

SIDDAGANGA INSTITUTE OF TECHNOLOGY

TUMKUR,B.H ROAD – 572103,INDIA

Hostel Management System

AMAN KUSHWAHA

1SI20CS009

Computer Science And Engineering

Introduction:

Introduction:

In this project, I will attempt to design and implement the DB part of hotel management and its reservation system.

Problem Definition:

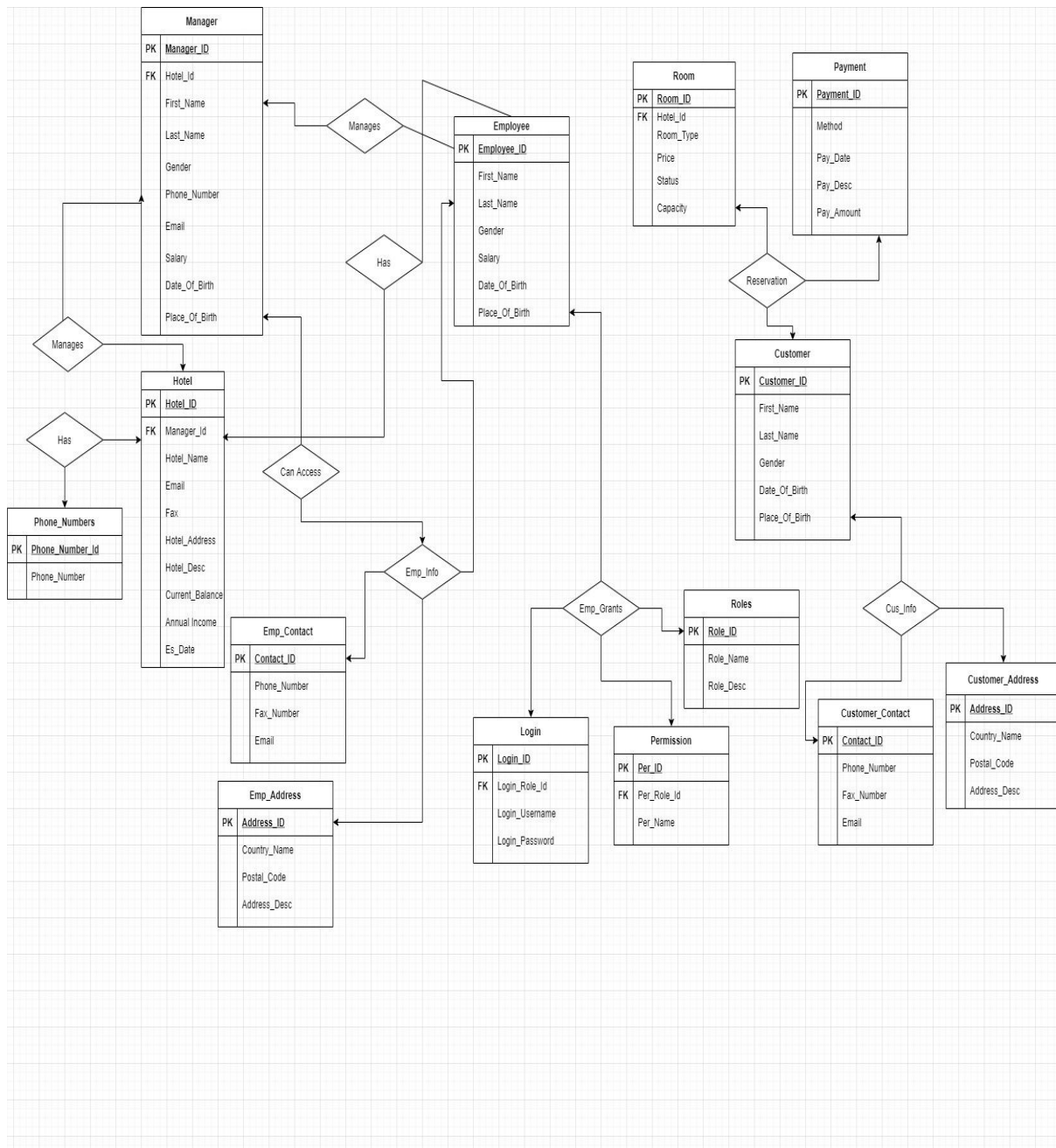
Problem Definition:

To manage the data flow between various offices and to ease the reservation process of a customer in a hotel, it's a good idea to develop a system which will save employees' and customer's time and increase the productivity of a hotel.

