BANNARI AMMAN INSTITUTE OF TECHNOLOGY
An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade
Sathyamangalam - 638401 Erode District, Tamil Nadu, India
Stay Ahead

SOFTWARE REQUIREMENT SPECIFICATION FOR BIT HOSTEL PORTAL

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Seat Number	56
Project id	16
Problem statement	Hostel Portal

1. INTRODUCTION

1.1 Purpose

The purpose of this document is to specify the requirements for the development of the hostel management system integrated with the college's biometric attendance system. This will explain how the system works , who is going to access the system and various features of the portal.

1.2 Scope of the Project

- The BIT Hostel Portal is intended to facilitate various functions related to hostel management including administration, student interactions, room allocation, leave management, and communication between stakeholders.
- The portal will integrate seamlessly with the institute's Student Information System to retrieve and update student data, including personal details, academic records, and disciplinary history. This integration ensures real-time synchronization of information and facilitates efficient decision-making by administrators.

2. OVERALL DESCRIPTION

2.1 Product Features

- The main features of the BIT Hostel Portal include:
  - Admin portal functionalities
  - Student portal functionalities
  - Room allocation management
  - Leave management system
  - Communication tools (messaging, emailing)
  - Reporting and feedback mechanisms

2.2 User Classes and Characteristics

i. Administrators: Administrators are key personnel responsible for overseeing and managing all aspects of hostel operations and administration. They hold authority over decision-making, policy implementation, and strategic planning related to hostel management.

ii. Students: Students are residents of the hostel who utilize hostel facilities, accommodations, and services provided by the institute. They play an active role in the hostel community, contributing to its social, academic, and cultural dynamics.

3. SYSTEM FEATURES

3.1 Functional Requirements

The portal will offer the following functionalities:

3.1.1 Admin Portal

Hostel Management:

- View hostel-wise room capacity, vacancy, and details.
- Access hostel and floor details.
- Manage room allocation for students and staff.
- View room-wise student and staff details.
- Track hostel-wise, floor-wise, and room-wise vacancy for students and staff.
- Maintain room area information in square feet.

Biometric Attendance:

- Monitor student and staff biometric attendance.
- Generate reports on attendance status (present and affixed, present and not affixed, delayed affixation, on leave/affixed/not affixed).

Student Communication:

- Send messages to specific floors/blocks via portal and email.
- Respond to student queries submitted through the student feedback portal.

Room Management:

- Process student requests for room changes.
- Approve or decline room change requests.
- Enable room booking functionality after approved room changes.
- Manage student room bookings.
- Send room booking requests to the accounts department.
- Allocate rooms to students upon confirmation of fee payment by the accounts department.

Leave Management:

- Approve or reject student leave requests (regular and extended).

- Manage leave cancellations after approval.

Outsider Booking:

- Manage hostel booking requests from outsiders.
- Approve or decline outsider booking requests.
- Allocate rooms to outsiders based on vacancy.

Group Communication:

- Send group emails to specific floors/blocks regarding hostel issues.

Student Management:

- Search for student details using roll number or name.
- File complaints against students for disciplinary or other issues.

Integration:

- Integrate with the accounts department for seamless fee payment tracking and room allocation.

2.2.2 Student Portal

Leave Management:

- Apply for regular and extended leave.
- Cancel/decline approved leave requests.

Room Management:

- Request room changes.
- Book available rooms within specific blocks and floors.

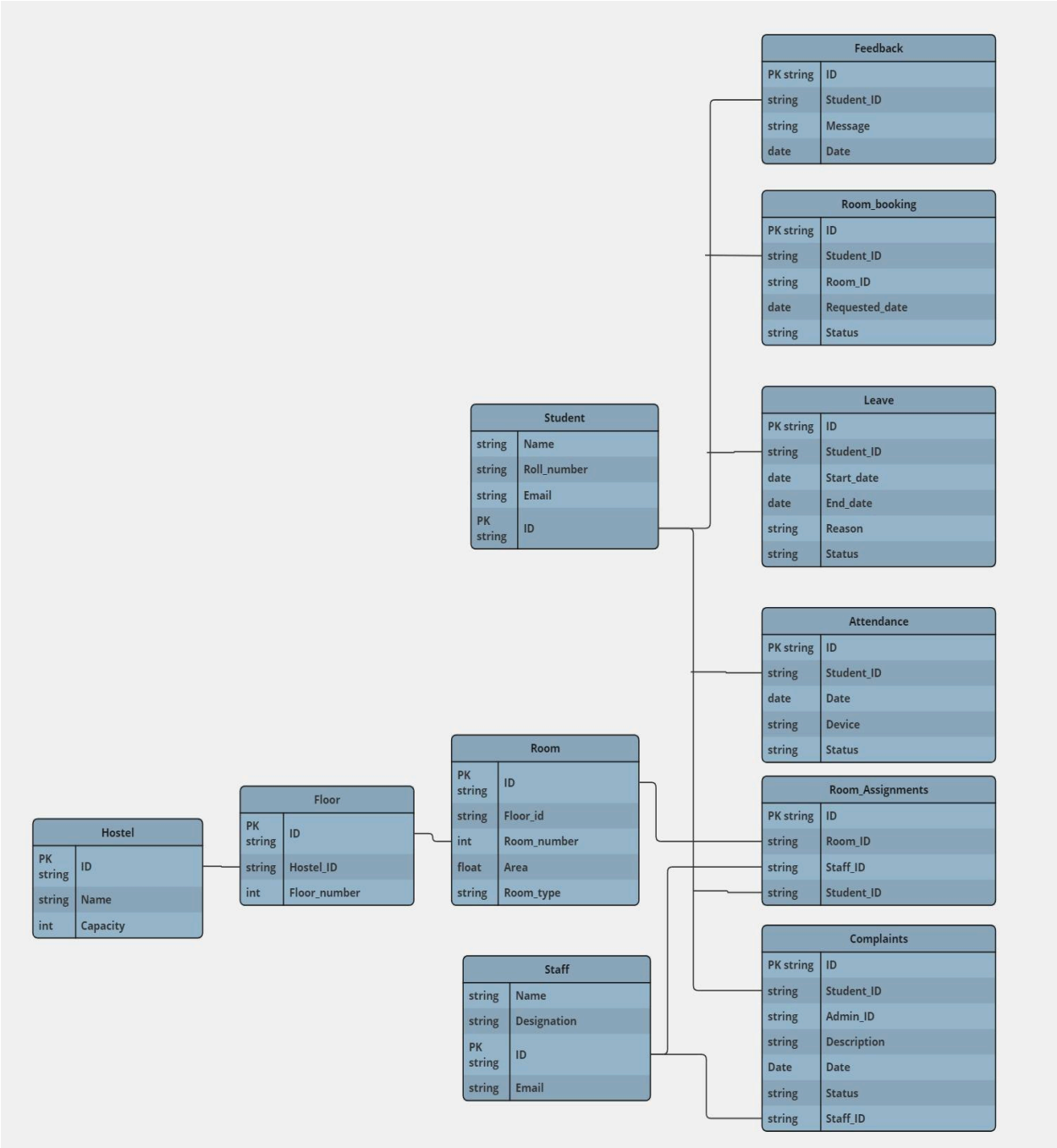
Information Access:

- View room area information for blocks and specific rooms.
- Access complaints filed by the hostel manager.

