



**IILM**  
UNIVERSITY

# **DBMS PROJECT**

## **Hospital Management System**

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# **INTRODUCTION**

The Hospital Management System is a database management system designed to store and manage information related to hospital operations. It helps in maintaining records of patients, doctors, appointments, wards and medicines efficiently.

This system ensures proper tracking of patient details, doctors, consultations, ward admissions, and prescribed medicines. It reduces manual work and improves accuracy, consistency, and security of data.

The system uses relational database and an Entity Relationship (ER) model to design and organize the database

## **Objective of the Project**

- To store patient information
- To maintain doctor details
- To manage appointment records
- To store ward admission details
- To maintain medicine records
- To maintain relationships between all entities

# Entity Description

## **1. Patient Entity**

This stores the information about the patient.

Attributes:

- patient\_id (Primary Key)
  - patient\_name
  - age
  - gender
  - contact\_number
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## **2. Doctor Entity**

This entity stores the information about doctors.

Attributes:

- doctor\_id (Primary Key)
  - doctor\_name
  - specialization
  - experience
  - contact\_number
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## **3. Appointment Entity**

This stores the information about the appointment between the patient and doctor.

Attributes:

- appointment\_id (Primary Key)

- appointment\_date
- status

Foreign Keys:

- patient\_id
  - doctor\_id
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## **4. Ward Entity**

This stores the information about ward in which patient is allotted to go.

Attributes:

- ward\_id (Primary Key)
- ward\_name
- ward\_type
- capacity

Foreign Key:

- patient\_id
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## **5. Medicine Entity**

This stores the information of medicines which are prescribed by the doctor to patient,

Attributes:

- medicine\_id (Primary Key)
- medicine\_name
- dosage
- price

Foreign Key:

- patient\_id

## **Relationship Description**

### 1. Patient BOOKS Appointment

Relationship: One-to-Many

One patient can book many appointments and each appointment can belong to only one patient.

Participation:

- Appointment : Total participation
  - Patient : Partial participation
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### 2. Patient CONSULTED\_BY Doctor

Relationship: Many-to-Many

One patient can be consulted by many doctors and one doctor can consult many patients.

Participation:

- Doctor : Partial participation
  - Patient : Total participation
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### 3. Patient ASSIGNED\_TO Ward

Relationship: Many-to-One

One ward can have many patients and one patient is assigned to only one ward at a time.

Participation:

- Patient : Total participation
  - Ward : Partial participation
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#### 4. Doctor PRESCRIBES Medicine

Relationship: Many-to-Many

One doctor can prescribe many medicines and one medicine can be prescribed to many doctors.

- Doctor : Partial participation
  - Medicine : Partial participation
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#### 5. Patient PURCHASES Medicine

Relationship: Many-to-Many

One patient can take many medicines, also one medicine can be purchased by many patients.

- Patient : Total participation
  - Medicine : Partial participation
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## **Relational Schema**

1. Patient (patient\_id, patient\_name, age, gender, contact\_number)
2. Doctor (doctor\_id, doctor\_name, specialization, experience, contact\_number)
3. Appointment (appointment\_id, appointment\_date, status, patient\_id, doctor\_id)
4. Ward (ward\_id, ward\_name, ward\_type, capacity, patient\_id)
5. Medicine (medicine\_id, medicine\_name, dosage, price, patient\_id)

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### **Primary keys and Foreign keys**

#### **Primary Key :**

- patient\_id
- doctor\_id
- appointment\_id
- ward\_id
- medicine\_id

#### **Foreign Key:**

- appointment.patient\_id → patient.patient\_id
- appointment.doctor\_id → doctor.doctor\_id

- ward.patient\_id → patient.patient\_id
- medicine.patient\_id → patient.patient\_id

## **CONCLUSION**

The Hospital Management System provides an efficient way to manage hospital data. It maintains patient records, doctor information, appointments, ward details, and medicines.

This system improves efficiency, reduces errors, and ensures proper data management.