**Module – Relational Database**

Capstone Project Topic: Oyorooms.com Platform for Hotel Booking.

**Let’s start with understanding the platform Oyo rooms -**  
  
OYO Rooms is a hospitality company that operates an online platform for booking affordable and standardized accommodations. OYO Rooms focuses on providing budget-friendly hotel rooms, guesthouses, and other lodging options to travelers.

OYO Rooms can be a practical solution to real-life challenges related to finding affordable, convenient, and quality accommodation while traveling. Its widespread network, user-friendly platform, and focus on standardization contribute to its usefulness in addressing various travel-related needs.

**Q- Explain how it can be helpful in solving real-life problems ?**

It can be useful in solving various real-life problems related to accommodation and travel. Here are some ways in which OYO Rooms can address common challenges:

1- **Affordable Accommodation**: OYO offers budget-friendly accommodation options, making it suitable for travelers with varying budgets. This can be particularly beneficial for those who are looking for affordable yet comfortable places to stay.

2- **Convenience**: OYO provides a user-friendly platform and mobile app that allows users to easily search, book, and manage their accommodations. This convenience is especially useful for people who need quick and hassle-free booking options.

3- **Quality Assurance**: OYO has a standardized approach to room quality, cleanliness, and amenities. This can alleviate concerns about the quality of accommodations, ensuring that travelers have a consistent and comfortable experience.

4**- Wide Network**: OYO has a vast network of hotels and guesthouses across various cities and countries. This extensive network can be helpful for travelers looking for accommodation options in different locations.

5- **Last-Minute Bookings**: OYO's platform often allows for last-minute bookings, providing a solution for travelers who may need to find accommodation on short notice or faced with unexpected changes in plans.

6- **Customer Reviews and Ratings**: Users can benefit from the reviews and ratings left by previous guests, helping them make informed decisions about the quality and suitability of a particular accommodation.

7- **Business Travel Solutions**: OYO offers options for business travelers, including corporate bookings and amenities suited for professional needs. This can be particularly helpful for individuals on work-related trips.

8- **Safety and Security**: OYO strives to ensure the safety and security of its guests. Standardized procedures and quality checks contribute to a sense of security for travelers staying in OYO properties.

10- **Deals and Discounts**: OYO often provides deals, discounts, and loyalty programs, making it financially attractive for frequent travelers or those on a budget.

**Q- How is OYO Rooms helpful for users facing difficulties, and what unique features does the platform offer to assist them?**

Whenever user found herself/himself thrown into the chaos of a last-minute business trip. With just a day to prepare, the looming challenge of finding affordable and reliable accommodation threatened to overshadow his/her entire journey. In this predicament. User will stumble upon the OYO Rooms platform, a discovery that will transform stressful situation into a tale of convenience and comfort.

Also, users often encounter various challenges when navigating through digital platforms, such as information overload, complex interfaces, and difficulty in finding relevant content. These difficulties can lead to frustration and a suboptimal user experience. However, this platform addresses these issues through its unique features designed to enhance user engagement and satisfaction.

The platform employs an intuitive user interface, streamlining navigation and reducing cognitive load. Additionally, personalized recommendations and smart algorithms help users discover content tailored to their preferences, mitigating the overwhelming feeling of information overload. The incorporation of robust search functionality enables users to quickly locate specific information, saving time and effort. Furthermore, interactive and user-friendly elements foster a sense of community and collaboration, promoting a more engaging and enjoyable experience. In essence, the platform's distinctive features are strategically implemented to alleviate common user challenges and create a seamless and rewarding digital environment.

**I have implemented schema design as follows -**

1-**User**:

* Represents the individuals using the platform to make bookings.
* Attributes: UserID(Primary key), FirstName, LastName, DateOfBirth, Address, Phone, Email.

2- **Staff**:

* Represents the staff members associated with the hotels.
* Attributes: StaffID(Primary key), HotelID(Foreign key), FirstName, LastName, Position, Salary, Phone, Email, HireDate.

3- **Hotel**:

* Represents the different hotels available for booking.
* Attributes: HotelID(Primary key), Name, Address, Phone, Email, Stars, CheckinTime, CheckoutTime.

4- **RoomType**:

* Represents the types or categories of rooms available in a hotel.
* Attributes: TypeID(Primary key), Name, Description, PricePerNight, Capacity.

5- **Room**:

* Represents individual rooms within a hotel.
* Attributes: RoomNumber, HotelID(Foreign key), TypeID(Foreign key), Status.

6- **Booking**:

* Represents the bookings made by users for specific rooms.
* Attributes: BookingID(Primary key), UserID(Foreign key), RoomNumber(Foreign key), CheckInDate, CheckOutDate, TotalPrice.

7- **Payment**:

* Represents the payments made for bookings.
* Attributes: PaymentID(Primary key), BookingID(Foreign key), Date, PaymentAmount, PaymentMethod.

**Q- Why I have chosen this certain design and how they fit the platform’s goal ?**The chosen schema appears to be designed to capture the essential entities and relationships within a hotel booking system. Below are some reasons why this design might be chosen:  
  
1- **User Entity**:

* Attributes: Captures essential information about users who are utilizing the booking platform, including personal details like name, email, and login credentials.
* Purpose: Allows for user authentication, personalization, and tracking of bookings made by each user.

2- **Staff Entity**:

* Attributes: Associates staff members with hotels, specifying their roles or positions.
* Purpose: Enables tracking of hotel staff, their responsibilities, and links them to specific hotels for effective management.

3- **Hotel Entity**:

* Attributes: Contains information about different hotels, such as name, location, and contact details.
* Purpose: Represents the core element of the booking system, providing details about available hotels for users to choose from.

4- **RoomType Entity**:

* Attributes: Describes the various types or categories of rooms within a hotel, including pricing details.
* Purpose: Enables the classification of rooms into types, allowing users to select the desired accommodation based on preferences and budget.

5- **Room Entity**:

* Attributes: Represents individual rooms, specifying their availability status and room number.
* Purpose: Allows users to book specific rooms within a hotel, and the availability status helps in managing room inventory.

6- **Booking Entity**:

* Attributes: Captures details of user bookings, including check-in and check-out dates, total price, and associated user and room information.
* Purpose: Tracks user reservations, linking users to specific rooms for specific time periods.

7- **Payment Entity**:

* Attributes: Records payment-related information for bookings, such as payment date, amount, and payment method.
* Purpose: Manages financial transactions associated with bookings, ensuring transparency and accountability.

**There are some more reasons for choosing this schema design:**

1- **Completeness**: The schema includes entities to cover the entire booking process, from users and staff to hotels, rooms, bookings, and payments.

2- **Relationships**: Relationships between entities (e.g., foreign keys) establish connections, allowing for efficient retrieval of related information and maintaining data integrity.

3- **Normalization**: The schema appears to be structured to minimize data redundancy and adhere to principles of normalization, which helps in efficient data storage and maintenance.

4- **Flexibility**: The schema can accommodate various hotels, rooms, and user interactions, providing flexibility for different scenarios within the hotel booking domain.

5- **Intuitiveness**: The entities and their attributes are intuitively chosen to model real-world entities and their relationships within a hotel booking system.  
  
  
**Entity-Relationship Diagram for Oyo Rooms –**

