Hospital Management System

P2 - ER Diagram

Overview:

- The primary objective of this project is to develop a comprehensive system for efficiently managing and organising diverse data associated with patients, staff members , inventory, and various other hospital-related information.
- This database system is intended to facilitate the hospital's oversight of all transactions and empower informed decision-making in alignment with the organisation's ambient vision.

Entities Explanation:

Sr_No	Entity	Relationship and Attributes
1	Patient	This is the main entity who will book an appointment for specific doctors and its attributes include Patient ID as a primary key , Patient_Name, Patient_Address, Patient_Phone.
2	Patient_History	This entity gives information about patients who are currently admitted having a foreign key as Patient ID , Record_Number as primary key followed by Admission Reason, Admission Date, Primary Doctor Name, Discharge Date attributes.
3	Doctor	This is the main entity which stores information about doctors which includes Doctor_Id as a primary key followed by Doctor_Name,Doctor_Specialty, Admission_Date, Doctor_Type.
4	Room	This entity stores information about Patients using Patient_ID as a foreign key , Room_ID as a primary key and followed by Room_Type, Bed_Number, Floor_Number attributes.
5	Inventory	This entity stores information about pharmaceutical logistics items which doctors prescribes and patients consume having Item_ID as primary key , Department_ID as foreign key followed by Item_Name, Department_ID, Last Stock-up Date, Quantity attributes.
6	Appointment	This entity gives information about appointment details which patients book to a specific doctor having Patient_ID and Doctor_ID as Foreign Key , Appointment_ID as primary key followed by start_date_time , end_date_time attributes.
7	Payroll	This entity manages salary records of employees having

		Employee_ID as foreign key, payroll_id as primary key followed by net Salary and account number as other attributes.
8	Employee	This entity defines all the employees working in a hospital. The attributes include Employee_ID as primary key, Employee_FirstName, Employee_LastName, Employee_Phone, Employee_Email, Employee_Type, Department_ID as a foreign key as any employee will belong to a department.
9	Department	This entity defines information about doctors, employees, inventory and disease. The attributes include Department_ID as a primary key, Department_Name.
10	Disease	This entity belongs to a specific department based on patient's history. The attributes includes Disease_ID as primary key, Disease_Name

The below Entity-Relationship (ER) diagram depicts the structure of a hospital's database system. Here's a summary of the system:

1. Payroll:

    - Represents employee salary details.

    - Attributes include Payroll ID, net Salary, Employee ID, and Account Number.

    - It's related to the Employee entity via the Employee ID.

2. Employee:

    - Contains details about the hospital's staff.

    - Attributes: Employee ID, First Name, Last Name, Phone number, Email, and Type.

    - Each employee belongs to a specific Department indicated by the Department ID.

3. Department:

    - Represents different units or sections within the hospital.

    - Contains a Department ID and a Department Name.

    - Has a connection to Inventory via the Department ID.

4. Inventory:

- Represents items and equipment in the hospital.

- Attributes: Item ID, Item Name, Last Stock-up date, and Quantity.

- Each item is linked to a specific Department.

5. Disease:

- Lists various diseases.

- Has attributes like Disease ID and Disease Name.

6. Doctor:

- Represents medical practitioners in the hospital.

- Contains attributes: Doctor ID, Name, Specialty, Admission Date, and Type.

7. Appointment:

- Records appointments between patients and doctors.

- Attributes include Appointment ID, start and end time.

- Each appointment connects a specific Patient to a Doctor.

8. Patient:

- Represents individuals admitted or consulting in the hospital.

- Attributes: Patient ID, Name, Address, and Phone number.

- Each patient can have a record in Patient History and can be assigned to a Room.

9. Patient History:

- Contains the medical history of patients.

- Attributes: Record Number, Admission Reason, Admission Date, Primary Doctor Name, and Discharge date.

- Each record is linked to a specific Patient.

10. Patient Room:

- Details the room assignment for patients.