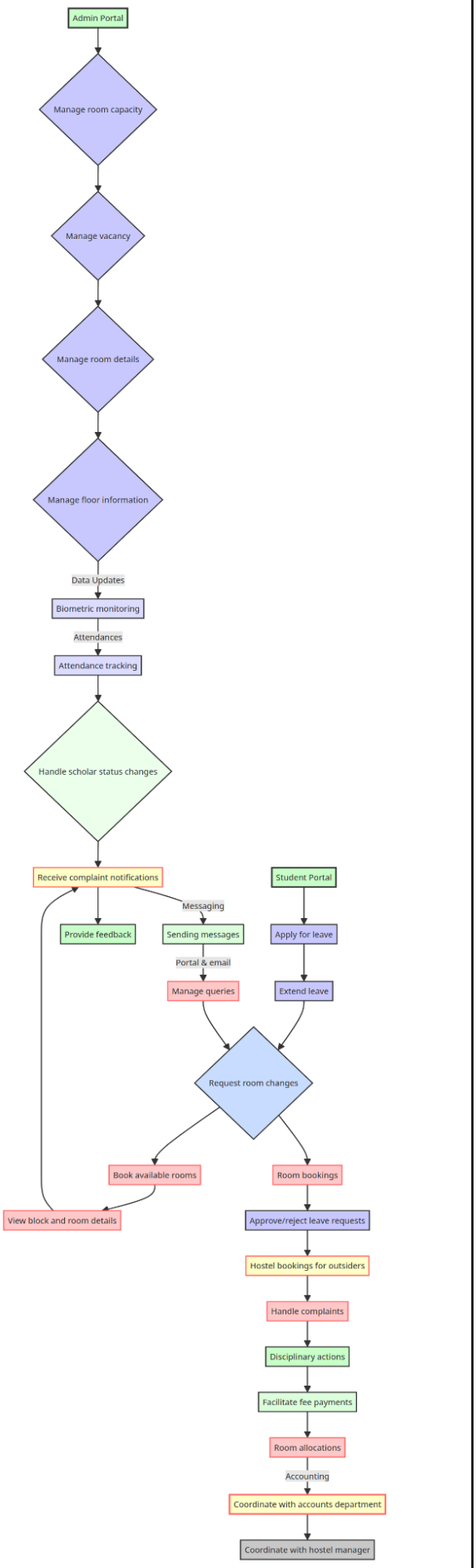
Feedback Mechanism:

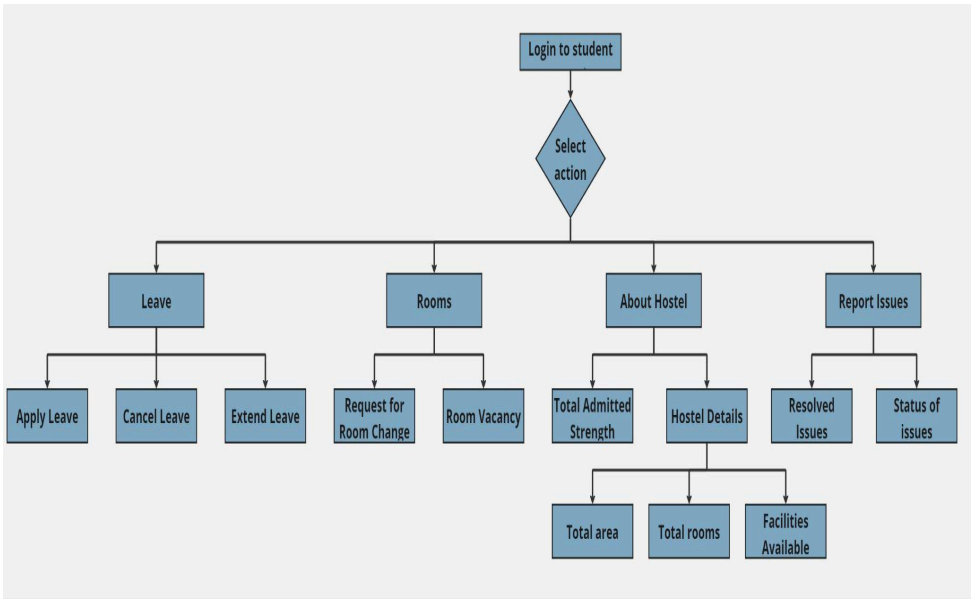
- Submit feedback regarding queries or issues faced within the hostel.

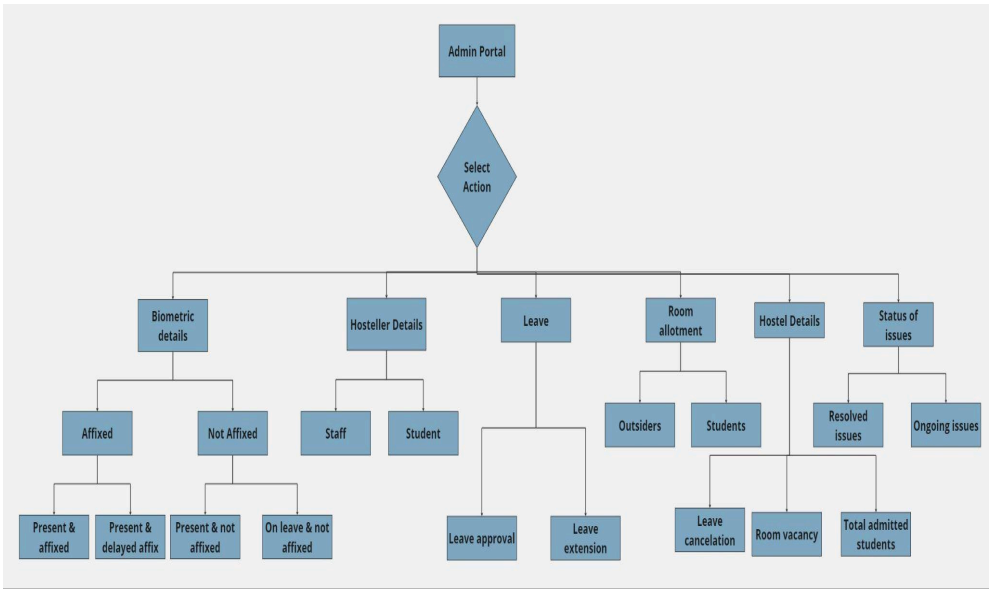
STRUCTURE OF THE DATABASE:



