Database Management

System Case

Studies

DBSL Mini project
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Batch: K-1
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Hotel Management System

Aim: XYZ is a multiservice luxury hotel which provides various services to its customers from picking up form location to logging facilities etc. Different types of customers come to hotels who require different types of rooms and services. Also, the hotel has a huge staff to manage and provide easy and fast services to customers. Hotel has several other positions for better management.

The aim of this case study is to design and develop a database for the hotel to maintain records of hotel staff and customers. Also keep record of availability of the rooms and maintenance of other services provided by the hotel.

Description(SRS): In multiservice hotels, there are lots and lots of facilities to provide to the guests. The facilities start from picking up guests from the airport/any other site, then register their entry in the hotel database, after that decide which room should be allocated and so on up to the check-out from the hotel. Even hotel elements like room, staff should be managed carefully and systematically. The status of a room, whether cleaned or not, whether guests are present or not, room facilities should be kept in dynamic control to update and provide best service to the guests.

Due to this large set of requirements the hotel management becomes a very complex task and this needs to be handled systematically.

Table Description:

Following are the tables along with constraints used in the *Hotel Management* database.

1. **LOGIN:** This table contains login information about the admins. Admins are the people who can access this hotel management software. Each user has a username and password associated with him.

   - username varchar unique not null

   - password varchar not null

2. **EMPLOYEE:** This table stores information about all employees of the hotel. Each employee is assigned with name, age, gender, job, salary, phone, aadhaar number, email.
   - id not null, unique, primary key
   - name not null,
   - age integer
   - gender char
   - job varchar
   - salary integer
   - phone integer
   - aadhar integer
   - email varchar

3. **ROOMS:** This table stores details of rooms in the hotel. Each room has a room number associated with it. Also availability status shows if the room is empty or occupied. The room also has a bed type in it. The bed type can be single bed or double bed. Also the room has some predetermined price.
   - room_number integer not null primary key
   - availability varchar
   - status tinyint not null

- price integer not null
- bed_type varchar not null

4. **DRIVER:** This table stores details of drivers that are available with our hotel to pick up guests from the airport/from any location. The table has an id which is foreign key referring to the employee table as drivers are also considered as employees of the hotel. Each driver has a name, age, gender, car_company, car_name and location_area which he should cover.
    - id not null foreign key from employee table
    - name varchar not null
    - age integer
    - gender varchar(20),
    - car_company varchar(20),
    - car_name varchar(20),
    - location varchar(40)

5. **CUSTOMER:** The record in this table is created when new customer checks-in in the hotel. The manager can add the customer and allocate room to him from available rooms. Each customer has a unique id, an identity number and other fields such as name, gender, country, status etc. Id is the primary key and room is a foreign key which refers to the room table.
    - id varchar unique not null primary key
    - number varchar not null
    - name varchar
    - gender varchar
    - country varchar
    - room_num integer foreign key room table
    - status varchar
    - deposit integer

