

# Case Study: Hospital Management System

---

## Solution to the Case Study: Hospital Management System

This case involves designing an Enhanced Entity-Relationship (EER) model for a hospital system.

### 1. Entities and Attributes:

- Employee(Emp\_ID, Name, Contact, Join\_Date)
- Doctor(Emp\_ID, Specialization, License\_No)
- Nurse(Emp\_ID, Shift, Ward\_Assigned)
- Technician(Emp\_ID, Skill\_Type, Equipment\_ID)
- Patient(Patient\_ID, Name, DOB, Admitted\_Date)
- Procedure(Proc\_ID, Name, Cost)
- Department(Dept\_ID, Name, Head\_EmpID)

### 2. Relationships:

- Treats(Doctor\_ID, Patient\_ID, Date)
- Undergoes(Patient\_ID, Proc\_ID, Date, Performed\_By\_Tech\_ID)
- Assigned\_To(Employee\_ID, Department\_ID)

### 3. EER Concepts Used:

- Generalization: All staff are generalized as Employees.
- Specialization: Employees can be Doctors, Nurses, or Technicians. Doctors can be Specialists or General Physicians.
- Aggregation: The relationship "Undergoes" can be aggregated to connect with Billing or Insurance.

## EER Diagram

