Hospital Management System

Hospital Management System is used to manage all the hospital operations. We can perform operations such as we can add patients, assign doctor to patient, view patient details, view doctor details, add staff, view staff, assign bed to patients, view bill and payments.

My Project Includes two members

1.Aayush Kumar

2.Saurabh Ojha

Saurabh will work on Patients and Doctor Entity

Aayush will work on Staff,Bill and Payment Entity

The Hospital Management include 5 entites :-

- Patients
- Doctors
- Staff
- Bills
- Payments

Patients

- **Attribues**
    1. p_id (Primary Key)
    2. fname
    3. lname
    4. gender
    5. disease
    6. admitstatus
    7. age
    8. phone_no
- **Relationship**
    1. Each patient can have only one billing record, and each billing record is associated with exactly one patient. (One-to-One)

2. Each patient can have multiple payment records, but each payment record is associated with exactly one patient.(One-to-Many)

```
mysql> desc patient;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| p_id        | varchar(255) | NO   | PRI | NULL    |       |
| admitstatus | varchar(255) | YES  |     | NULL    |       |
| age         | int          | YES  |     | NULL    |       |
| disease     | varchar(255) | YES  |     | NULL    |       |
| fname       | varchar(255) | YES  |     | NULL    |       |
| gender      | varchar(255) | YES  |     | NULL    |       |
| lname       | varchar(255) | YES  |     | NULL    |       |
| phone_no    | varchar(255) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

Doctors

- **Attribues**
    1. d_id (Primary Key)
    2. d_name
    3. qualification
    4. specilization
    5. availability
- **Relationship**
    1. A doctor can be assigned to multiple patients, and a patient can be attended by multiple doctors. This relationship is represented by the doctors and patients tables.(Many-to-Many)

```
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| d_id          | varchar(255) | NO   | PRI | NULL    |       |
| availability  | varchar(255) | YES  |     | NULL    |       |
| d_name        | varchar(255) | YES  |     | NULL    |       |
| qualification | varchar(255) | YES  |     | NULL    |       |
| specialization | varchar(255) | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