User Requirements:

- Create tables for Manager, Hotel, Room, Employee, Customer, Reservation, Employee_Contact, Hotel's phone numbers, Employee's Address, login, permission and roles, customer contact, customer address, customer payment and if necessary, create tables of relations among the Entity tables.
- The manager will have access and permission to the hotel and its employees and will have permission to hire and drop employees.
- The manager will have contact info and other info in a single table.
- The manager can manage the hotel and employees.
- Hotel, employees, and customers can have several phone numbers.
- Customers can book or reserve a room if available.
- The manager can access all the tables available in the system.
- Customers can book rooms without creating an account on the system.
- Keep customers, rooms, and payment IDs on the Reservation table.
- Keep customers, rooms, and payment IDs on the Reservation table.

ER Diagram:



Not: Full Image is Available in Assets Folder.

Table Name	PK	FK
Manager	Manager_ID	Hotel_Id
Hotel	Hotel_ID	Manager_Id
Phone_Numbers	Phone_Number_ID	
Employee	Employee_ID	
Emp_Contact	Contact_ID	
Emp_Address	Address_ID	
Emp_Info	Employee_ID, Contact_ID, Address_ID	
Roles	Role_ID	
Permission	Per_ID	Per_Role_ID
Login	Login_ID	
Emp_Grants	Employee_ID, Role_ID, Per_ID, Login_ID	
Customer	Customer_ID	
Customer_Contact	Contact_ID	
Customer_Address	Address_ID	
Cus_Info	Customer_ID, Contact_ID, Address_ID	
Room	Room_ID	Hotel_Id
Payment	Payment_ID	
Reservation	Customer_ID, Room_ID, Payment_ID	

Normalization:

Functional Dependencies:

The ER diagram is valid for 1NF, 2NF, 3NF, 4NF, and BCNF rules.

Primary And Foreign Keys:

Manager: Manager_ID -> First_Name, Last_Name, Gender, Phone_Number, Email, Salary, Date_Of_Birth, Place_Of_Birth.

Hotel: Hotel_ID -> Hotel_Name, Email, Fax, Hotel_Address, Hotel_Desc, Current_Balance, Es_Date, Annual_Income.

Phone_Numbers: Phone_Number_ID -> Phone_Number.

Employee: Employee_ID -> First_Name, Last_Name, Gender, Salary, Date_Of_Birth, Place_Of_Birth.

Emp_Contact: Contact_ID -> Phone_Number, Fax_Number, Email.

Emp_Address: Address_ID -> Country_Name, Postal_Code, Address_Desc.

Role: Role_ID -> Role_Name, Role_Desc.

Permission: Per_ID -> Per_Name.

Login: Login_ID -> Login_Username, Login_Password.

Customer: Customer_ID -> First_Name, Last_Name, Gender, Date_Of_Birth, Place_Of_birth.

Customer_Contact: Contact_ID -> Phone_Number, Fax_Number, Email.

Customer_Address: Address_ID -> Country_Name,Postal_Code, Address_Desc.

Room: Room_ID -> Room_Type, Price, Status, Capacity.

Payment: Payment_ID -> Method, Date, Desc, Amount.

Tables List:

- **Manager**
- **Hotel**
- **Phone_Numbers**
- **Employee**
- **Emp_Contact**
- **Emp_Address**
- **Emp_Info**
- **Roles**
- **Permission**
- **Login**
- **Emp_Grants**
- **Customer**
- **Customer_Constact**
- **Customer_Address**
- **Cus_Info**
- **Room**
- **Payment**

- *Reservation*

Database Name: hotel_management_system

5 Interface:

- *Manager interface: manager can add and remove employees.*
- *Employee(Receptionists) interface: receptionists can book rooms for the customers and see their own personal details.*
- *Employee (room cleaners) interface: room cleaners can see their salary and their personal details and can request cleaning facilities from the hotel manager and responsible persons. - Employee(ITs) interface: IT guys can access customers' names, surnames, and phone numbers and see their own personal details.*
- *Customer interface: customers can book rooms without logging into the system and can see their own personal details.*

