DBMS SEM PROJECT

HOTEL MANAGEMENT AND RESERVATION SYSTEM

SUBMITTED TO:

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ABSTRACT

In this project “Hotel Management System” We tried to show how the data/information in hotels is managed. It manages and maintains the records of customers, rooms, employees and drivers in the hotel. Using the fundamentals of DBMS learned in the course.

The project is aimed to maintain the day-to-day state of admission/vacation of Residents, List of employees, room details, etc. The main objective of this project is to provide a solution for hotels to manage most there work using computerized processes. This software application will help the admin handle customer information, room allocation details, Payment details, etc. The rooms have different categories like single bed, double beds, etc. so their charges and records will be maintained accordingly. This software has been made with a user-friendly interface so that anyone can add, delete, update the entries, and handle all the transactions easily. As a security, we have provided an Admin username and Password(12345).

INTRODUCTION

The project, Hotel Management System is a desktop-based application that allows the hotel manager to handle all hotel activities online. Interactive GUI and the ability to manage various rooms, employees, drivers and customers make this system very flexible and convenient. The hotel manager is a very busy person and does not have the time to sit and manage the entire activities manually on paper. This application gives him the power and flexibility to manage the entire system from a single online system. Hotel management project provides room booking, staff management and other necessary hotel management features.

The system allows the manager to post available rooms in the system. The application of the Hotel Management System bears the following functions to use by the Administrator: • Add a new Room • Add an Employee • Add a new Customer • Check room status • Check all employees' details • Check all Customers' details • Update room status • Update check status etc

- Admin can add a new room , a new employee and a new driver.
- Receptionist can add a new customer and allocate rooms, can check all room details, customers details, employee details, search for a particular room etc.
- Different jobs of employees are generalized into one table (including room service, receptionist, etc.)
- One Customer can book multiple rooms

TECH USED:

-JAVA for front end (on APACHE).

-SQL for back end (on MYsql).

1. Java: The entire project is written in Java, evident from the ".java" extension of the source code files.

2. Swing GUI Library: Swing components like `JFrame`, `JLabel`, `JTextField`, `JPasswordField`, `JButton`, `JComboBox`, and `JTable` are used for creating the graphical user interface.

3. AWT: AWT components like `Choice`, `Font`, and `Color` are used in conjunction with Swing components.

4. JDBC (Java Database Connectivity): JDBC is used for database connectivity. SQL queries are executed using JDBC `Connection`, `Statement`, and `ResultSet` objects.

5. MySQL Database: The project interacts with a MySQL database, as seen in the SQL queries executed in various parts of the code.

6. Image Handling: Images are loaded and displayed using `ImageIcon` and `Image` classes.

STEPS OF PROJECT DEVELOPMENT:

1. Set Up Development Environment: Install Java development environment (JDK), MySQL database, and IDE (APACHE).

2. Download MySQL Connector/J: Download and add MySQL Connector/J to the project's classpath to enable JDBC connectivity with MySQL database.

3. Create Database Schema: Set up the MySQL database schema with appropriate tables like `login`, `driver`, `employee`, `room`, and `customer`.

4. Write Java Code: Write Java code for various functionalities like user login (`Login.java`), adding drivers (`AddDrivers.java`), adding employees (`AddEmployee.java`), adding rooms (`AddRoom.java`), checking out customers (`CheckOut.java`), and displaying customer information (`CustomerInfo.java`).

5. Compile and Run: Compile the Java code and run the project to see the graphical user interface and functionalities in action.

6. Test and Debug: Test the functionalities thoroughly to ensure they work as expected. Debug any issues encountered during testing.

CONCLUSION

Hotel Management System now-a-day have the advantage of modernization. Computer have done the work more easy. Computer is playing an important role in management. Reports are made on daily basis for every customer check in or check out which can easily be seen by the management. Hotel management system has also primary purpose is to provide facilities to customers. A software for computers makes the things many times easy, this are made as user friendly and to keep an check and balance in hotel management and account as well.

NORMALIZATION:

1 NF

Every attribute in every relation is atomic. Hence, this relational schema is in 1NF

2 NF

In the entity "room", the attribute type depend on room_number . Hence to convert this schema into 2NF, "room_number" is made a primary key.