FLOW DIAGRAM :


Admin Portal
Manage room capacity
Manage vacancy
Manage room details
Manage floor information
Data Updates
Biometric monitoring
Attendances
Attendance tracking
Handle scholar status changes
Receive complaint notifications
Messaging
Provide feedback
Sending messages
Portal & email
Manage queries
Student Portal
Apply for leave
Extend leave
Request room changes
Book available rooms
Room bookings
View block and room details
Approve/reject leave requests
Hostel bookings for outsiders
Handle complaints
Disciplinary actions
Facilitate fee payments
Room allocations
Accounting
Coordinate with accounts department
Coordinate with hostel manager


Login to student
Select action
Leave
Rooms
About Hostel
Report Issues
Apply Leave
Cancel Leave
Extend Leave
Request for Room Change
Room Vacancy
Total Admitted Strength
Hostel Details
Resolved Issues
Status of issues
Total area
Total rooms
Facilities Available


Admin Portal
Select Action
Biometric details
Hosteller Details
Leave
Room allotment
Hostel Details
Status of issues
Affixed
Not Affixed
Staff
Student
Outsiders
Students
Resolved issues
Ongoing issues
Present & affixed
Present & delayed affix
Present & not affixed
On leave & not affixed
Leave approval
Leave extension
Leave cancelation
Room vacancy
Total admitted students

4. EXTERNAL INTERFACE REQUIREMENTS

4.1 Software Interfaces

Frontend	HTML , CSS , JS
Database	MySQL
Backend	Python - Django
API	RESTful API

5. NON-FUNCTIONAL REQUIREMENTS

Performance : The portal should respond to user actions promptly. It should support concurrent user access without significant performance degradation.

Security : User authentication and authorization mechanisms should be implemented to ensure data security. Data transmission should be encrypted to prevent unauthorized access.

Reliability : The portal should be available 24/7 with minimal downtime for maintenance. It should be able to recover from system failures gracefully.

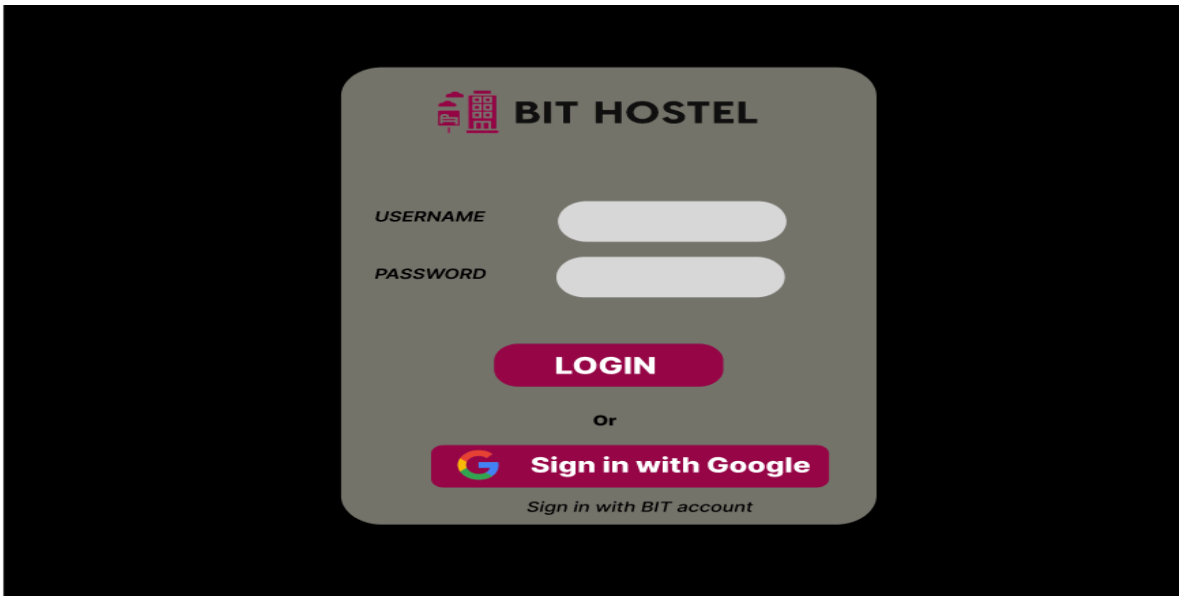
Availability : The portal should have high availability to accommodate users from different time zones. Redundancy measures should be in place to ensure continuous service availability.

Maintainability : The portal should be modular and well-documented for ease of maintenance. Updates and patches should be deployed efficiently without disrupting service.

Portability : The portal should be accessible from different devices and operating systems.It should adapt to varying screen sizes for a seamless user experience.