5 Different Triggers:

- *If the makes a payment, the current_balance of the hotel will be updated.*
- *If an employee is created, the corresponding IDs of the employee, role, permission, and login will be stored in Emp_Grants.*
- *If a customer books a room, the corresponding IDs of the customer room, payment will be stored in the reservation system.*
- *If the cleaner-employees buy cleaning facilities for the hotel, the current_balance of the hotel be affected.*
- *If the date is 01.01.xxxx the annual income will be updated.*

5 Different Views:

- *Customers can only view the Hotel_Name, Email, Fax, and Hotel_Address.*
- *The manager can view all the details of the hotel.*
- *the receptionist can only see the Hotel_Name, Fax, Hotel_Address, and the Hotel Establishment Date.*
- *Hotel Cleaner can see the manager's name, last name, and email address.*
- *The Hotel IT engineer can see the manager's name, last name email, and phone number.*

1 Outer Right Join:

1 Outer Left Join: 1

Full Outer Join:

SCREEN SHOTS:

The screenshot displays the MySQL Workbench interface. The left sidebar shows the 'SCHEMAS' tree with various databases and tables. The central 'Query Editor' window shows a SQL query for creating a view named 'cleaner_manager_view'. The right sidebar contains 'SQL Additions' and a message about automatic context help. The bottom panel shows the 'Output' window with a list of actions and their results.

Query Editor (Query 1):

```

1 CREATE
2 ALGORITHM = UNDEFINED
3 DEFINER = 'root'@'localhost'
4 SQL SECURITY DEFINER
5 VIEW `cleaner_manager_view` AS
6 SELECT
7   `manager`.`First_Name` AS `First_Name`,
8   `manager`.`Last_Name` AS `Last_Name`,
9   `manager`.`Email` AS `Email`
10 FROM
11   `manager`
12 WHERE
13   (`manager`.`Manager_ID` IS NOT NULL)
  
```

Output Window:

#	Time	Action	Message	Duration / Fetch
12	20:01:33	INSERT INTO hotel_management_system `manager` (`Manager_ID`, `Hotel_Id`, `First_Name`, `Last_Name`, `Gender`, `Phone_Number`, `Email`)	1254 Out of range value for column 'Phone_Number' at row 1	
13	20:02:04	Apply changes to manager	Changes applied	
14	20:02:12	INSERT INTO hotel_management_system `manager` (`Manager_ID`, `Hotel_Id`, `First_Name`, `Last_Name`, `Gender`, `Phone_Number`, `Email`)	1452 Cannot add or update a child row: a foreign key constraint fails (hotel_management_system.`manager`, CONSTRAINT hotel_id_FOREG...	
15	20:02:20	INSERT INTO hotel_management_system `manager` (`Manager_ID`, `Hotel_Id`, `First_Name`, `Last_Name`, `Gender`, `Phone_Number`, `Email`)	1452 Cannot add or update a child row: a foreign key constraint fails (hotel_management_system.`manager`, CONSTRAINT hotel_id_FOREG...	
16	20:02:42	INSERT INTO hotel_management_system `manager` (`Manager_ID`, `Hotel_Id`, `First_Name`, `Last_Name`, `Gender`, `Phone_Number`, `Email`)	1395 Incorrect integer value: 'for column 'Hotel_Id' at row 1	
17	20:02:55	SELECT * FROM hotel_management_system hotel LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

 MINGW64:/d/mysql

Ashraf@ashraf MINGW64 /d/mysql

\$ python database.py

```
***** CSE 414 (DBMS) Semester Project *****
*****
*** Welcome To Hotel Management And Reservation System ***
Select From The Menu:
1 For Interfaces.
2 For Exit.
Enter Your Input: 1

*****
*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 1

*****
*** Manager Interface ***

*** Hotel Information For Manager***
Hotel Name: Braga Hotel
Hotel Email Address: bragahotel@gmail.com
Hotel Fax Address: 13235551234@bragahotel.com
Hotel Location Address: Gebze/Kocaeli/Turkey
Hotel Description: An amazing
Hotel Current Budget: 0
Hotel Establishment Date: 09.09.1998
*****

Adding Employee To The System...
Employee Name: serdar
Employee Sure Name: uzun
Employee Gender: male
Employee Salary: 4000
Employee Place Of Birth: izmit
```


Employee Inserted Successfully !!!