3 NF

A relational schema is in 3NF if it satisfies 2NF and non-prime attribute of R is a transitive attribute dependent on key

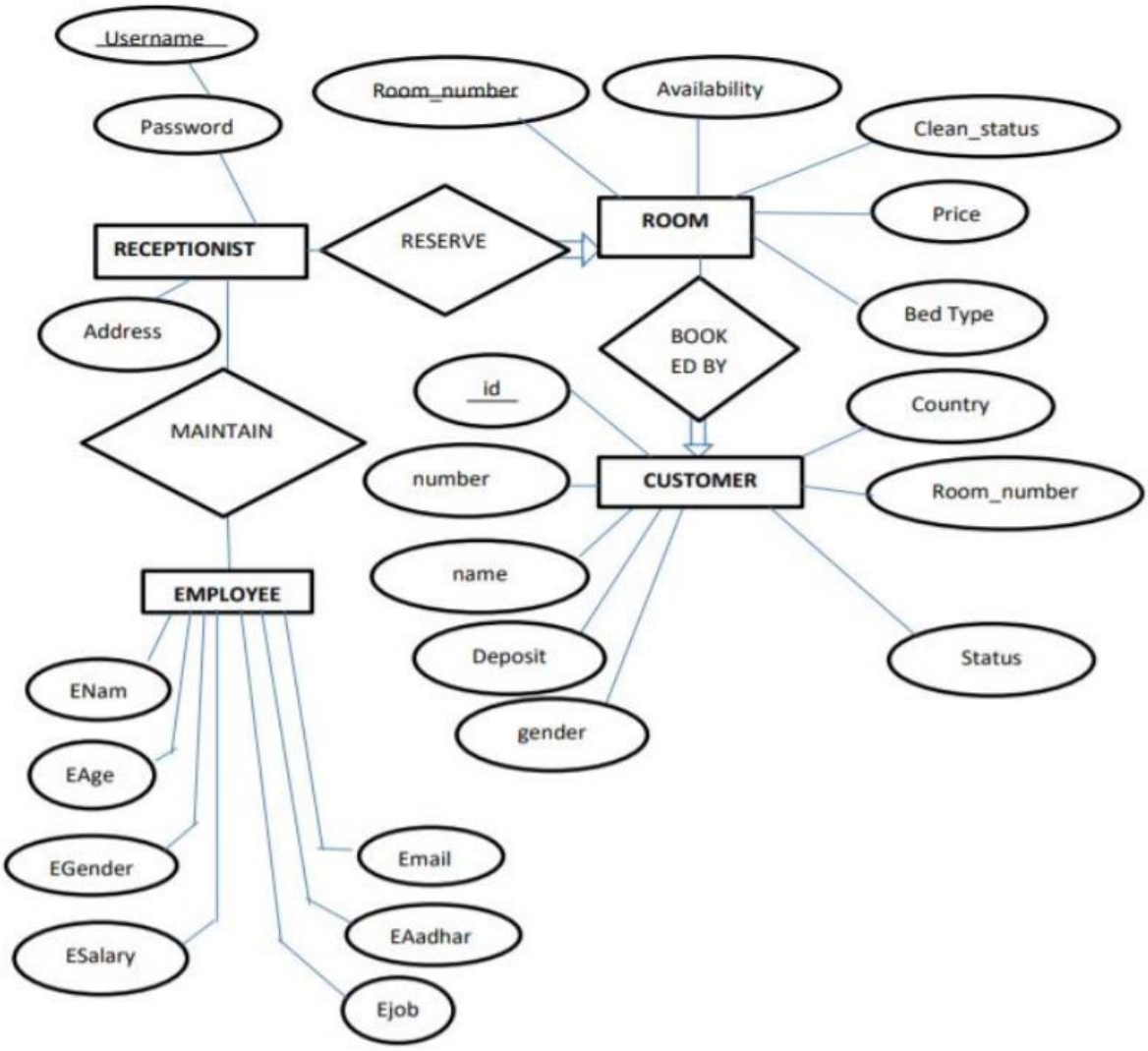
OR

A relation is an 3NF if FD i.e ,X→Y' satisfy anyone of the following condition • X → Y is a trivial functional dependency.

• If X→Y then X is an key

• If X→Y then (Y→X)is a prime attribute In our schema, in entity "room" room(room_number,bed_type,price); Here the bed_type is depends on room_number. room_number→bed_type bed_type→price Thus, this entity satisfies the 3NF rule hence given schema are in 3NF.

ER MODEL:


Username
Password
Room_number
Availability
Clean_status
RECEPTIONIST
RESERVE
ROOM
Price
Address
BOOK
ED BY
Bed Type
MAINTAIN
id
Country
number
CUSTOMER
Room_number
name
EMPLOYEE
Deposit
Status
ENam
gender
EAge
EGender
Email
EAadhar
ESalary
Ejob

RELATIONAL MODEL: