**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.

**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.

**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.

**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.