*** Interfaces ***

Select From The Menu:

- 1 For: Manager Interface
- 2 For: Receptionist Interface.
- 3 For: Cleaner Interface.
- 4 For: IT Tech Guy Interface.
- 5 For: Customer Interface.
- 6 For: Return To Main Menu.

Enter Your Input Here: 2

*** Receptionist Interface ***

*** Hotel Information For Receptionist ***

Hotel Name: Braga Hotel

Hotel Fax Address: 13235551234@bragahotel.com

Hotel Location Address: Gebze/Kocaeli/Turkey

Hotel Establishment Date: 09.09.1998

Select From The Menu:

- 1 For: Your Personal Details.
- 2 For: Book Rooms For Your Customers.
- 3 For: Back To Menu.

Enter Your Input Here: 2

Booking Rooms For Customers...

Customer Name: selim

Customer Sure Name: kaya

Customer Gender: male

Customer Place Of Birth: kabul

Room Booked For Mr/Miss: selim kaya !!!

*** Receptionist Interface ***

*** Hotel Information For Receptionist ***

Hotel Name: Braga Hotel

Hotel Fax Address: 13235551234@bragahotel.com

```
Hotel Location Address: Gebze/Kocaeli/Turkey
Hotel Establishment Date: 09.09.1998
*****

Select From The Menu:
1 For: Your Personal Details.
2 For: Book Rooms For Your Customers.
3 For: Back To Menu.
Enter Your Input Here: 3

*****

*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 3

*****

*** Cleaner Interface ***

*** Manager Information For Cleaner ***
Manager First Name: Ashraf
Manager Last Name: Yawar
Manager Email: m.ashraf0016@gmail.com

Select From The Menu:
1 For: Your Personal Details.
2 For: Request Cleaning Facilities To The Hotel.
3 For: Back To Menu.
Enter Your Input Here: 3

*****

*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
```

```
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 4

*****
*** IT Guy Interface ***

*** Manager Information For IT Guy ***
Manager First Name: Ashraf
Manager Last Name: Yawar
Manager Phone Number: 05349228234
Manager Email: m.ashraf0016@gmail.com

Select From The Menu:
1 For: Your Personal Details.
2 For: Find Out About A Customer.
3 For: Back To Menu.
Enter Your Input Here: 3

*****
*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 5

*****
*** Customer Interface ***

*** Hotel Information For Customer***
Hotel Name: Braga Hotel
Hotel Email Address: bragahotel@gmail.com
Hotel Fax Address: 13235551234@bragahotel.com
Hotel Location Address: Gebze/Kocaeli/Turkey
*****

Select From The Menu:
1 For: Book Room.
```



```

2 For: Back To Menu.
Enter Your Input Here: 1

Booking Room...
Customer Name: new_cusname
Customer Sure Name: new_cus_surname
Customer Gender: female
Customer Place Of Birth: herat
Room Booked For Mr/Miss: new_cusname new_cus_surname !!!

*****
*** Customer Interface ***

*** Hotel Information For Customer***
Hotel Name: Braga Hotel
Hotel Email Address: bragahotel@gmail.com
Hotel Fax Address: 13235551234@bragahotel.com
Hotel Location Address: Gebze/Kocaeli/Turkey
*****

Select From The Menu:
1 For: Book Room.
2 For: Back To Menu.
Enter Your Input Here: 2

*****
*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 6

***** CSE 414 (DBMS) Semester Project *****
*****
*** welcome To Hotel Management And Reservation System ***
Select From The Menu:
1 For Interfaces.
2 For Exit.

```

```
Enter Your Input: 1

*****
*** Interfaces ***
Select From The Menu:
1 For: Manager Interface
2 For: Receptionist Interface.
3 For: Cleaner Interface.
4 For: IT Tech Guy Interface.
5 For: Customer Interface.
6 For: Return To Main Menu.
Enter Your Input Here: 6

***** CSE 414 (DBMS) Semester Project *****
*****
*** Welcome To Hotel Management And Reservation System ***
Select From The Menu:
1 For Interfaces.
2 For Exit.
Enter Your Input: 2

Ashraf@ashraf MINGW64 /d/mysql
$ |
```