaints or gathering information regarding hostel issues

## Advantages for Employees

- **Reduced Physical Labour:** The app will help in reducing hassle and the physical labour required in maintaining and updating different registers manually.
- **Time Saving:** The app will abate the management of sports equipment, parcels and other register work which will help in saving a lot of time.
- **Ease of access:** The app will provide an efficient way of storing and displaying the required data which will be easily accessible to them whenever required.
- **Remote access:** In certain situations if needed the guard can check and update the data remotely which will lead to a better management of certain utilities.

## FUNCTIONAL REQUIREMENTS

The functional requirements are as follows:

- Users must have a valid User ID and password to login thus having their individual profiles.
- Wardens can register new students and update any existing records.
- Students can check for the status of their deliveries with hostel guards.
- Students can inform if room cleaning services are required.
- Guards can update the status ( receive / submit ) of sports equipment.
- Dashboard for any notices or updates from wardens and guards.
- Students can send queries regarding any hostel issues to the associated administration.
- Caretakers can register new guards and cleaning staff.
- Cleaning staff can keep track of the cleaning requests, accept and handle them accordingly.

## NON FUNCTIONAL REQUIREMENTS

Requirements specifying criteria that can be used to judge the operation of a system are called non-functional requirements. For our system, they are as follows:

- Secure access of any confidential data
- Round-the-clock-service availability
- Better component design to get efficiency at peak time
- Flexible service based architecture ( MVC pattern ) will be highly desirable for future extension.
- CRUD implementation and limited accessibility for users according to their respective roles.

## SOFTWARE TOOLS

**Database Server** : MongoDB  
**Client** : Any Web Browser  
**Development Tools** : VS-Code  
**TechStack** : MERN (MongoDB, Express, React, NodeJS)

## DEPLOYMENT

**Operating System Server:** Window 7, Linux, UNIX

## HARDWARE SPECIFICATION

**Processor:** Intel Core i3  
**RAM:** 4GB  
**Hard Disk:** 1 TB