**HOTEL MANAGEMENT DATABASE SYSTEM**



**TABLE OF CONTENTS**

[INTRODUCTION](#_91vang4a4ku4)

[ERR DIAGRAM](#_a614b26fbavn)

[TABLES AND RELATIONSHIPS](#_k7thcqq9o6uq)

[NORMALIZATION](#_h6i1hiyks26p)

[QUERIES, VIEWS AND TRIGGERS](#_kvrim9nf6g5a)

[CHALLENGES](#_p1kxsrpdvogk)

[QUESTIONS](#_l1obusb7cal4)

## 1.1 INTRODUCTION

### 1.1.1 Objective

Create a database management system for a hotel. The hotel can have multiple chains.

We need an organized management system, which can easily manage all the operations and the data of the hotel chains and hotels respectively.

The system will be managing the following areas:

1. The hotel chains,their details and other informations like their rooms , descriptions and discounts
2. Information about employees and departments
3. Information about guests
4. Management of bookings and other services used by guests

## 

## 1.2 ERR DIAGRAM

I started with designing the structure of the database. I drew the ERR diagram on paper, noting down all the necessary tables. Each table contains columns and their attributes respectively and trying to make an idea about the relationships between tables. I ensured the tables are in a form where I can reduce the data redundancy and make it an easy and simple way.

## 

## 

## 

## 

## 

## 1.3 TABLES AND RELATIONSHIPS

## Bookings

The table contains the data about the bookings made for rooms.

Primary key

1. booking\_id

Foreign keys

1. hotel\_hotel\_id which has many-to-one relationship with the hotel table
2. guests\_guest\_id which has many-to-one relationship with the hotel table
3. employees\_emp\_id which has many-to-one relationship with the employees table

## Hotel\_services\_used\_by\_guests

Table contains info about the services used by the guests.

Primary key

Service\_used\_id

Foreign keys

Hotel\_services\_service\_id - Relates to the hotel\_services table

Bookings\_booking\_id - Relates to the booking table

## Department

Contains the data about the different departments of the hotel.

Primary Key

Department\_id - Creates a one-to-one relationship with the employees table

## Employees

Data related to the employees.

Primary key

1. Employee\_id

Foreign keys

1. Service\_id - Denotes many-to-one relations with the department table
2. addresses \_id - Denotes one-to-one relationship with the addresses table

Hotel\_id - Denotes many-to-one relationship with the hotel table

## Addresses

Defines the information about the address of guests, hotels, hotel chains, employees.

Primary Key

Address\_id - Maintains one-to-one relationship with tables, hotel\_chain, hotel, employees and guests

## Guests

Has the data about the guests that check in to the hotel.

Primary key

1. guest\_id

Foreign\_key

1. Address\_id that has one-to-one relationship with the address table

## Rooms\_booked

Primary Key

1. rooms\_booked\_id

Foreign keys

1. Booking\_id which has one-to-many relationship with the bookings table
2. Room\_id which has one-to-many relationship with the rooms table

## 

## 

## 1.4 NORMALIZATION

Database normalization is the process of restructuring a relational database in accordance with a series of so-called normal forms in order to reduce data redundancy and improve data integrity. If a database is normalized until the third normal form then it is considered to be normalized. I tried to normalize the database until third normal form

## 1.6 QUERIES, VIEWS AND TRIGGERS

This was the easiest part for me. As I put a lot of effort in designing the database and creating relationships in a manner that, it will be easier to fetch the data from two or more tables. I wrote the queries as per the requirements. I created two views and triggers

VIEWS

GuestDetails

This view shows all the information about the guests

EmployeeDetails

This view shows all the information about the employees and their respective departments

TRIGGERS

BookingAudit\_OnInsert

When a new booking is generated, this trigger will create a booking audit table and insert the data into it

BookingAudit\_OnDelete

When a booking is deleted, this trigger will be called and a row will be inserted on the Booking Audit table with the information of the booking that is being deleted

## 1.7 CHALLENGES

1. Creating relationships among tables
2. Making sure all the relationships created among tables are logical and follow the normalization rules
3. Creating the booking and the rooms table and its relationships with other respective tables

## QUESTIONS