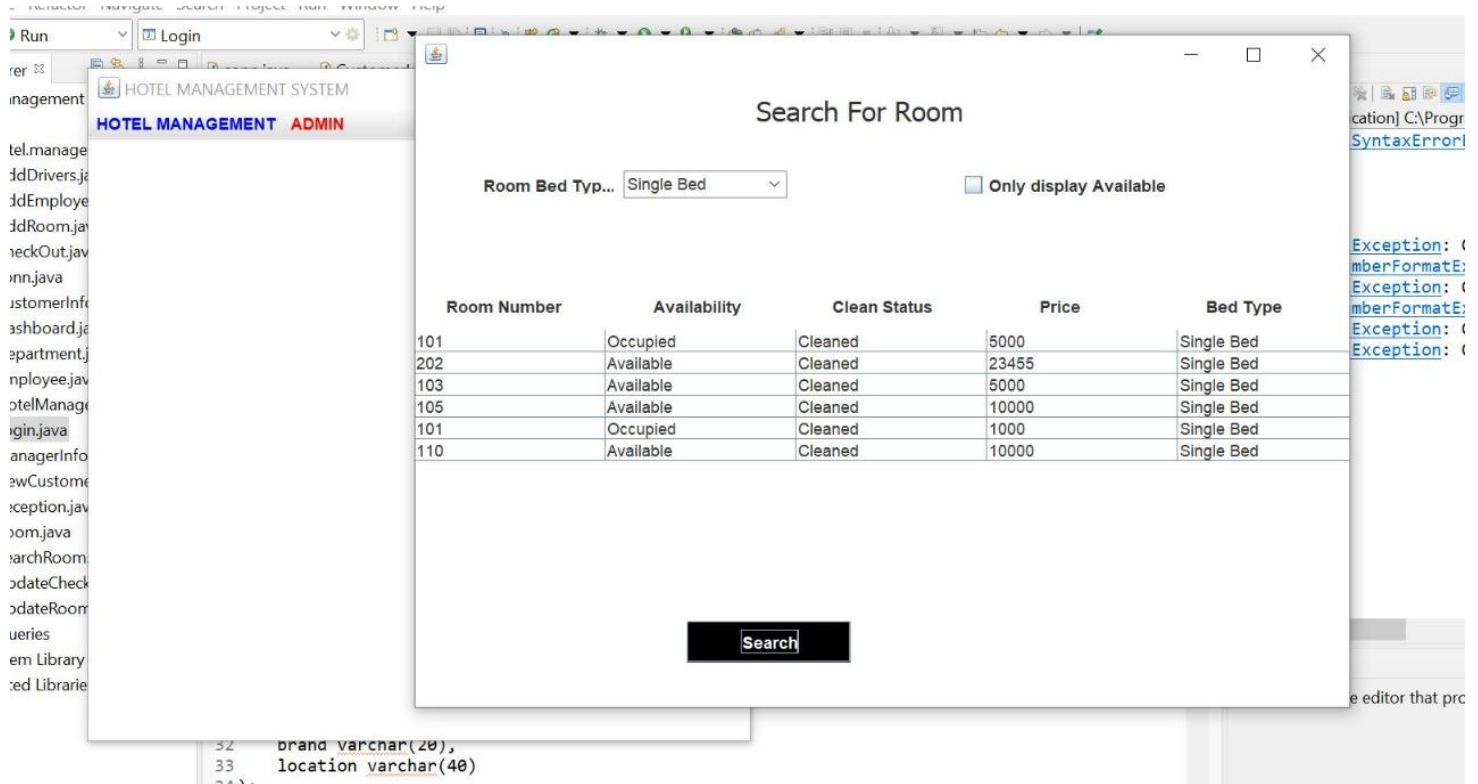# E-R Diagram(Conceptual Design using ER features)
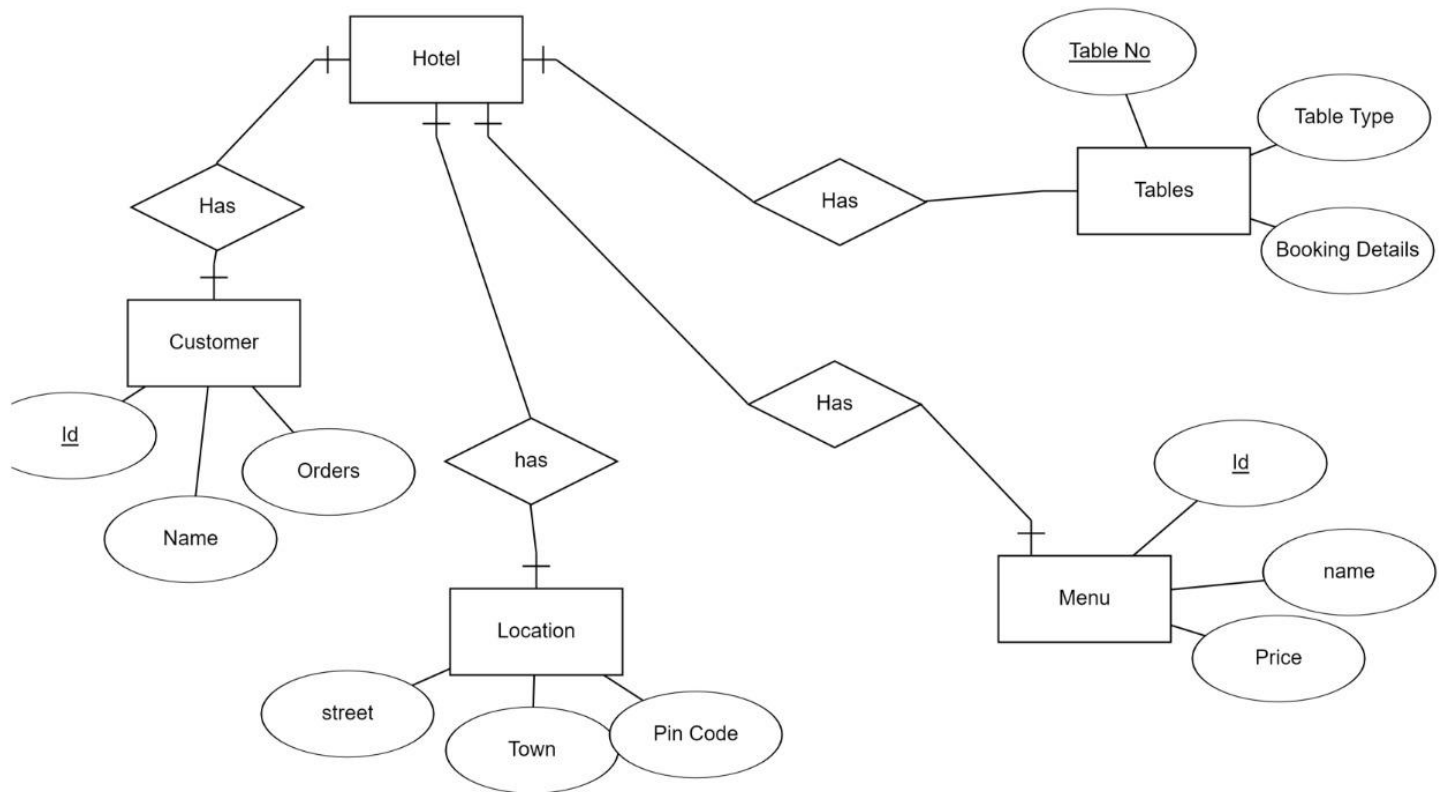
Relational Database Schema for Case Study:

The relational database schema for *Hotel Management* database is as follows:
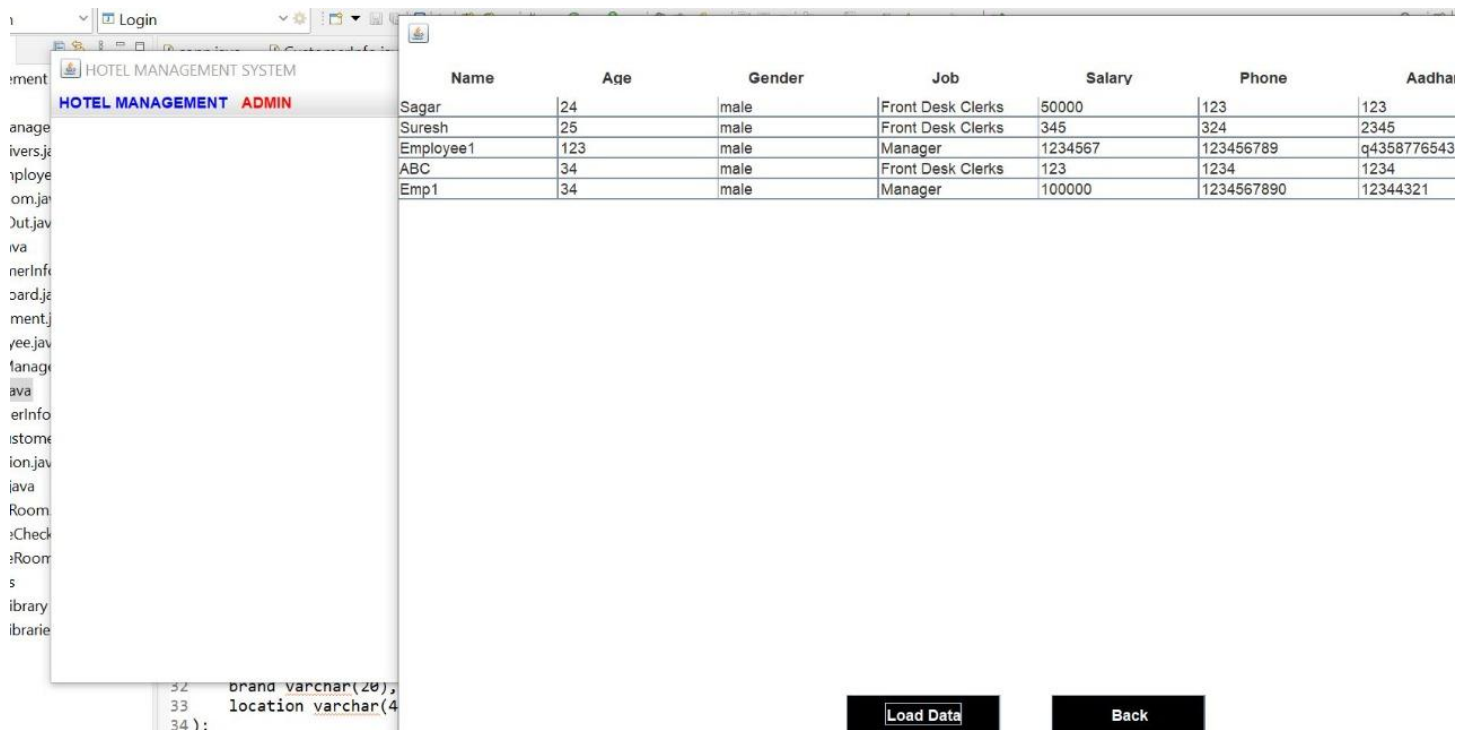
1. EMPLOYEE (age, gender, job, salary phone, aadhar, email)
2. CUSTOMER (id, number, name, gender, country, room, status, deposit)
3. DRIVERS (name, age, gender, company, brand, location)
4. ROOM (room_number, availability, status, price, bed_type)
5. LOGIN (username, password)

