

Project Name: Smart Campus Issue & Resource Management System

1. Introduction

A large university campus functions similarly to a small city, managing thousands of students, faculty members, and critical infrastructure such as classrooms, hostels, and laboratories. For a campus to operate smoothly, these facilities must function reliably.

Currently, issues related to these resources (e.g., broken fans, leaking taps, bus delays) are reported through informal channels. This lack of a formal process leads to repeated complaints, lost requests, and a general lack of accountability. This project aims to solve these inefficiencies by transitioning from a verbal, decentralized workflow to a structured, digital system.

2. Stakeholders

The following groups are directly affected by the current inefficiencies:

- **Students:** Face the daily inconvenience of malfunctioning facilities and lack a mechanism to track the status of reported complaints.
- **Faculty & Administrators:** Overwhelmed by unstructured messages and struggle to identify or prioritize urgent issues among the noise.
- **Maintenance Staff:** Often receive unclear instructions and may visit the same location multiple times for duplicate requests.

3. Problems Identified

Four core inefficiencies have been identified in the current operational model:

- **Absence of a Centralized System:** Complaints are scattered across verbal conversations and messaging apps. There is no single source of truth.
- **The "Duplicate Data" Issue:** Without a shared dashboard, multiple individuals often report the exact same issue (e.g., ten students reporting the same broken projector), wasting administrative time.
- **Lack of Priority Handling:** In informal chats, critical safety hazards (e.g., "electrical sparks") are indistinguishable from minor inconveniences, leading to delayed responses for high-risk issues.
- **Absence of Historical Data:** The administration lacks records to answer questions like *"Which hostel block had the most plumbing issues?"*, preventing data-driven decision-making.

4. Existing System & Its Limitations

The current process relies on human memory and informal messaging:

- **Process:** An issue is identified and communicated verbally or via text.
- **Limitation:** This process is **untraceable**. If a complaint is forgotten, it remains unresolved. There is no interface for the reporter to verify status ("Pending" vs. "Resolved"), leading to user frustration.

5. Constraints & Assumptions

- **Time Constraint:** The prototype must be designed and implemented within the hackathon duration.
 - **Resource Constraint:** The solution must utilize open-source technologies.
 - **Deployment Assumption:** While the design considers future offline capabilities, it is assumed that users have access to a device with a modern web browser.
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