Staff

- **Attribues**
    1. staffId (Primary Key)
    2. fname
    3. lname
    4. gender
    5. designation
    6. age
    7. salary
- **Relationship**
    1. Staff members (like nurses or administrators) can be associated with multiple patients, and a patient can interact with multiple staff members. This relationship is represented by the staff and patients tables.(Many-to-Many)
    2. A staff member can work with multiple doctors, and a doctor can have interactions with multiple staff members.(Many-to-Many)

```
mysql> desc staff;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| staffId     | varchar(255) | NO   | PRI | NULL    |       |
| age         | int          | NO   |     | NULL    |       |
| designation | varchar(255) | YES  |     | NULL    |       |
| firstName   | varchar(255) | YES  |     | NULL    |       |
| gender      | varchar(255) | YES  |     | NULL    |       |
| lastName    | varchar(255) | YES  |     | NULL    |       |
| salary      | double       | NO   |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```

Bill

- **Attribues**
    1. b_id(Primary Key)
    2. basicCharges
    3. additionalCharges
    4. medicationCharges
    5. roomCharges
    6. doctorFees
    7. totalCharges
    8. patient_id(Foreign Key)
- **Relationship**
    1. Each billing record is associated with a staff member who handles the billing process. This relationship ensures that a billing record has a responsible staff member.(One-to-One)

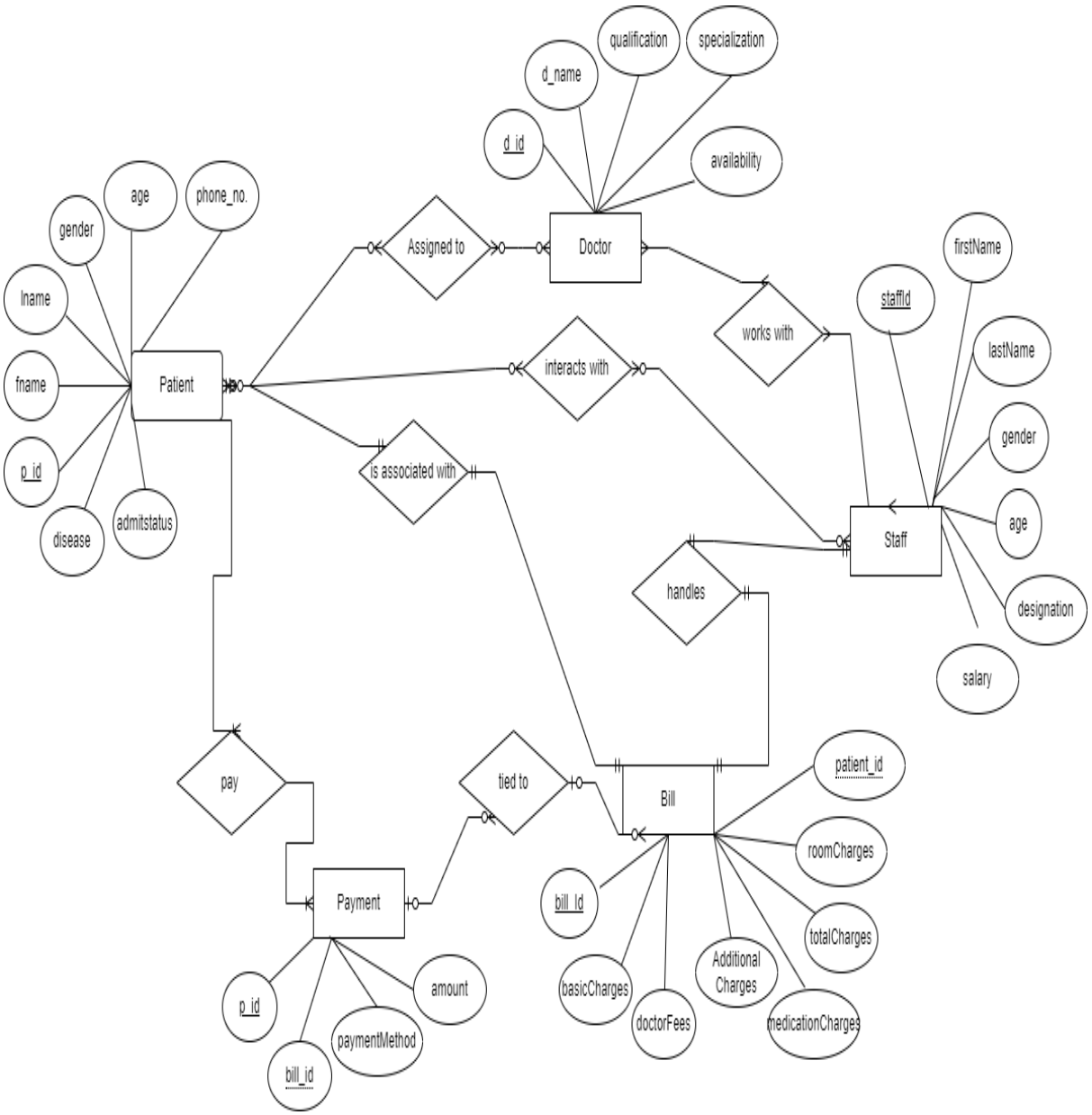
```
mysql> desc bill;
+-------------------+--------------+------+-----+---------+-------+
| Field             | Type         | Null | Key | Default | Extra |
+-------------------+--------------+------+-----+---------+-------+
| billId            | varchar(255) | NO   | PRI | NULL    |       |
| additionalCharges | double       | NO   |     | NULL    |       |
| basicCharges      | double       | NO   |     | NULL    |       |
| doctorFees        | double       | NO   |     | NULL    |       |
| medicationCharges | double       | NO   |     | NULL    |       |
| roomCharges       | double       | NO   |     | NULL    |       |
| totalCharges      | double       | NO   |     | NULL    |       |
| patient_id        | varchar(255) | YES  | MUL | NULL    |       |
| staff_id          | varchar(255) | YES  | MUL | NULL    |       |
+-------------------+--------------+------+-----+---------+-------+
9 rows in set (0.00 sec)
```

Payment

- **Attributes**
    1. p_id (Primary Key)
    2. bill_id (Foreign Key)
    3. paymentMethod
    4. amount
- **Relationship**
    a. many payment records is tied with one record in the Billis table.(Many- to-One)

```
mysql> desc payment;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| paymentId     | varchar(255) | NO   | PRI | NULL    |       |
| amount        | double      | NO   |     | NULL    |       |
| paymentMethod | varchar(255) | YES  |     | NULL    |       |
| billId        | varchar(255) | YES  | MUL | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

ER Diagram


qualification
specialization
d_name
d_id
availability
age
phone_no.
gender
Assigned to
Doctor
works with
firstName
staffId
lastName
lname
fname
Patient
interacts with
gender
p_id
Is associated with
age
disease
admitstatus
Staff
handles
designation
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pay
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Bill
patient_id
roomCharges
Payment
bill_Id
totalCharges
Additional Charges
basicCharges
doctorFees
medicationCharges
amount
p_id
paymentMethod
bill_id