6. PROTOTYPE

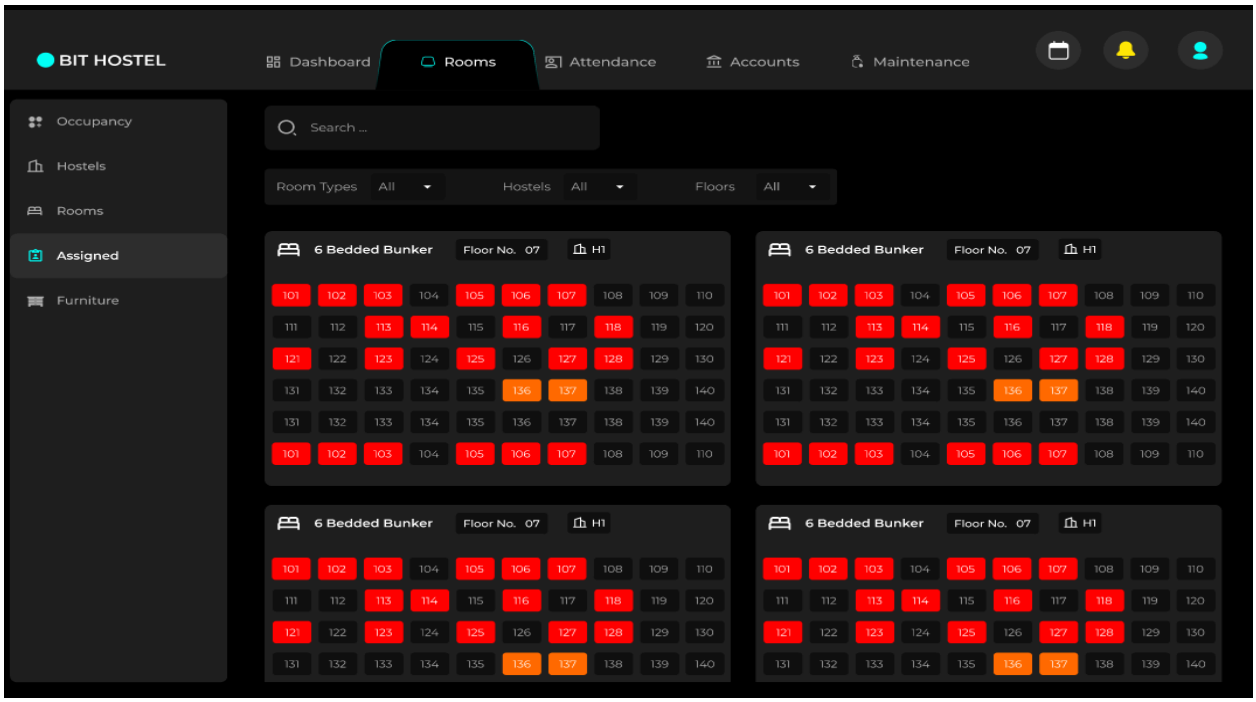
Login page :



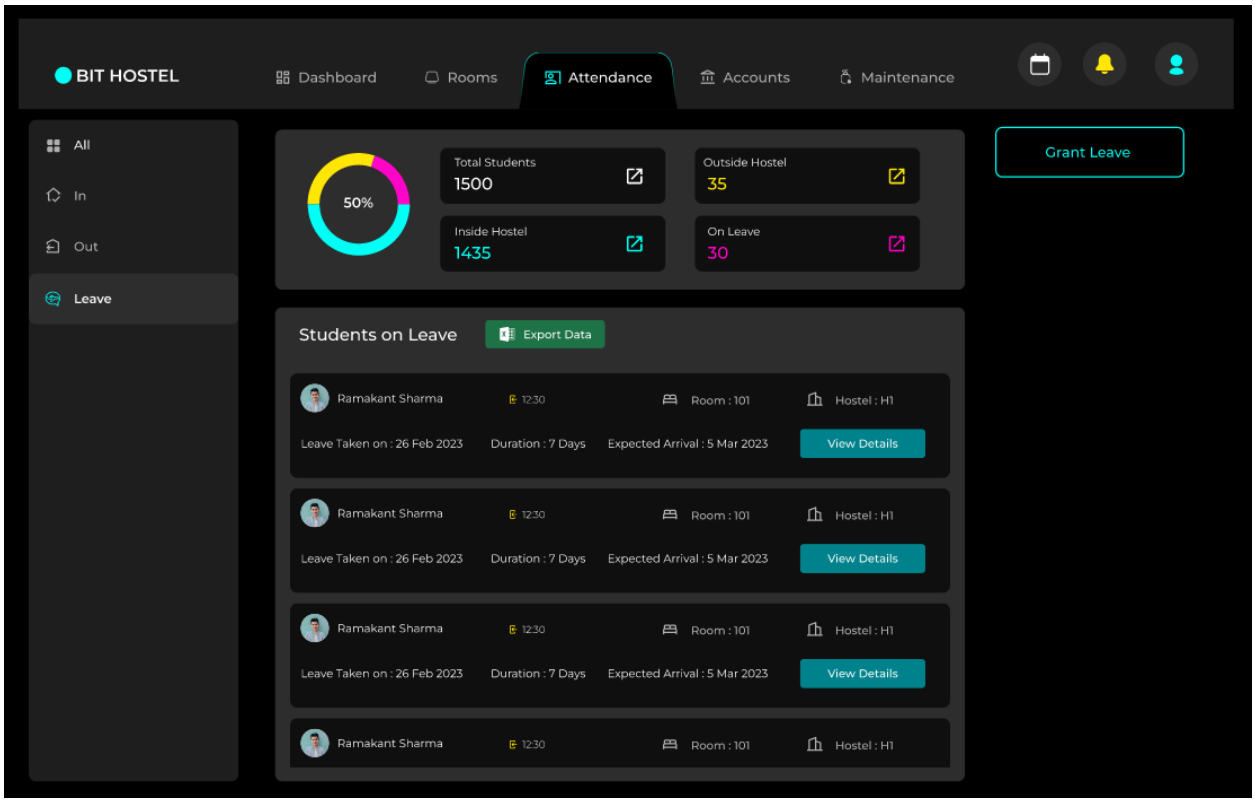
Admin Portal:

Dashboard:

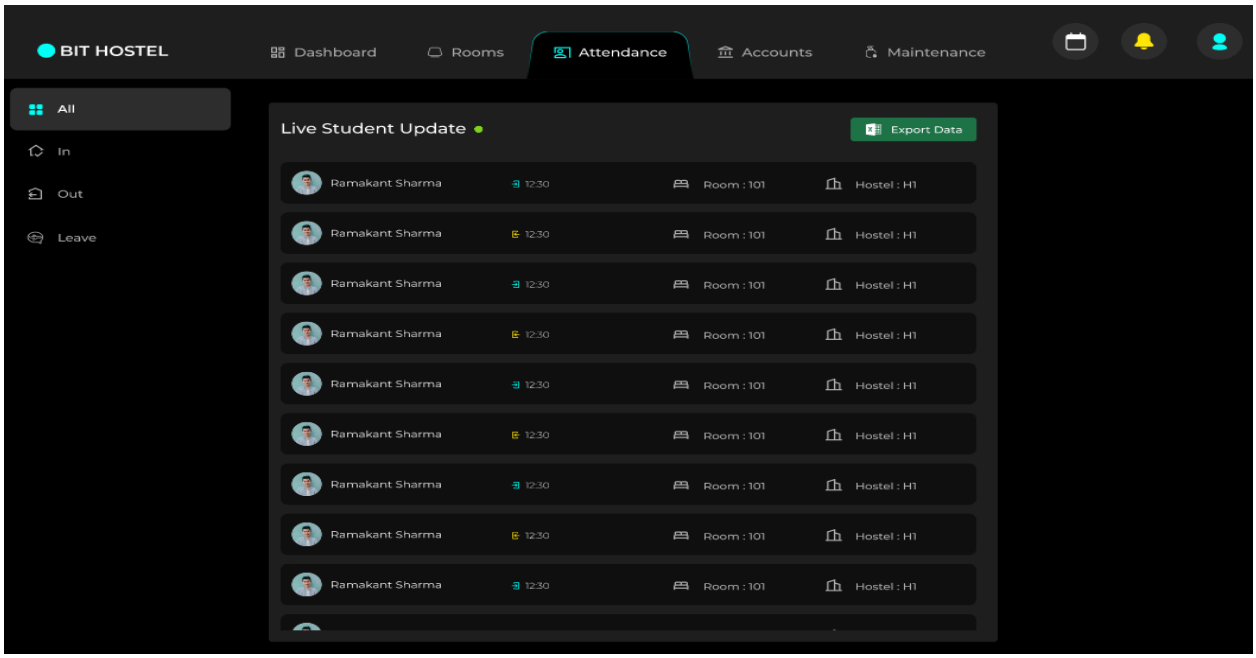
Room Vacancy:



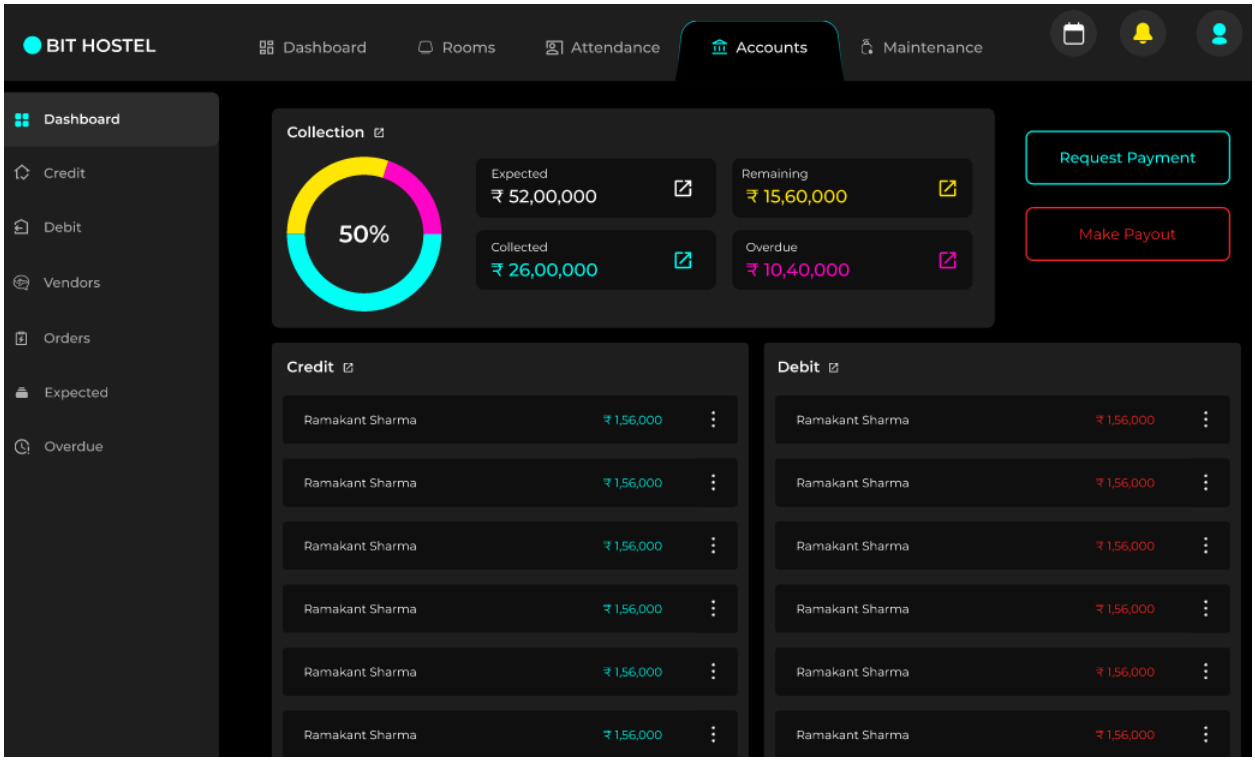
Leave details:



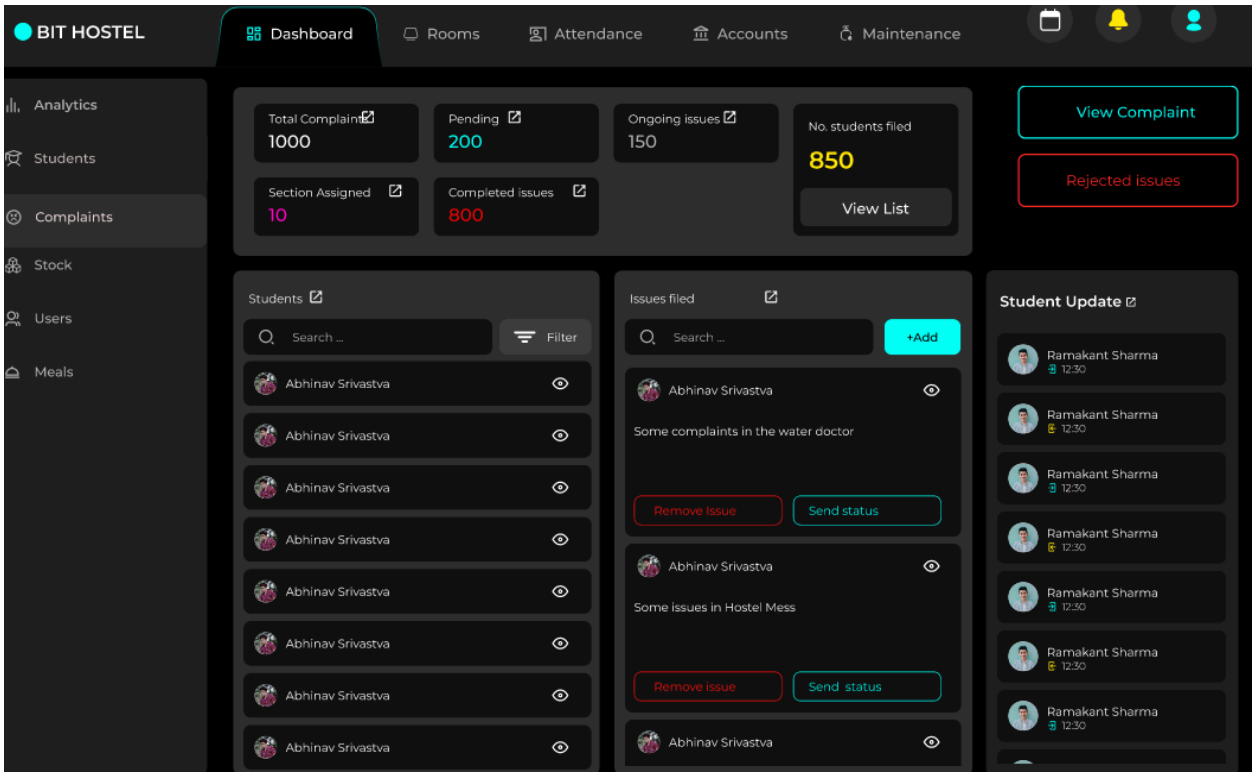
Attendance:



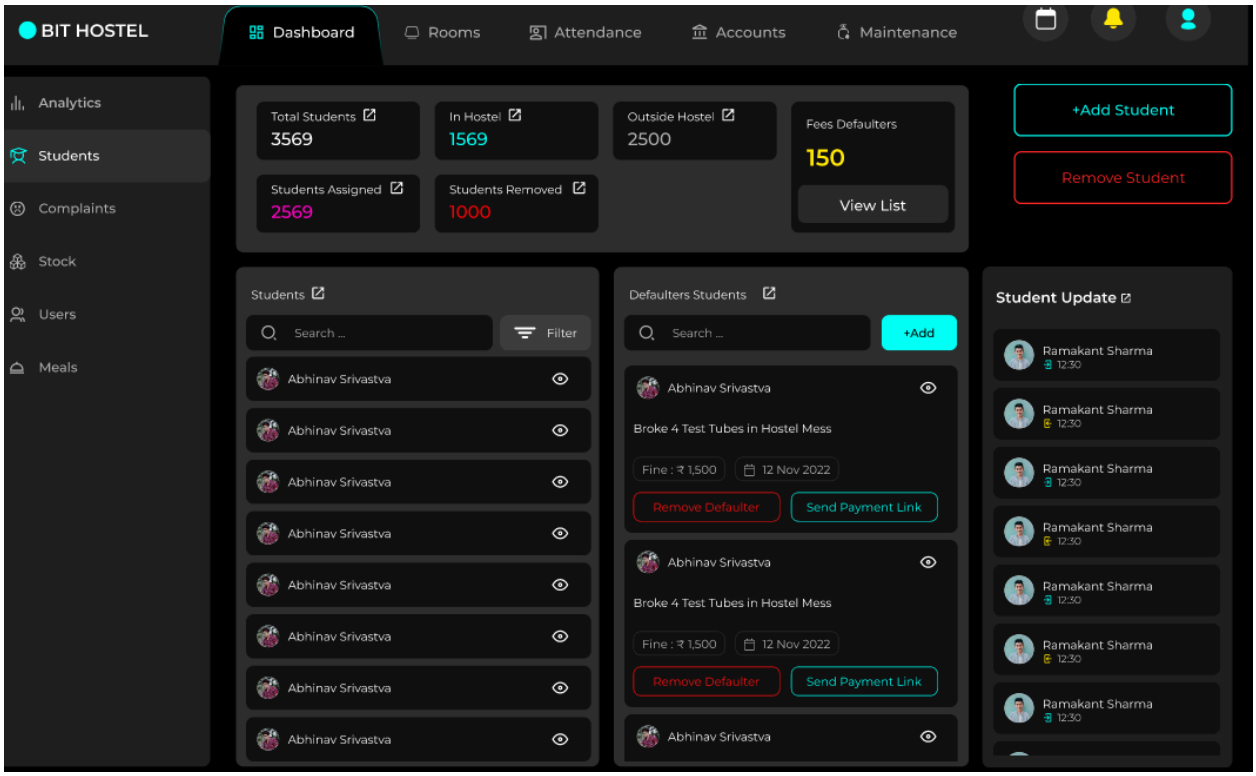
Accounts :



Complaints:

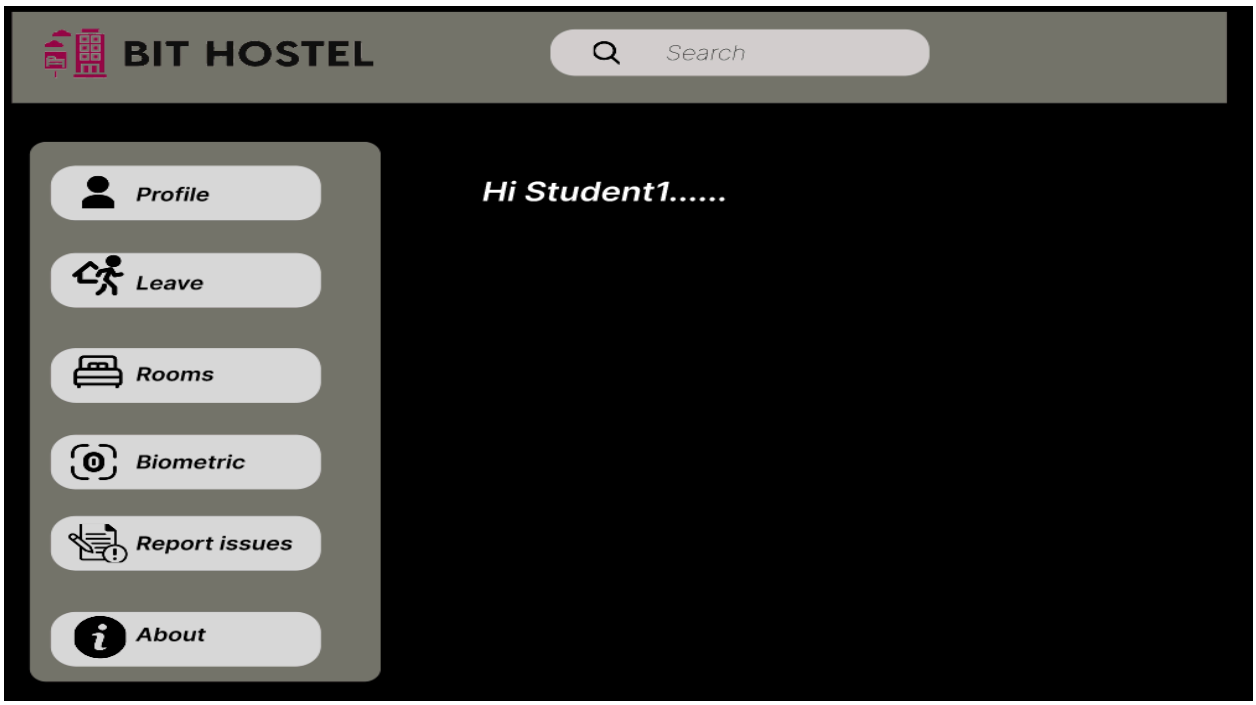


Student Details:

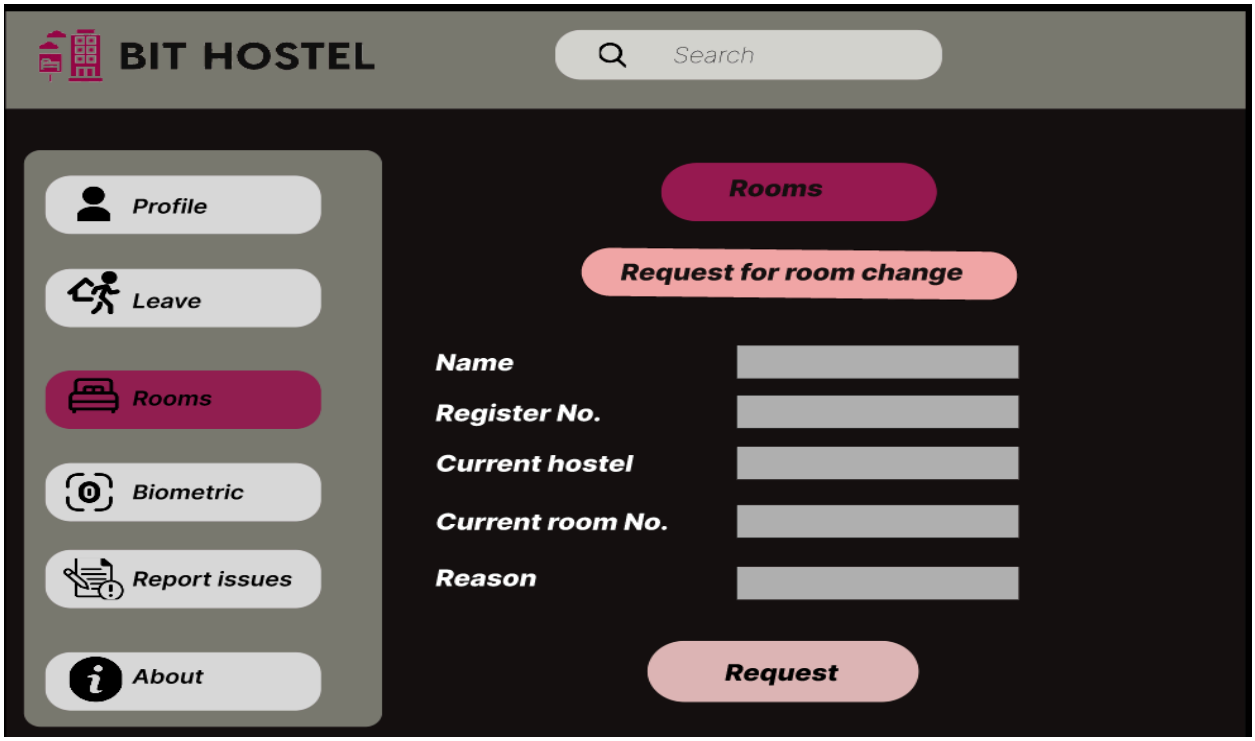


Student portal:

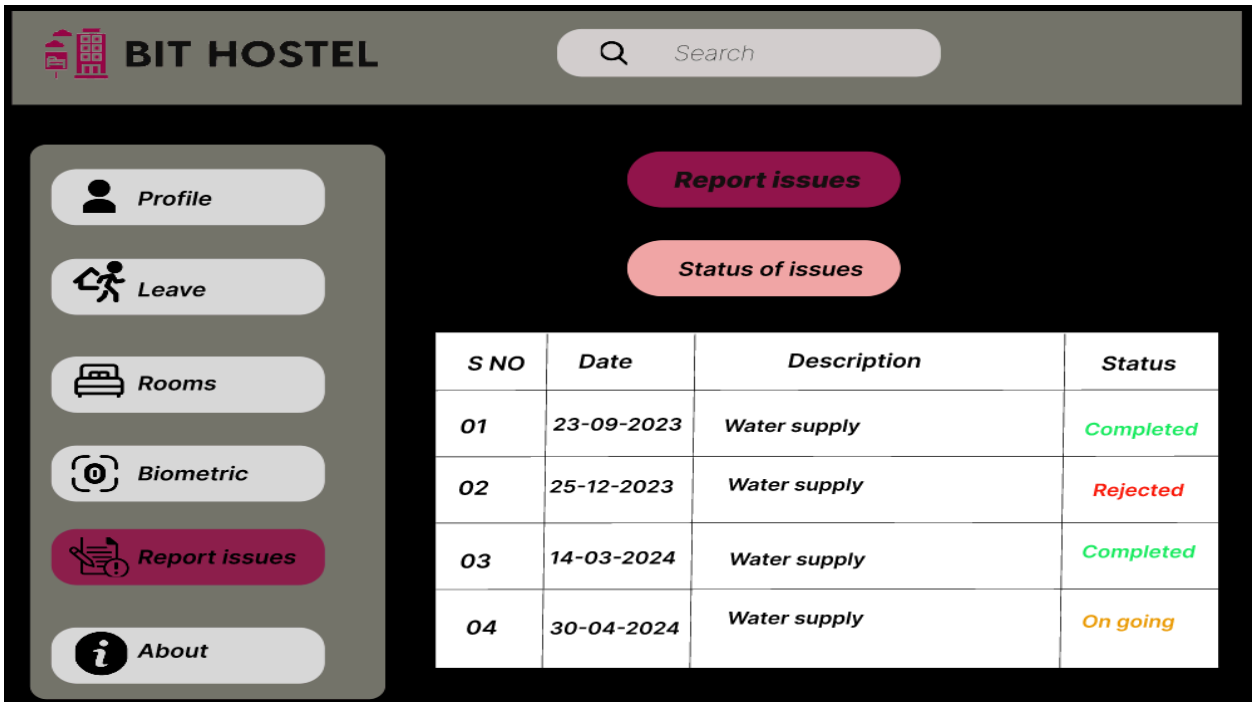
Home page:



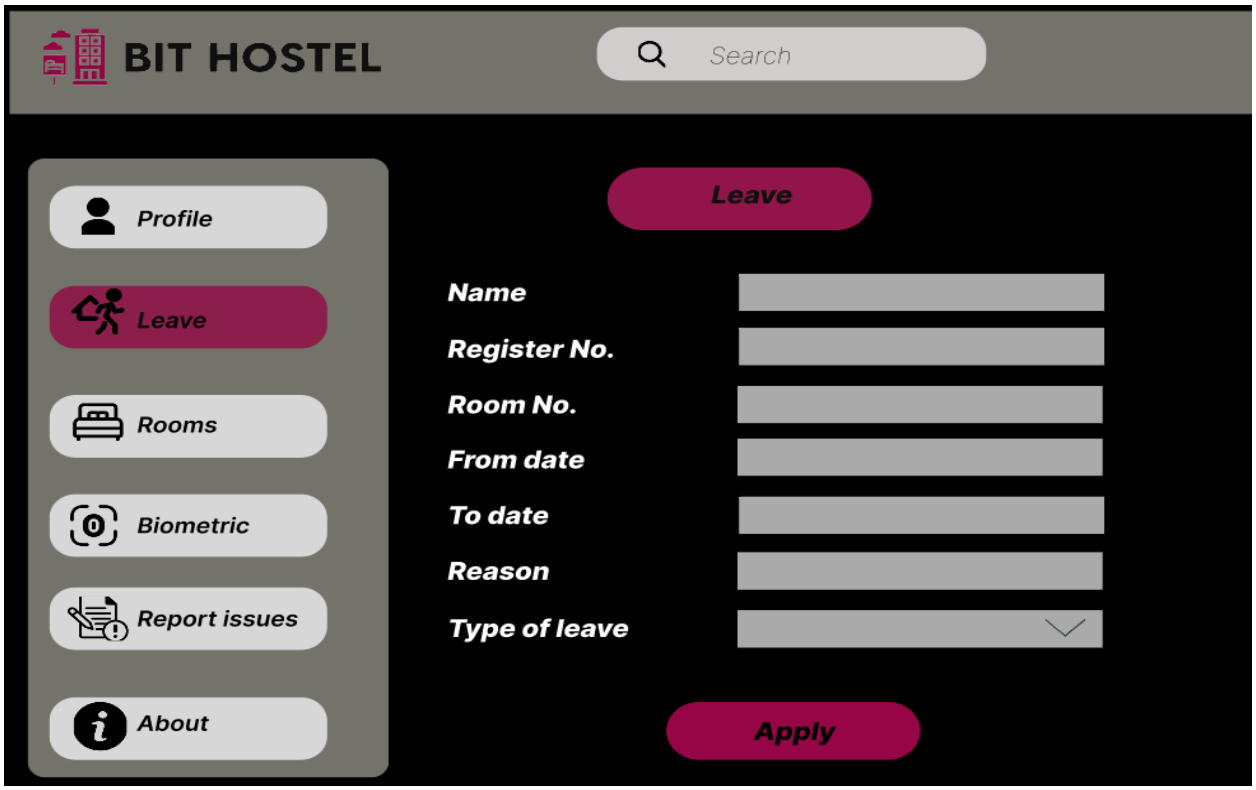
Room Change:



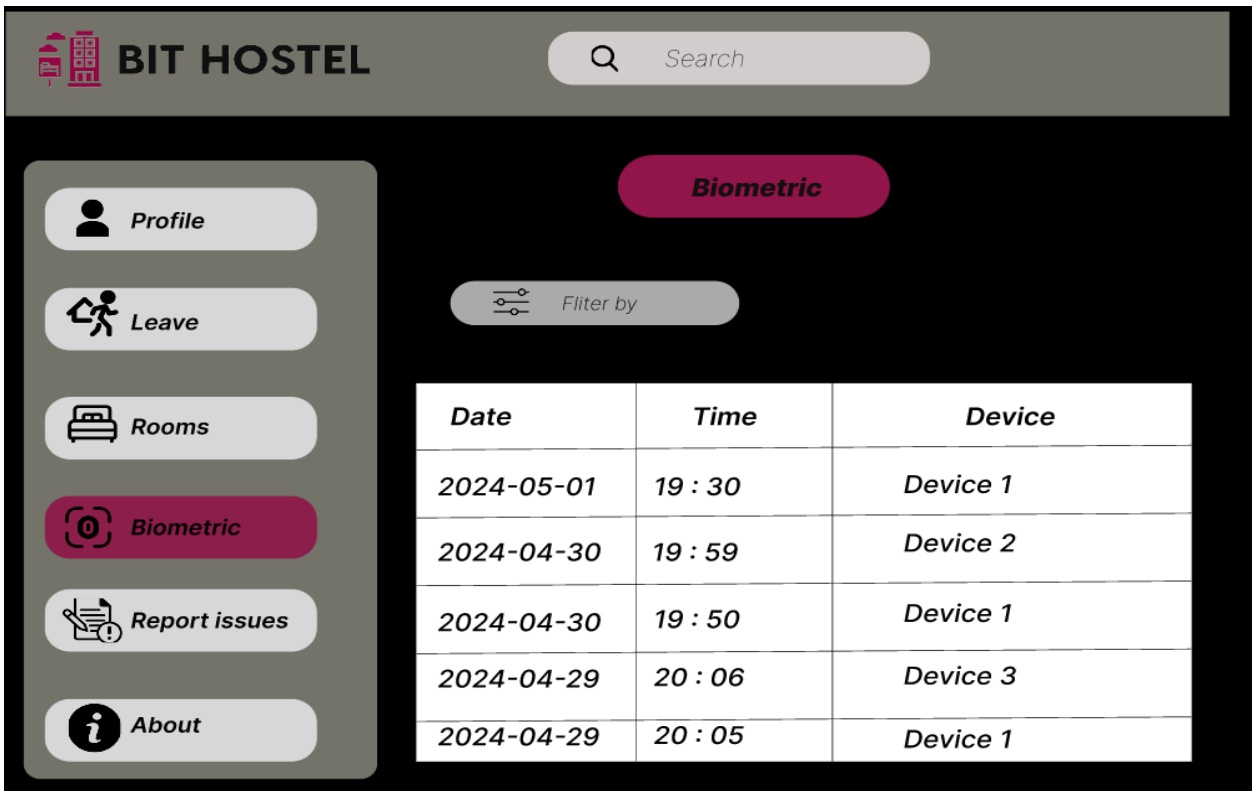
Complaints:



Leave:



Biometric:


BIT HOSTEL
Search
Profile
Leave
Rooms
Biometric
Report issues
About
Biometric
Fliter by
Date
Time
Device
2024-05-01
19 : 30
Device 1
2024-04-30
19 : 59
Device 2
2024-04-30
19 : 50
Device 1
2024-04-29
20 : 06
Device 3
2024-04-29
20 : 05
Device 1