
بسم الله الرحمن الرحيم

Restaurant Management System

Group Members:

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Why Restaurant Management System?

Introduction

In today's fast-paced world, the restaurant industry is thriving, and effective management plays a pivotal role in its success. To streamline and enhance various operations within a restaurant, an efficient and robust Restaurant Management System (RMS) is indispensable. In this database project, we aim to develop a comprehensive RMS that incorporates essential features for managing different aspects of a restaurant, such as order management, inventory control, employee scheduling, and customer relationship management.

Scope

- The scope of the Restaurant Management System (RMS) database project encompasses the design, development, and implementation of a comprehensive system to support various aspects of restaurant management.

Entities:

Restaurant: Stores information about restaurants, such as capacity, total tables, staff count, and location.

Tables: Contains details about individual tables, including table numbers and capacities.

Category: Stores different categories of items in the menu.

ItemMenu: Stores information about menu items, including name, price, description, category, and associated restaurant.

Stock: Manages stock inventory, including quantity, unit cost, date of stock, expiration date, and associated item.

Continue…

ExpiryItems: Tracks items from the stock table with their expiration dates and quantities.

Customer: Stores customer details, including name, phone number, and membership ID.

Reservations: Manages reservations with information like reservation ID, customer ID, date, time, total persons, restaurant ID, and table ID.

Membership: Stores details of customer memberships, including start date, end date, and membership type.

Discount: Stores information about discounts, including discount ID, percentage, and discount name.

Continue…

Orders: Tracks orders made by customers, including order ID, order date, customer ID, reservation ID, order time, status, total amount, and associated discount.

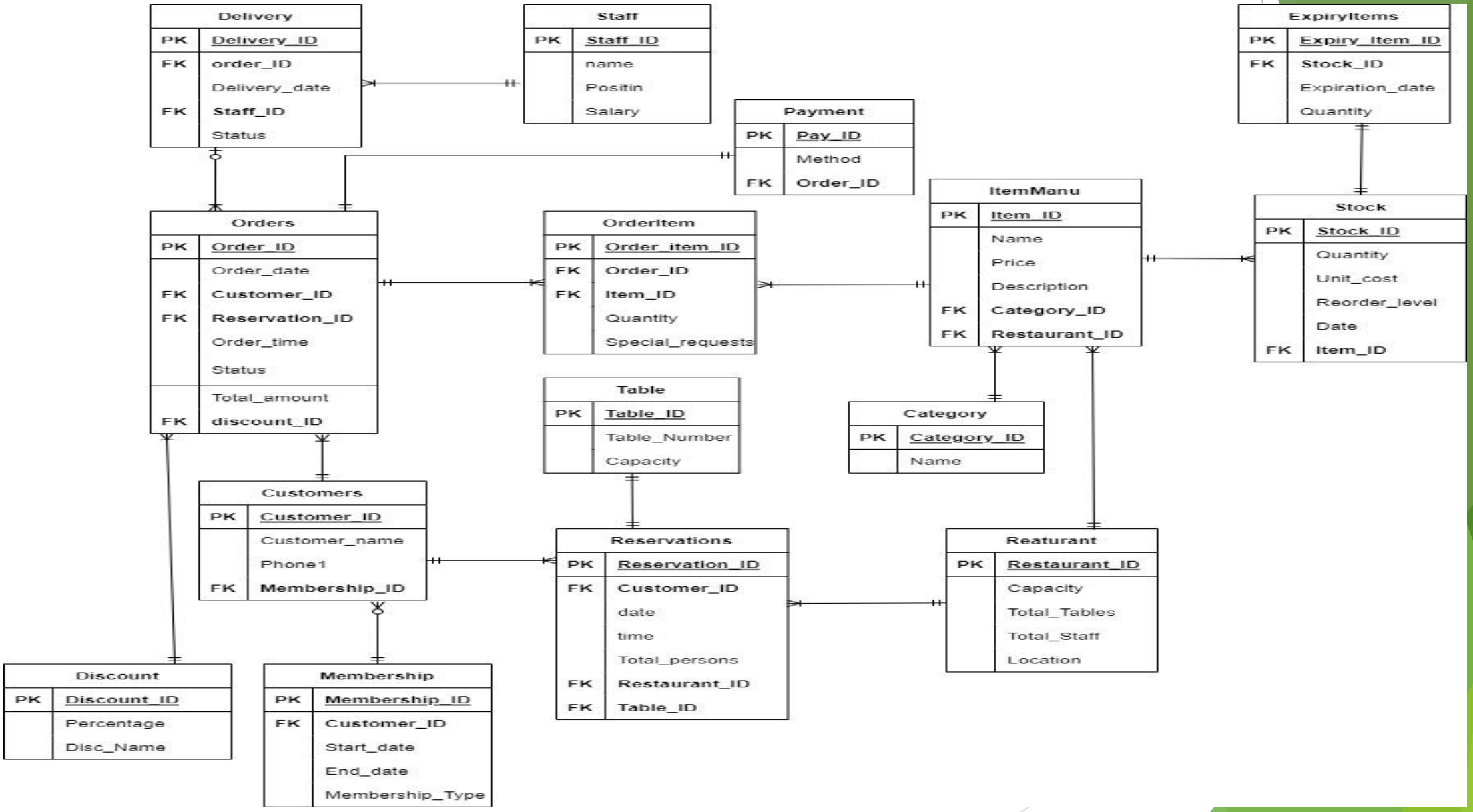
Payment: Manages payment details for orders, including payment ID, payment method, and associated order ID.

OrderItem: Tracks individual items within an order, including order item ID, order ID, item ID, quantity, and special requests.

Staff: Stores information about staff members, including staff ID, name, position, and salary.

Delivery: Manages delivery details for orders, including delivery ID, order ID, delivery date, staff ID, and delivery status.

SCHEMA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Table_Number
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PK Customer_ID
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PK Reservation_ID
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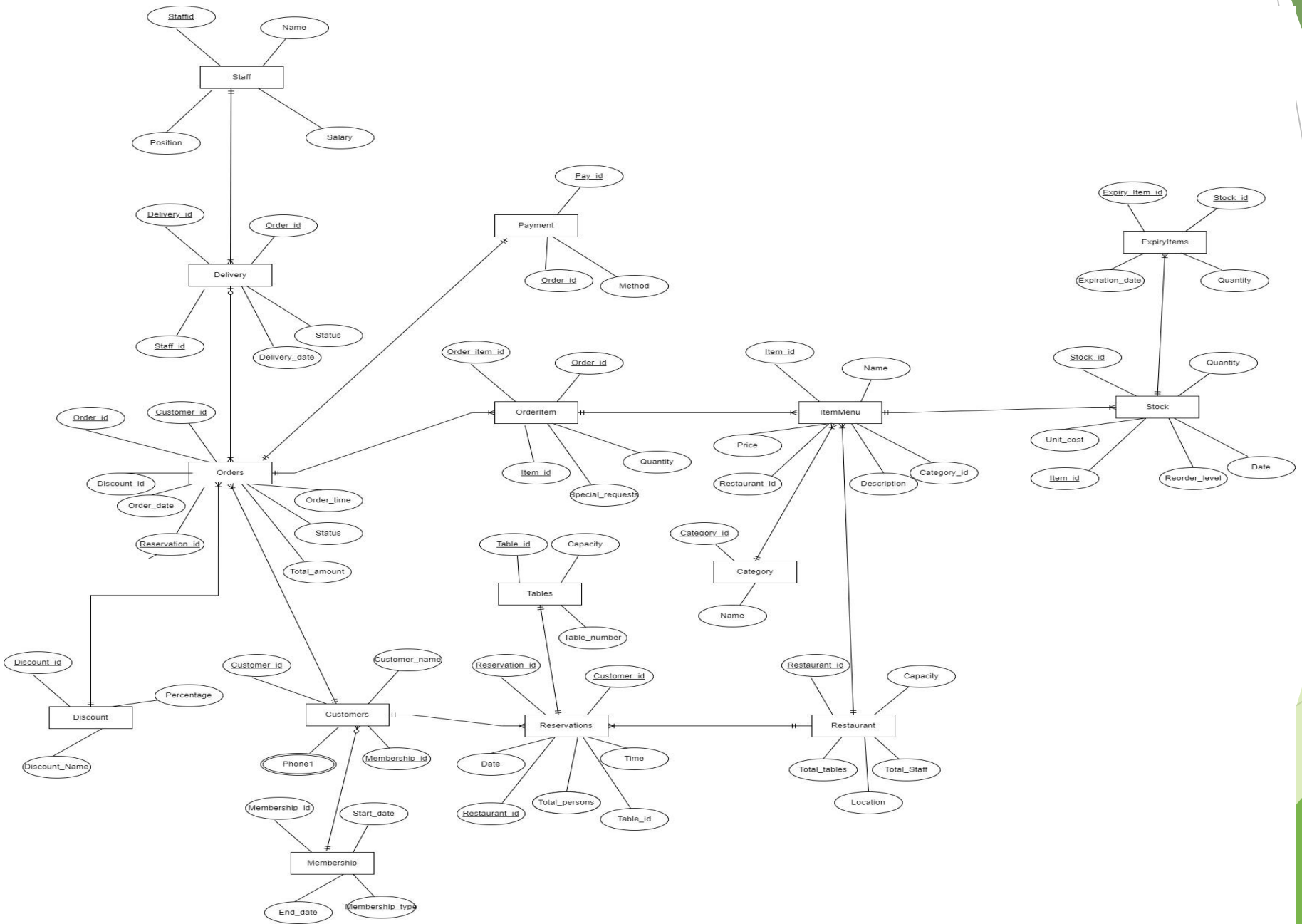
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Customers
Phone1
Membership_id
Reservation_id
Customer_id
Reservations
Date
Time
Restaurant_id
Total_persons
Table_id
Restaurant_id
Capacity
Restaurant
Total_tables
Total_Staff
Location
Membership_id
Start_date
Membership
End_date
Membership_type

Advance Queries:

Find the total revenue generated by each restaurant in each month.

```
SELECT r.Restaurant_id, TO_CHAR(o.Order_date, 'MM') AS Month, SUM(o.Total_amount) AS Total_Revenue
FROM Restaurant r
JOIN Reservations res ON r.Restaurant_id = res.Restaurant_id
JOIN Orders o ON res.Reservation_id = o.Reservation_id
GROUP BY r.Restaurant_id, TO_CHAR(o.Order_date, 'MM');
```

Results Explain Describe Saved SQL History

RESTAURANT_ID	MONTH	TOTAL_REVENUE
1	05	10459
2	07	529
6	05	5000
3	05	2799
8	05	6000
9	05	3000
10	05	6099
4	05	7599
3	07	4000

Reservations by Gold membership customer

```
Find all the reservations made by customers with a Gold membership:
SELECT r.Reservation_id, r.Customer_id, c.Customer_name, c.Membership_id
FROM Reservations r
JOIN Customer c ON r.Customer_id = c.Customer_id
WHERE c.Membership_id = (
    SELECT MAX(Membership_id)
    FROM Membership
    WHERE Membership_Type = 'Gold'
);
```

Results Explain Describe Saved SQL History

RESERVATION_ID	CUSTOMER_ID	CUSTOMER_NAME	MEMBERSHIP_ID
9	CUST009	Laura Anderson	8

1 rows returned in 0.02 seconds CSV Export

Items that are expired

```
Find the items that have expired in stock:
SELECT i.Name, e.Expiration_date
FROM ItemMenu i
JOIN Stock s ON i.Item_id = s.Item_id
JOIN ExpiryItems e ON s.Stock_id = e.Stock_id
WHERE e.Expiration_date < CURRENT_DATE;
```

Results Explain Describe Saved SQL History

NAME	EXPIRATION_DATE
Margherita Pizza	07-JUN-23
Tiramisu	30-MAY-23
Grilled Salmon	07-JUN-23
Vegetable Stir Fry	11-JUN-23

4 rows returned in 0.01 seconds CSV Export

Details of order with customer name item name and category name

```
-- Retrieve the details of orders along with the corresponding customer name, item name, and category name

SELECT o.Order_id, c.Customer_name, im.Name AS Item_Name, cat.Name AS Category_Name
FROM Orders o
JOIN Customer c ON o.Customer_id = c.Customer_id
JOIN OrderItem oi ON o.Order_id = oi.Order_id
JOIN ItemMenu im ON oi.Item_id = im.Item_id
JOIN Category cat ON im.Category_id = cat.Category_id;
```

Results | Explain | Describe | Saved SQL | History

ORDER_ID	CUSTOMER_NAME	ITEM_NAME	CATEGORY_NAME
1	Sajjad	Caesar Salad	Appetizers
10	Ali	Caesar Salad	Appetizers
3	Waqas	Margherita Pizza	Main Course
9	Waqas	Margherita Pizza	Main Course
2	Faseeh	Tiramisu	Desserts
8	Faseeh	Tiramisu	Desserts
5	David Wilson	Coca-Cola	Beverages
7	Sajjad	Coca-Cola	Beverages
4	Ali	Caesar Salad	Salads
6	David Wilson	Caesar Salad	Salads

Revenue generated by restaurant on specific date

```
retrieves the data for the total revenue generated by each restaurant on on a specific day:
SELECT r.Location, o.Order_date, SUM(o.Total_amount) AS Total_revenue
FROM Restaurant r
JOIN Reservations rs ON r.Restaurant_id = rs.Restaurant_id
JOIN Orders o ON rs.Reservation_id = o.Reservation_id
WHERE o.Order_date = TO_DATE('2023-05-10', 'YYYY-MM-DD')
GROUP BY r.Restaurant_id, r.Location, o.Order_date;

--Retrieve the total number of reservations made at each restaurant_branch:
```

Results Explain Describe Saved SQL History

LOCATION	ORDER_DATE	TOTAL_REVENUE
Multan	10-MAY-23	6028

1 rows returned in 0.02 seconds CSV Export

THANK YOU