DATABASE PROJECT
CLINIC & PHARMACY MANAGEMENT SYSTEM

MediSync-Streamlining Clinic and Pharmacy Management

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Objective:

The objective of this project is to design and implement a database system for managing operations within a medical clinic and an attached pharmacy. The system aims to streamline processes related to patient management, appointment scheduling, prescription management, inventory control, and overall administrative tasks.

Users:

1. **Clinic-side users**
   a. Receptionist
   b. Doctor
   c. Pharmacists
2. Patient-side users

Clinic-side Users:
A. Doctor:
      The doctor manages patient consultations, diagnoses, and treatments, including prescribing medications, recommending exercises, and scheduling follow-up appointments. He/she may also need to access a patient's medical history when required.

1. Prescribe Medications
2. Access Patient History and Medical Reports
3. Generate Medical Reports
4. Collaborate with Pharmacists for Medication Dispensing

We'll now define attributes for each of the uses:

      Prescribe Medications:

- ReportID: Unique ID for reports written for each patient(New reports will be written at each visit)
- PatientID: Unique ID for each patient(Everything can be accessed using a patient's ID)
- MedicationID: Unique ID for each medicine.
- Dosage: Dosage instructions for the medication.
- Duration: Duration for which the course must be taken.
- Instructions: Special instructions or precautions for the medication.
- DatePrescribed: Date when the prescription was issued.

Access Patient History and Medical Reports:

- PatientID
- MedicalHistoryID: Unique identifier linking to the patient's medical history.
- Allergies and Reactions: Known allergies and past reactions to medications.
- Current Medications: A list of all current medications that the patient is taking.

Report:

- ReportID
- PatientID
- DateOfVisit: Date of the patient's visit for which the report is generated.
- Symptoms: Symptoms reported by the patient during the visit.
- Diagnoses: Diagnoses made by the doctor during the visit.
- Medications: Medications prescribed to the patient during the visit.
- ConsultancyCharge: Amount paid during the consultation
- Notes: Additional notes or comments recorded during the visit.

Collaborate with Pharmacists for Medication Dispensing:

- ReportID
- MedicationID: Identifier for the medication being dispensed.
- Quantity: Quantity of medication to be dispensed.
- DispensingDate: Date when the medication is dispensed by the pharmacist.
- PharmacistID: Identifier for the pharmacist dispensing the medication.
- PatientID

B. Receptionist:

Clinic staff play a crucial role in ensuring the smooth operation of a medical facility. From patient registration to appointment scheduling and medical record management, clinic staff handle various responsibilities to deliver quality healthcare services.

1. Register Patients in their clinic's database.
2. Schedule appointments according to the patient's convenience and the doctor's availability.
3. Update patient medical records

4. Manage clinic and pharmacy information (e.g., address, contact details)
5. Staff Information

Register Patients:
- PatientID
- Name
- Address
- PhoneNumber
- Email
- AppointmentID: Unique ID for each appointment which is scheduled.

Payment History:

- PatientID
- ReportID
- Date
- ConsultancyCharge : Amount doctor charged during consultancy

Schedule Appointments:
- AppointmentID
- PatientID
- Date
- Time
- Status: Status of the appointment (e.g., scheduled, cancelled, completed).

Staff Information:

- StaffID : Unique ID of the staff member.
- Name
- Staff Role: Job/Role of the staff member (e.g., doctor, cleaners, receptionist, pharmacist).
- Contact Number
- Address
- Joining Date
- Salary

C. Pharmacists:
The pharmacist's job here is to give medications to the patients as specified in the prescription and maintain their stock.

1. Manage Inventory
2. Track Medication Expiry Dates
3. Dispense Medications based on Prescriptions
4. Handle Orders and Restock Inventory
5. Generate Inventory Reports
6. Coordinate with Clinic Staff for Prescription Verification

- Manage Inventory:
    - MedicationID: Unique ID for each medicine
    - Medication Name
    - Quantity Available
    - Price: Price per unit of the medication

- Track Medication Expiry Dates:
    - MedicationID
    - Manufacturing Date
    - Expiry Date

- Dispense Medications based on Prescriptions:
    - ReportID
    - Medication ID
    - Quantity: Quantity of medication to be handed.
    - PatientID
    - BillNo
    - MedicationCharge

- Handle Orders and Restock Inventory:
    - Medication ID
    - QuantityOrdered
    - OrderDate: Date when order will be received

    Coordinate with Clinic Staff for Prescription Verification:

    - ReportID
    - MedicationID
    - QuantityPrescribed
    - PatientID

- **POTENTIAL QUERIES:**

- Patient-related Queries:
    - List all appointments scheduled for a specific patient.
    - Access all medical reports
    - Show the payment history of a particular patient.
    - Find the total cost incurred during the whole medical treatment (all visits).
- Doctor-related Queries:
    - List medications prescribed to a specific patient
    - Access patient reports and histories from previous visits.
    - Financial queries like: Calculating total profit per month, total salary expenses, modifying staff's salaries etc.
    - Retrieve all medical reports for patients with a specific diagnosis

- Receptionist-related Queries:
  - Show all appointments scheduled for a given date.
  - Show patients with overdue appointments.
  - Retrieve patient/staff information including name, address, and contact details.
  - Modifying the staff details, maintaining payment records for the staff etc.

- Pharmacist-related Queries:
  - Show the inventory status including medication name, quantity available, and expiry dates.
  - Find all medications that are expired or are about to expire.
  - Show the list of medications that need to be restocked.
  - List orders placed for restocking inventory.
  - Display medications dispensed to a specific patient(Bill)
  - Display the total sales revenue generated by the pharmacy within a certain time period.
  - Find the top-selling medications based on the quantity dispensed.