HOTEL RESERVATION SYSTEM

Database Management System Project

Team Members:

- Rohin Goyal-19BIT0140
- Subham Subhasish Panda-19BIT0093
- Aditya-19BIT0139
- Aarush Agarwal-19BIT0098

Introduction:

Hotel needs to maintain the record of guests and reserve rooms beforehand. Customers should be able to know the availability of the rooms on a particular date. They should be able to reserve the available rooms according to their need in advance. To make their stay comfortable, they are provided with food and other services or facilities. The record of the food taken by each customer and the services availed by the customer should be kept. These records help in generating bill.

Entities and Attributes:

1. GUEST has attributes Guest_ID(Primary Key), Name, Gender, Age, Phone_No and Address.

2. ROOM has attributes Room_No(Primary Key) and Status.

3. ROOM CATEGORY has attributes Category_ID(Primary Key), Type, Beds, Ac and Rooms.

4. FOOD has attributes Food_ID(Primary Key), Item, Rate and Type.

5. FACILITY has attributes Facility_ID(Primary Key), Name, Rate and Type.

6. EMPLOYEE has attributes Emp_ID(Primary Key), Sex, Age, Salary and composite attribute Name(First _Name, Last_Name).

7. DEPARTMENT has attributes Dept_ID(Primary Key) and Department_Name.

8. BILL has attributes Bill_No(Partial Key), Amount and Date.

Relations and their description:

1. GUEST BOOKS ROOM from Check_In_Date to Check_Out_Date and Check_In_Time to Check_Out-Time. One Room can be used by many GUEST but one GUEST can use one ROOM.

2. ROOM BELONGS to ROOM CATEGORY. One ROOM CATEGORY can have many ROOMS.

3. GUEST PAYS BILL through different PAYMENT modes. A GUEST must pay a BILL.

4. GUEST may USE FACILITY for some duration on some date. One GUEST can use more than one FACILITY and one FACILTY can be used by many GUEST.

5. GUEST ORDERS FOOD at some time on some date. GUEST can order more than one FOOD item and one FOOD item can be ordered by many GUEST.

6. EMPLOYEE MANAGES FACILITY, ROOM CATEGORY and DEPARTMENT from StartDate to EndDate in 1:1 relationship i.e, one EMPLOYEE can MANAGE only one FACILITY and one FACILITY will be MANAGE by one EMPLOYEE and goes same for all above entities.

7. EMPLOYEE MANAGES ROOM from StartDate to EndDate. One EMPLOYEE can MANAGE more than one ROOM but one ROOM can be managed by only one EMPLOYEE.

8. EMPLOYEE WORKS in DEPARTMENT. More than one EMPLOYEE can work in same DEPARTMENT but one EMPLOYEE can WORK only in one DEPARTMENT.

9. EMPLOYEE MANAGES DEPARTMENT. One DEPARTMENT can be managed by one EMPLOYEE and one EMPLOYEE can MANAGE only one DEPARTMENT.

10. EMPLOYEE can be Supervisor and Supervisee. One Superviser can SUPERVISE many Supervisees.

ER Diagram:

Here, Bold Line (PINK) represents Total Participation whereas Normal Line (BLUE) represents Partial Participation.

GUESTS — Guest ID, Name, Gender, Age, Phone_No, Address

PAYMENT — Payment Method

USES — Date, Duration

ORDERS — Date, Quantity, Time

BOOKS — Check_In_Date, Check_Out_Date, Check_In_Time, Check_Out_Time

FACILITY — Facility ID, Name, Rate, Type

FOOD — FoodID, Item, Rate, Type

ROOM — RoomNo, Status

BILL — BillNo, Amount, Date

MANAGES — StartDate, EndDate

MANAGES — EndDate, StartDate

MANAGES — EndDate, StartDate

BELONGS

ROOM CATEGORY — CategoryID, Type, Beds, AC, Rooms

EMPLOYEE — Emp Id, Sex, Name, First_Name, Last_Name, Age, Salary

SUPERVISE — Supervisee, Supervisor

MANAGES — StartDate, EndDate

WORKS — StartDate, EndDate

DEPARTMENT — Dept Id, Department_Name

Cardinalities:
PAYMENT 1 / 1
GUESTS M — USES — N FACILITY
GUESTS M — ORDERS — N FOOD
GUESTS N — BOOKS — 1 ROOM
MANAGES 1 / 1
MANAGES N / 1
ROOM N — BELONGS — 1 ROOM CATEGORY
MANAGES 1 / 1
SUPERVISE N / 1
MANAGES 1 / 1 DEPARTMENT
WORKS N / 1 DEPARTMENT