Project Proposal: Apartment Maintenance & Complaints Tracker

1. Introduction

Residential communities often face challenges in managing maintenance requests and resident complaints effectively. Delays, lack of transparency, and poor record-keeping can lead to resident dissatisfaction and decreased property value. To address these issues, this project proposes the design and development of a centralized **Apartment Maintenance & Complaints Tracker** database model.

The system will serve as a structured platform for logging complaints, assigning tasks, monitoring progress, and providing transparent communication between residents, maintenance staff, and property managers.

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2. Problem Statement

Currently, many apartment communities rely on fragmented systems such as manual records, email exchanges, or spreadsheets to track resident complaints and maintenance requests. These approaches lead to:

- Inconsistent logging and loss of records.

- Delayed response times due to lack of tracking.

- Limited accountability when SLAs are not met.

- Poor communication between residents and staff.

- Minimal insights for preventive maintenance and property management decisions.

There is a strong need for a **centralized, accountable, and transparent** system to manage these processes.

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3. Objectives

The objectives of the Apartment Maintenance & Complaints Tracker are as follows:

1. **Centralize Complaint & Request Logging**
   Build a unified system for residents to submit maintenance requests and complaints, with standardized details (request type, urgency, description, date, and resident ID).

2. **Enable Efficient Maintenance Assignment & Tracking**
   Provide property managers with tools to assign tasks, create work orders, and monitor progress across different stages (Pending, In Progress, Completed).

3. **Enhance Communication & Transparency**
   Deliver real-time status updates and automated notifications (email, SMS, or portal) to keep all stakeholders informed.

4. **Ensure Accountability Through Escalations**
   Implement SLA-based escalation mechanisms for unresolved issues and track resolution timelines to measure performance.

5. **Provide Analytics & Reporting Tools**
   Generate reports on average resolution times, frequent complaint categories, and staff performance metrics for informed decision-making.

6. **Maintain Comprehensive Historical Records**
   Store long-term complaint and maintenance histories at resident, unit, and building levels to support dispute resolution, lease renewals, and property valuation.

7. **Support Continuous Improvement & Resident Satisfaction**
   Utilize insights from the system to drive preventive maintenance, improve service quality, and enhance the overall living experience.

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4. Methodology

The development of the Apartment Maintenance & Complaints Tracker will follow these steps:

1. **Requirements Gathering** – Identify needs of residents, maintenance staff, and property managers.

2. **Database Design** – Create ER diagrams and define entities such as Residents, Complaints, Maintenance Requests, Staff, and Work Orders.

3. **System Development** – Build forms for request logging, dashboards for tracking, and automated escalation workflows.

4. **Testing & Validation** – Simulate various complaint scenarios and validate against SLA rules.

5. **Deployment** – Implement in a pilot residential community before full-scale adoption.

6. **Evaluation & Iteration** – Collect feedback, generate reports, and refine features for long-term sustainability.

5. Entities to Be Used:

- Resident: Resident ID (Primary Key), Name, Apartment No, Contact No, Email
- Apartment: Apartment No (Primary Key), Block, Floor, Size/Type
- Complaint / Maintenance Request: Complaint ID (Primary Key), Resident ID (FK), Apartment No (FK), Type, Description, Date Logged, Urgency, Status
- Staff: Staff ID (PK), Name, Role, Contact No, Availability Status
- Assignment: Assignment ID (PK), Complaint ID (FK), Staff ID (FK), Date Assigned, Date Resolved

6. Expected Outcomes

- A reliable, centralized system for complaint and maintenance tracking.
- Faster resolution of resident issues with improved accountability.
- Transparent communication channels between residents and staff.
- Data-driven insights for property management decision-making.
- Increased resident satisfaction and stronger community trust.