USER INTERFACE:

Room availability:

Search For Room

Room Bed Typ... [Single Bed ▼]   ☐ Only display Available

Room Number	Availability	Clean Status	Price	Bed Type
101	Occupied	Cleaned	5000	Single Bed
202	Available	Cleaned	23455	Single Bed
103	Available	Cleaned	5000	Single Bed
105	Available	Cleaned	10000	Single Bed
101	Occupied	Cleaned	1000	Single Bed
110	Available	Cleaned	10000	Single Bed

[Search]

HOTEL MANAGEMENT SYSTEM
HOTEL MANAGEMENT   ADMIN

```
32    brand varchar(20),
33    location varchar(40)
34 );
```

Employee details:

Name	Age	Gender	Job	Salary	Phone	Aadha...
Sagar	24	male	Front Desk Clerks	50000	123	123
Suresh	25	male	Front Desk Clerks	345	324	2345
Employee1	123	male	Manager	1234567	123456789	q4358776543
ABC	34	male	Front Desk Clerks	123	1234	1234
Emp1	34	male	Manager	100000	1234567890	12344321

[Load Data]   [Back]

HOTEL MANAGEMENT SYSTEM
HOTEL MANAGEMENT   ADMIN

```
32    brand varchar(20),
33    location varchar(4
34 );
```

New employee registration:

Check in:

Hotel Management System Test cases

- Check by entering the correct URL in the browser, and the application should be loading properly
- Check if there is any user verification functionality present on the application.
- Check by entering valid credential like user name and password user should be able to log in
- Check by entering invalid credentials the user should not be login into the application, and an error message should be displayed
- Check if the hotel management system application has an option to add a new employee
- Check if the hotel management system application has an option to add a new guest
- Check if the hotel management system application has an option to add a new driver
- Check if the hotel management system application has an option to book a room
- Check whether all the mandatory fields are present registration portal
- Check after registering a new employee, it can be seen in all employees list
- Check the status of room after booking the room
- Check if all details of the guests are added (example: mobile number, name, aadhar id, etc.)
- Check if the entered mobile number and email id are valid format
- Check if filtering of 'available' and 'occupied' rooms is working
- Check if the guest has paid any previous deposits of money and the data is visible properly
- Check if check-in details are correctly visible after entering the id

Conclusion:

Implementation of a hotel management system project helps to store records of available rooms, details of guests in the hotel, provide easy to use interface, provide maximum information along with filtering choice for better visibility of data and authentication for security of data.