

# Data Management and Database Design

## Section 2 Spring 2022

### P3. Database Design, Final ERD

## RESTAURANTS FOOD DELIVERY MANAGEMENT

#### Team Members

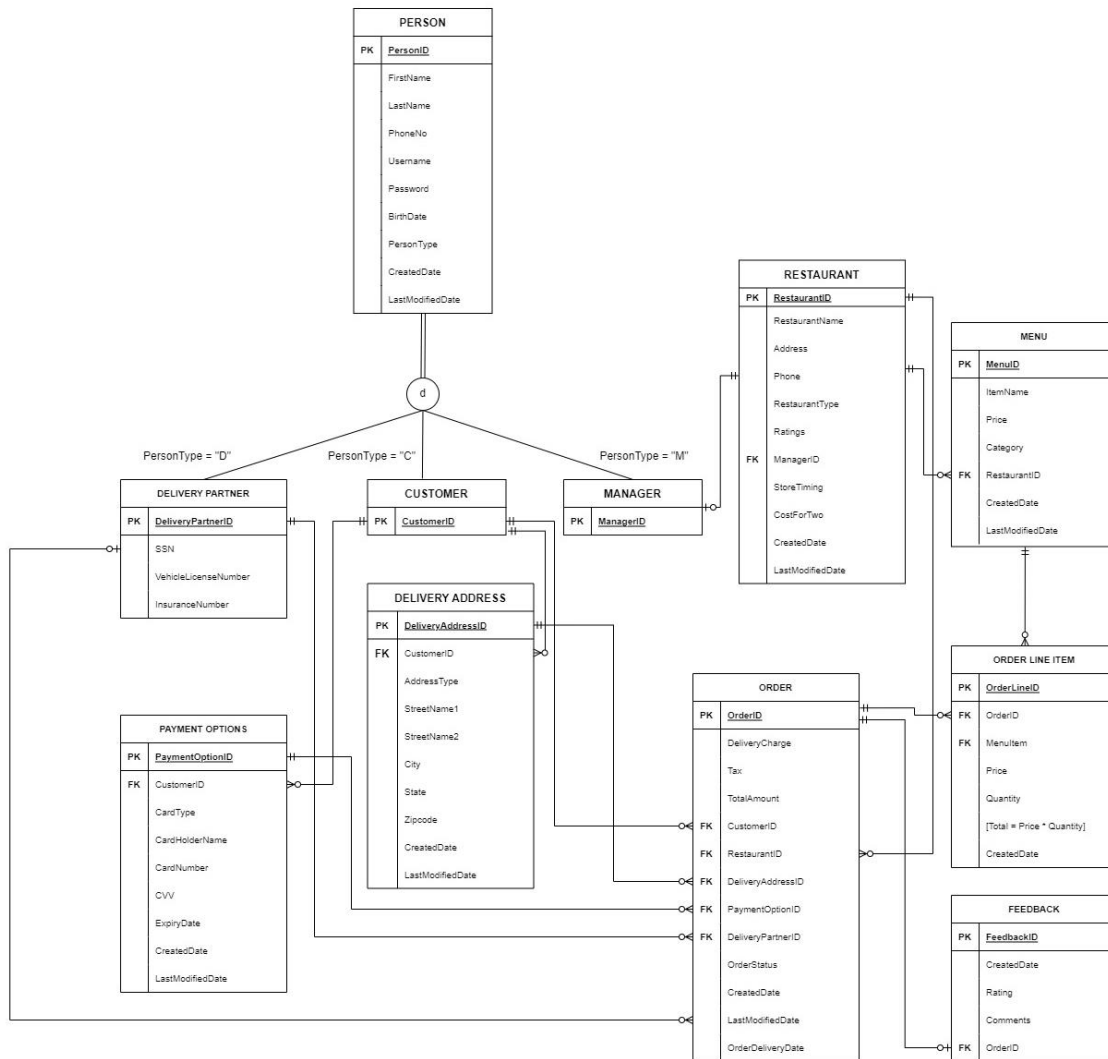
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#### MISSION STATEMENT

1. User Management: The system would register and store the information of users, such as Name, username, contact information including email address and phone number, delivery addresses, payment options etc. A user would have the capability to update these fields.
2. Restaurant Management: System admin would be able to add, update and delete different restaurants in the system.
3. Menu Management: Restaurant would be able to manage the menu items available to the customers i.e. add, edit or delete.
4. Order Management: To help restaurants manage the orders placed by customers from restaurants. A restaurant can cancel or complete an order. Users would have the feature to check the order history.
5. Feedback/Rating Management: Customers would be able to provide feedback to the restaurants. A customer can provide feedback and rating on each order. The best rating foods should be listed in recommendations.

6. Payment Management: System will store the payment details and options chosen by the users for each order.
7. Delivery Management: The system will have the capability to add and manage delivery partners. This system would store driver's details such as name, username, order delivery history etc.

