Institute of Computer Engineering Technology

iCET Certified Master

DBMS Final Coursework

Ass. Date	24th December 2023

Hotel Reservation System - Sunflower Hotel

At the Sunflower Hotel, they want to upgrade their old-fashioned way of booking rooms. The hotel has 100 rooms sorted into three types:

Single Rooms (Room No. 1-50)	Cozy and perfect for solo travelers	These cost Rs. 2000 per night.
Double Rooms (Room No. 51-89)	Spacious rooms ideal for couples or small families	These cost Rs. 3800 per night.
Suites (Room No. 90-100)	Luxurious, premium accommodations	These are fancy and cost Rs. 7000 per night.

When potential guests contact the hotel to book a room, the receptionist serves as the point of contact, providing details on available room types, rates, payment methods, and potential discounts. Should the guest decide to proceed, the receptionist collects crucial guest details:

✔ Personal Information: Name, Address, Country, Gender
✔ Booking Preferences: Room Type, Stay Duration, Expected Arrival Date

Upon departure, guests inform the receptionist about their check-out. Subsequently, the receptionist notifies the billing clerk to manage the final bill. Detailed records encompassing payment modes, availed discounts, specific company arrangements, traveller's cheque specifics, and credit card details are meticulously maintained for future reference.

Flexibility is a priority. An advance for a pre-booking payment of 2000 rupees is added for reservations made three days prior to the check-in date. This pre-booking amount is a part of the total reservation cost and is required to secure the room. If a customer books a room within this specific time frame, they need to make a payment of 2000 rupees in advance to confirm the reservation. This amount is deducted from the total cost at the time of the actual payment during check-in or is refunded if the reservation is cancelled within the specified time frame.

Guests retain the option to cancel reservations via phone or fax before 48hours till arrival. The receptionist adeptly handles these cancellations, ensuring convenience for guests and hotel management alike.

Upon guest arrival, the receptionist facilitates check-in and inquires about the preferred payment method. This choice can yield favourable discounts:

Cash payments	Don't qualify for discounts.
Traveler's cheques (e.g., AMEX, Cooks)	Offer a 2% discount
Credit card payments (e.g., Diners, MasterCard)	Offer a 3% discount
Some companies get discounts	like NEC 12%, IBM 10%

At check-out, guests inform the receptionist. This prompts the receptionist to alert the billing clerk for the final bill preparation.

They keep a record of how customers paid and any discounts they got.

The Sunflower Hotel welcomes requests for extended stays. Guests seeking longer accommodations can discuss room availability for extensions with the receptionist.

Interactions of Various Users with Hotel Reservation Software

01) Guests/Clients:

✔ **Room Booking:** Guests reserve rooms via the hotel's website or phone, providing stay details and preferences.

✔ **Check-in/Check-out:** They utilize the software during arrival to provide details and settle bills upon departure.

02) Receptionists/Reservation Staff:

✔ **Reservation Management:** Staff handle bookings, room assignments, and cancellations within the software.

✔ **Guest Services:** They process check-ins, assign rooms, process payments, and generate bills using the software.

03) Billing Clerks/Finance Department:

✔ **Financial Operations:** This team manages billing, payment processing, discounts, and financial records through the software.

04) Management/Administrators:

✔ **System Oversight:** Administrators monitor system performance, access reports, and use data to make decisions.

✔ **Policy Control:** They modify configurations and hotel policies through the software.

05) System Administrators/IT Support:

✔ **Maintenance and Support:** IT personnel handle system updates, security, and address technical issues within the software.

06) Housekeeping/Room Service:

✔ **Room Status Updates:** They receive room status data from the software, guiding room servicing tasks.

PART - I

1) What entities are present in this scenario, and for each entity, explain why it is considered as an entity within the system?

2) Please provide the relationships between the previously identified all entities in the hotel reservation scenario, including their corresponding cardinality ratios.

3) List the attributes of each entity separately.

4) List the foreign keys of the relevant entities.

5) Create a comprehensive Entity-Relationship (ER) diagram that accurately describe the relationships between these core entities within the Hotel Reservation System.

PART - II

6) Translate the ER diagram into a fully structured database and develop the necessary tables for each entity, specifying attributes and their data types.

7) Provide SQL commands to insert a minimum of 5 records into each of the all tables.

Time Frame for Submission Process

Date	Milestone
24.12.2023	Coursework Assigning
29.12.2023	ER Diagram Submission. (Part I)
31.12.2023	Submission of SQL Queries to Implement the database and tables with sample records. (Part II)