

## Front-End Development

**Module** : Project Development  
**Project Title** : Hostel Management System

---

### **Problem Definition:**

The "Hostel Management System" is a web-based application designed to manage hostel operations efficiently. This system aims to handle room allocation, track occupancy, manage student records, and facilitate communication between hostel administrators and residents. The primary goal is to provide a seamless experience for both administrators and residents, ensuring the smooth running of hostel activities.

### **Requirements:**

The Hostel Management System should meet the following requirements:

- 1. Student Registration and Management:**
  - Register and maintain records of hostel residents.
  - Track student details, room assignments, and attendance.
- 2. Room Allocation and Management:**
  - Allocate rooms to students based on availability and preferences.
  - Manage room change requests and track occupancy.
- 3. Fee Management:**
  - Calculate and manage hostel fees.
  - Track fee payments and outstanding balances.
- 4. Maintenance and Complaints Management:**
  - Allow residents to log maintenance requests and complaints.
  - Track and resolve issues promptly.
- 5. Communication and Notifications:**
  - Facilitate communication between administrators and residents.
  - Send notifications about important updates and events.
- 6. Visitor Management:**
  - Track visitor entries and exits.
  - Maintain records of visitor details.
- 7. Data Security and Privacy:**
  - Ensure secure storage and access of student data.
  - Comply with data privacy regulations.
- 8. Administrator Dashboard:**
  - Provide real-time metrics on room occupancy, fee status, and maintenance requests.
  - Generate reports for decision-making.

## **User Roles:**

### **1. Administrator:**

- Manage student records and room allocations.
- Oversee fee management and maintenance requests.
- Generate reports on hostel operations.

### **2. Student (Resident):**

- View room details and fee status.
- Log maintenance requests and complaints.
- Receive notifications and updates.

## **Modules and Functionalities:**

### **A. Administrator:**

#### **1. Student and Room Management:**

- Add, update, and delete student records.
- Allocate and manage rooms.

#### **2. Fee Management:**

- Calculate and track hostel fees.
- Manage fee payments and outstanding balances.

#### **3. Maintenance Management:**

- Track maintenance requests and complaints.
- Assign tasks to maintenance staff and track resolution.

#### **4. Visitor Management:**

- Track visitor entries and exits.
- Maintain visitor records.

#### **5. Communication and Notifications:**

- Send notifications to residents.
- Facilitate internal communication.

### **B. Student (Resident):**

#### **1. Room and Fee Details:**

- View room assignment and fee status.
- Make fee payments.

#### **2. Maintenance Requests:**

- Log maintenance requests and complaints.
- Track the status of requests.

#### **3. Communication:**

- Communicate with administrators.
- Receive notifications and updates.

### **C. Modules Integration:**

#### **1. User Authentication and Access Control:**

- Authenticate users and grant access based on roles.
- Ensure data security and privacy.

**2. Room and Fee Management:**

- Integrate room allocation with student records and fee management.
- Track fee payments and outstanding balances.

**3. Maintenance and Complaint Management:**

- Track maintenance requests and resolve issues.
- Update students on request status.

**4. Communication and Notifications:**

- Facilitate communication between administrators and residents.
- Send notifications and alerts.