## Entity Relation Diagram



## Changes made between Initial and Final ERD

1. As per professor's comments on P2 we have added more attributes to various entities.
2. We have also swapped the relationship between Order Line Item and Menu.
3. The list of attributes new attributes added:
  - BirthDate
  - PersonType
  - CreatedDate
  - LastModifiedDate
  - VehicleLicenseNumber
  - InsuranceNumber
  - StoreTiming
  - CostForTwo
  - Tax
  - DeliveryCharge
  - OrderDeliveryDate

## Design Document

For Food delivery management system, below are the entities –

1. Person – To store person information. Person can be of three types: - (customer; restaurant manager; delivery partner)
2. Customer – To store customers registered on our system
3. Delivery Address – To store customer's delivery address(es)
4. Restaurant – To store restaurants registered on our system
5. Menu Item – To store menu items for each restaurant
6. Order – To store orders placed by Customer from a restaurant
7. Order Line Item – To store menu items placed in each order
8. Payment – to store customer's payment options
9. Delivery Partner – to store delivery partners data
10. Feedback – to store feedback given by customers for each order

Below is the list of entities identified with their attributes and PK and FK

| Entity Names | Column Names | Data Type           | Key Type/Picklist values |
|--------------|--------------|---------------------|--------------------------|
| Person       | PersonID     | Auto-Generated (10) | PK                       |
|              | First Name   | String (40)         |                          |
|              | Last Name    | String (40)         |                          |
|              | Phone number | Int                 |                          |
|              | Username     | String              |                          |

|                  |                   |                     |   |
|------------------|-------------------|---------------------|---|
|                  | Password          | String              |   |
|                  | Birth Date        | DateTime            |   |
|                  | Person Type       | String              | D/ C/ M                                 |
|                  | CreatedDate       | smalldatetime       |   |
|                  | LastModifiedDate  | smalldatetime       |   |
|                  |                   |                     |   |
| Customer         | CustomerID        | Auto-Generated (10) | PK                                      |
|                  | PersonID          | Int                 | FK                                      |
| Delivery Address | DeliveryAddressID | Auto-Generated (10) | PK                                      |
|                  | CustomerID        | Int                 | FK                                      |
|                  | Address Type      | String              | Home/Office/Other                       |
|                  | Street Name 1     | String              |   |
|                  | Street Name 2     | String              |   |
|                  | City              | String              |   |
|                  | State             | String              |   |
|                  | Pincode           | Int                 |   |
|                  |                   |                     |   |
| Restaurant       | RestaurantID      | Auto-Generated (10) | PK                                      |
|                  | RestaurantName    | String              |   |
|                  | Address           | String              |   |
|                  | Phone             | Int                 |   |
|                  | RestaurantType    | String              | Bakery/Fast Food/Fine Dine/Indo-Chinese |
|                  | Ratings           | Float               |   |
|                  | ManagerID         | Int                 | FK                                      |
|                  | StoreTimings      | String              |   |
|                  | CostforTwo        | Int                 |   |
|                  | CreatedDate       | SmallDateTime       |   |
|                  | LastModifiedDate  | SmallDateTime       |   |
|                  |                   |                     |   |
| Menu Item        | MenuID            | Auto-Generated (10) | PK                                      |
|                  | ItemName          | String              |   |
|                  | Price             | Float               |   |
|                  | Category          | String              | Dessert/Chinese/Indian/Mexican          |
|                  | RestaurantID      | Int                 | FK                                      |
|                  | CreatedDate       | SmallDateTime       |   |
|                  | ModifiedDate      | SmallDateTime       |   |

|                  |                      |                     |   |
|------------------|----------------------|---------------------|---|
| Order            | Order #              | Auto-Generated (10) | PK  |
|                  | DeliveryCharge       | Float               |   |
|                  | Tax                  | Float               |   |
|                  | CreatedDate          | SmallDateTime       |   |
|                  | TotalAmount          | Float               |   |
|                  | CustomerID           | Int                 | FK  |
|                  | RestaurantID         | Int                 | FK  |
|                  | PaymentOptionID      | Int                 | FK  |
|                  | DeliveryPartnerID    | Int                 | FK  |
|                  | DeliveryAddressID    | Int                 | FK  |
|                  | OrderStatus          | String              | Received, In Progress, On the way, Delivered, Cancelled |
|                  | LastModifiedDate     | SmallDateTime       |   |
|                  | OrderDeliveryDate    | SmallDateTime       |   |
|                  |                      |                     |   |
| Order Line Item  | OrderLineID          | Auto-Generated (10) | PK  |
|                  | OrderID              | Int                 | FK  |
|                  | MenuItem             | Int                 | FK  |
|                  | Price                | Float               |   |
|                  | Quantity             | Int                 |   |
|                  | TotalPerItem         | Float               |   |
|                  | CreatedDate          | SmallDateTime       |   |
|                  |                      |                     |   |
| Payment Options  | PaymentOptionID      | Auto-Generated (10) | PK  |
|                  | CustomerID           | Int                 | FK  |
|                  | CardType             | String              | Credit/Debit  |
|                  | CardHolderName       | String              |   |
|                  | CardNumber           | Int                 |   |
|                  | CVV                  | Int                 |   |
|                  | Expirydate           | DateTime            |   |
|                  |                      |                     |   |
| Delivery Partner | DeliveryPartnerID    | Auto-Generated (10) | PK  |
|                  | PersonID             | Int                 | FK  |
|                  | SSN                  | Int                 |   |
|                  | VehicleLicenseNumber | String              |   |
|                  | InsuranceNumber      | String              |   |

|          |            |                     |    |
|----------|------------|---------------------|----|
|          |            |                     |    |
| Feedback | FeedbackID | Auto-Generated (10) | PK |
|          | Rating     | Float               |    |
|          | Comments   | String              |    |
|          | OrderID    | int                 | FK |