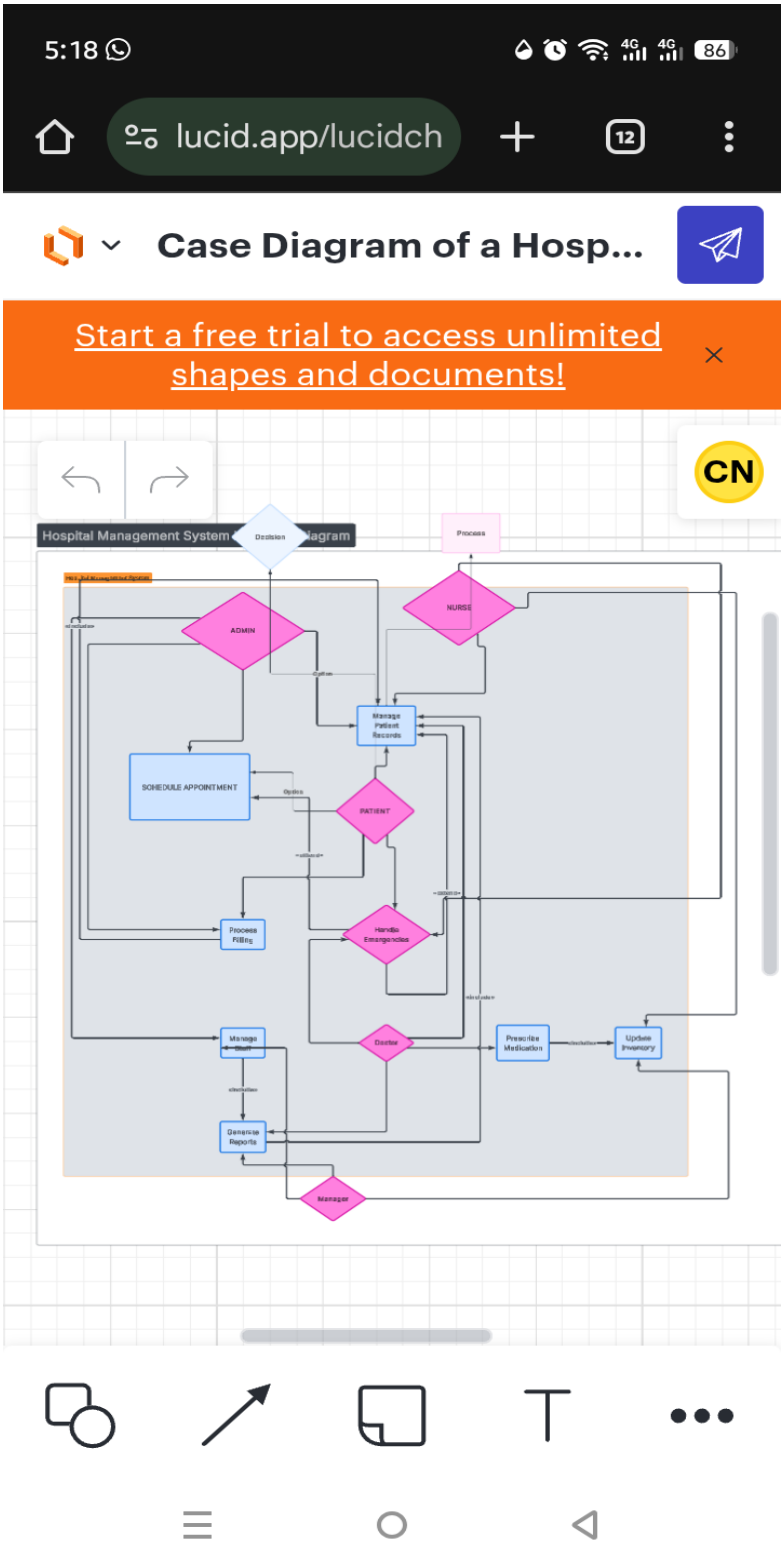

Screenshot of a UML Case Diagram of a Hospital Management System.

A use case diagram of a Hospital Management System (HMS**)** shows who uses the system (actors) and what they can do (use cases). It gives a high-level functional view of the system without going into technical details.

1. Actors in a Hospital Management System

Actors are external entities that interact with the system.

Common actors include:

1. **Patient**
    - Person receiving medical services
2. **Doctor**
    - Medical professional who diagnoses and treats patients
3. **Nurse**
    - Assists doctors and cares for patients
4. **Administrator**
    - Manages the entire system and users

2. Use Cases (System Functions)

Patient Use Cases

- Register / Login
- Book Appointment
- View Appointment Schedule
- View Medical Records
- Pay Bills
- Request Lab Results

Doctor Use Cases

- View Patient Records
- Diagnose Patient
- Prescribe Medication
- Request Lab Tests
- Update Treatment Records

Nurse Use Cases

- Record Patient Vitals
- Assist in Treatment
- Update Patient Status

Administrator Use Cases

- Manage Users
- Manage Roles and Permissions
- Generate Reports
- Maintain System Data

3. Relationships in the Use Case Diagram

Association

- Shows interaction between an actor and a use case
  Example: **Doctor → Prescribe Medication**

Include (`<<include>>`)

- One use case always includes another
  Example:
  - *Generate Bill* `<<include>>` *Calculate Charges*

Extend (`<<extend>>`)

- Optional or conditional behavior
  Example:
  - *Admit Patient* `<<extend>>` *Emergency Admission*

4. Example Explanation (Visualized in Words)

The Patient interacts with the system to register, book appointments, and view medical records.
The Doctor accesses patient records, diagnoses illnesses and prescribes medication.
The Administrator controls system users and generates hospital reports.

5. Purpose of the Use Case Diagram in HMS

- Clarifies system requirements
- Identifies system users
- Helps in system design and communication
- Serves as a foundation for further diagrams (class, sequence diagrams)