Marwadi University Marwadi Chandarana Group	**Marwadi University** **Faculty of Engineering and Technology** **Department of Information and Communication Technology**	
Subject: Capstone Project	**Project Definition and Scope**	
Project : - Galaxy Hostel	**Date: 25-09-2025**	**Enrolment No: 92310133001**

Introduction

- Galaxy Hostel Website is purely based for the hostel students as well as for the wardens and admins so that they can not only know how many users are there but also get the details they want easily. The main reason behind making this project is very clear. Being hostel students ourselves, we know about the timings, rules, and regulations of the hostel, but some new students are not aware of them. Because of that, the idea of creating this project came up.
- I also noticed that the warden of Galaxy Hostel usually comes to each floor and every room to take attendance using pen and paper. While this method is fine, technology has evolved, and that is the main reason behind creating this site. With this website, admins can not only manage data but also keep track of student complaints and attendance online, along with the gate pass system.

Problem Statement

- In Galaxy Hostel, wardens and admins currently manage student activities like attendance, gate passes, and complaints manually. For example, wardens visit each floor and room every day to take attendance using pen and paper. While this works, it becomes time-consuming, inefficient, and difficult to maintain as the number of students increases.
- New students also often face confusion regarding hostel timings, rules, and regulations because there is no proper system to guide them. At the same time, admins face challenges in keeping track of student details, attendance records, gate pass approvals, and complaints in an organized way. Everything is handled manually, which not only slows down the process but also makes it harder to manage as the hostel grows.
- This created a clear need for a digital platform that could streamline the entire process and make it faster, transparent, and more efficient for students, wardens, and admins.

Objectives

- Build a single platform where hostel students, wardens, and admins can interact efficiently.
- Replace manual attendance with an online system to save time and effort.
- Provide a gate pass system to manage student movements transparently.
- Create a complaints module where students can submit issues directly.
- Provide a login system for different roles (student, warden, admin) with role-based access.
- Make the entire hostel management process fast, transparent, and organized.

Relevance to ICT Domain

- **Software Engineering:** Full-stack web application (frontend + backend + database + authentication).
- **Information Systems:** Manages student data, attendance, complaints, and gate passes in one place.
- **Cloud/Databases:** Stores student profiles, attendance records, and complaint history securely.
- **Security:** Implements secure authentication and authorization to prevent unauthorized access.

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Feasibility Analysis

1. **Technical Feasibility**
    - **Frontend:** React, Tailwind CSS, Framer Motion (for UI and animations).
    - **Backend:** Node.js/Express (for server and API).
    - **Database:** MySQL/MongoDB (for structured and scalable data storage).
    - **Auth:** Role-based authentication (student, warden, admin).
    - **Infra:** Vercel/Netlify for frontend, Render/Heroku for backend.
2. **Economic Feasibility**
    - Built using open-source tools and frameworks, making it cost-effective.
    - Affordable deployment on cloud hosting platforms within the project scope.
3. **Ethical Considerations**
    - Protecting student data (attendance, complaints, gate passes) with secure storage and encryption.
    - Ensuring role-based access so only authorized users can view/manage data.
    - Maintaining privacy of students' personal and academic details.

Market/User Needs Analysis

1. **Admin/Warden Needs**
    - Currently, wardens take attendance manually by visiting rooms, which is time-consuming.
    - They need a centralized platform to monitor attendance, gate passes, and complaints.
2. **Student Needs**
    - New students often don't know hostel rules, timings, and regulations.
    - They need an easy way to mark attendance, request gate passes, and submit complaints online.
3. **Management Needs**
    - Hostel management needs structured reports of attendance and complaints.
    - They require transparency and efficiency to reduce paperwork and human errors.

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Literature Review

- Traditional hostel management relies on manual methods like pen-and-paper attendance, physical gate pass records, and verbal complaint handling. While this works in small hostels, it becomes inefficient and error-prone as the number of students grows.
- Existing digital solutions for hostels are either too complex or focused mainly on billing and fee management, not on attendance and student life needs.
- Many institutes still rely on wardens physically monitoring rooms, which consumes time and resources.
- Our Galaxy Hostel Website addresses these gaps by providing a user-friendly, role-based platform that focuses on student engagement, online attendance, gate passes, and complaints in a structured and efficient way.

Conclusion

- The Galaxy Hostel Website directly solves the real challenges faced by students, wardens, and admins in day-to-day hostel management. By digitizing attendance, gate passes, and complaints, the system reduces manual work, saves time, and increases efficiency. It is technically feasible, cost-effective, and scalable for future needs.