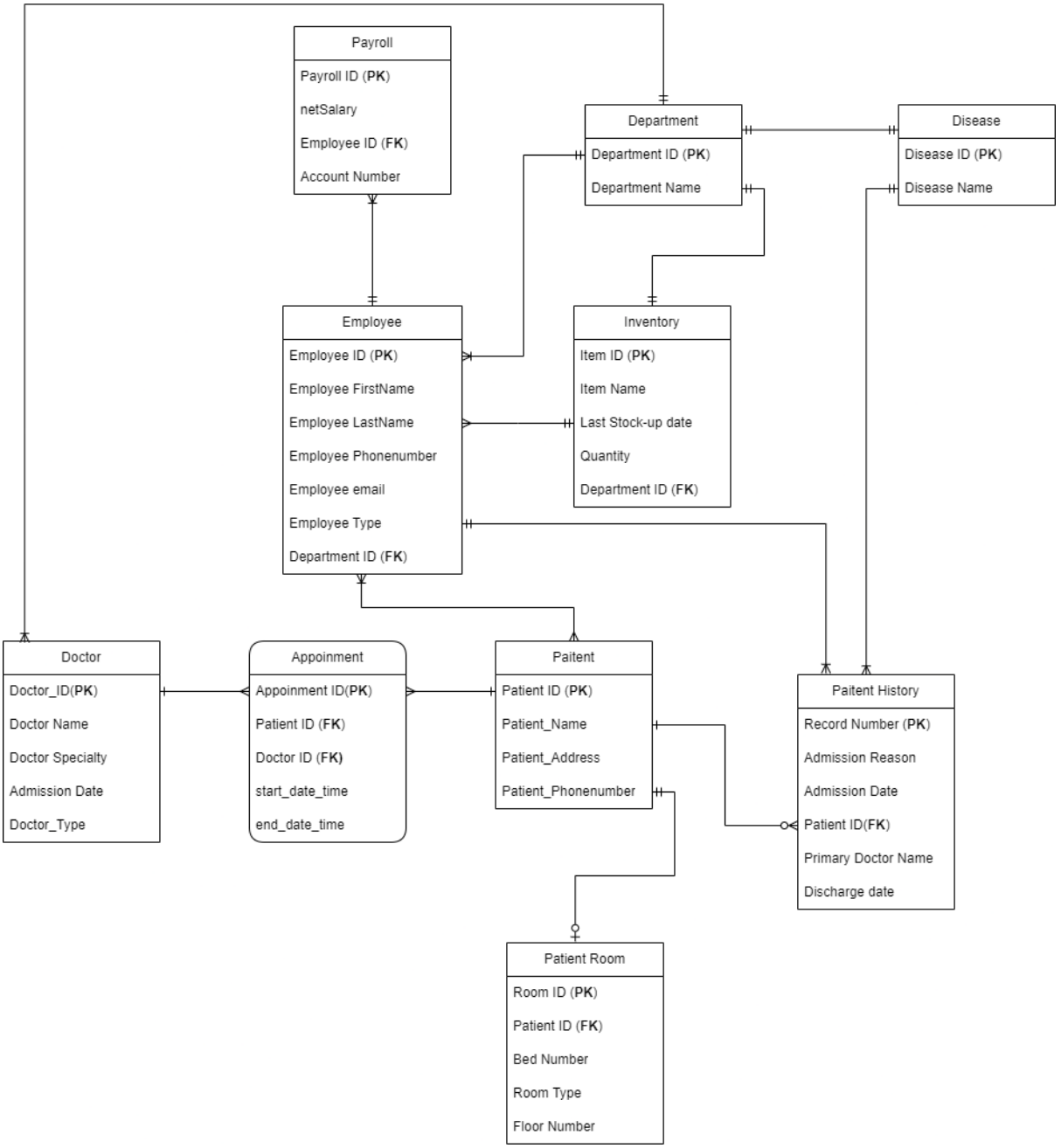
- Attributes: Room ID, Patient ID, Bed Number, Room Type, and Floor Number.

Key Relationships:

- An employee can belong to one department (Employee.Department ID is a foreign key).
- A patient can have one primary doctor (Patient.Primary Doctor ID is a foreign key linked to Doctor).
- A doctor can be assigned to many patients.
- A patient can be admitted to one room (Patient.Room ID is a foreign key linked to Room).
- A room can be occupied by many patients.

This below ERD is designed to model the relationships and attributes of the entities in a hospital database, making it a valuable tool for designing and implementing a relational database system for a hospital management system.

ER diagram:


Payroll
Payroll ID (PK)
netSalary
Employee ID (FK)
Account Number
Department
Department ID (PK)
Department Name
Disease
Disease ID (PK)
Disease Name
Employee
Employee ID (PK)
Employee FirstName
Employee LastName
Employee Phonenumber
Employee email
Employee Type
Department ID (FK)
Inventory
Item ID (PK)
Item Name
Last Stock-up date
Quantity
Department ID (FK)
Doctor
Doctor_ID(PK)
Doctor Name
Doctor Specialty
Admission Date
Doctor_Type
Appoinment
Appoinment ID(PK)
Patient ID (FK)
Doctor ID (FK)
start_date_time
end_date_time
Paitent
Patient ID (PK)
Patient_Name
Patient_Address
Patient_Phonenumber
Paitent History
Record Number (PK)
Admission Reason
Admission Date
Patient ID(FK)
Primary Doctor Name
Discharge date
Patient Room
Room ID (PK)
Patient ID (FK)
Bed Number
Room Type
Floor Number

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