https://github.com/JahnaviGangarapu/Dmdd_Group12

DATA MANAGEMENT AND DATABASE DESIGN PROJECT-P3

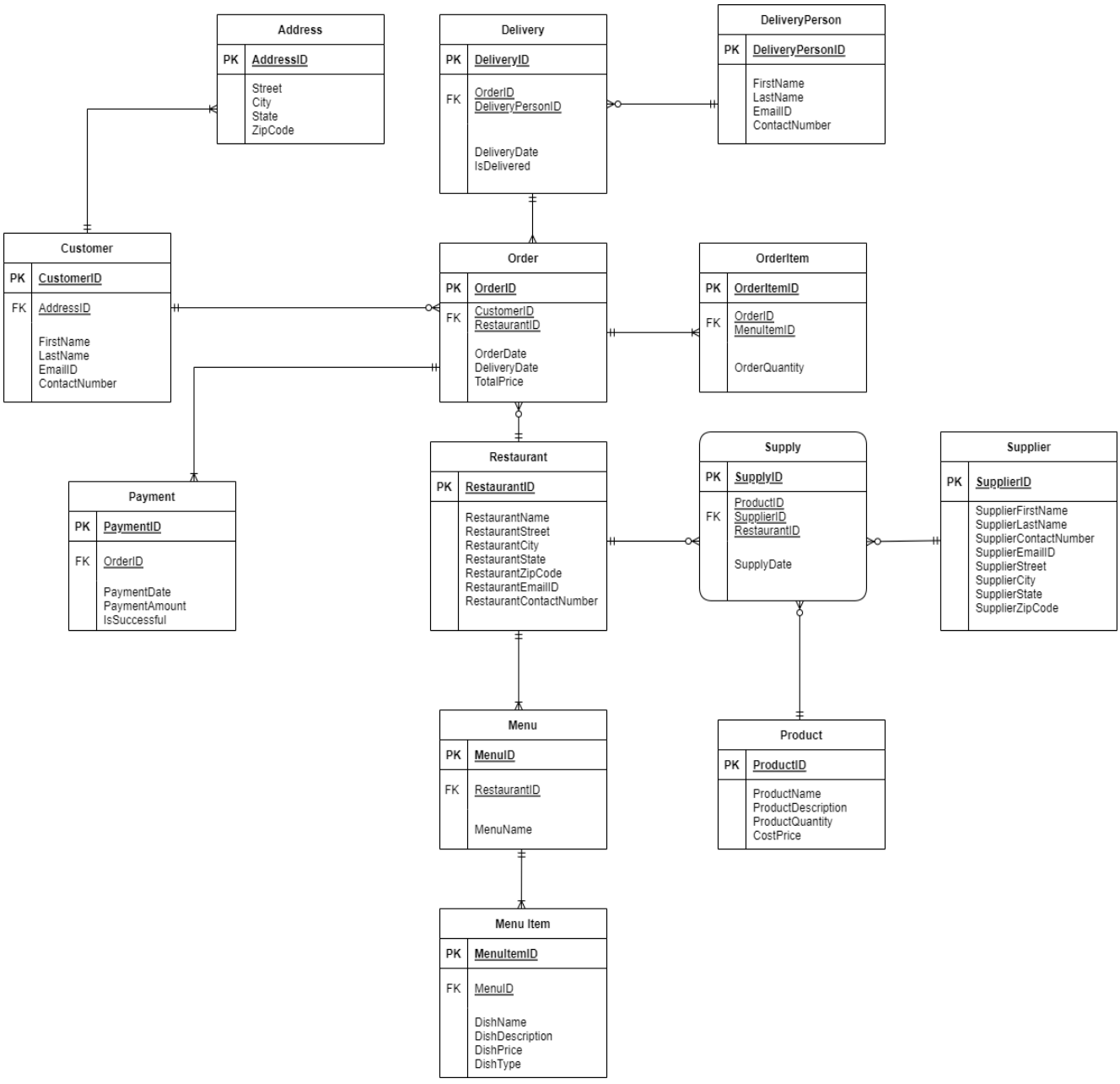
DATABASE DESIGN DOCUMENT

ONLINE FOOD ORDERING MANAGEMENT SYSTEM

Project Description:

There are several software applications that integrate with existing restaurant management systems and delivery systems to create an online food ordering database management system. This makes it possible for a customer to view and place orders online, look up menu items and customize their orders, as well as pay for their orders securely. Using the platform, customers will have the option to view and place orders online, browse menu items, and make payments. Additionally, the database can generate total sales per day.

Online ordering systems can be a valuable tool for restaurants as well as other food businesses. This is because they allow users to manage online orders in an easy and convenient manner.


Address
PK AddressID
Street
City
State
ZipCode
Delivery
PK DeliveryID
FK OrderID
DeliveryPersonID
DeliveryDate
IsDelivered
DeliveryPerson
PK DeliveryPersonID
FirstName
LastName
EmailID
ContactNumber
Customer
PK CustomerID
FK AddressID
FirstName
LastName
EmailID
ContactNumber
Order
PK OrderID
FK CustomerID
RestaurantID
OrderDate
DeliveryDate
TotalPrice
OrderItem
PK OrderItemID
FK OrderID
MenuItemID
OrderQuantity
Payment
PK PaymentID
FK OrderID
PaymentDate
PaymentAmount
IsSuccessful
Restaurant
PK RestaurantID
RestaurantName
RestaurantStreet
RestaurantCity
RestaurantState
RestaurantZipCode
RestaurantEmailID
RestaurantContactNumber
Supply
PK SupplyID
FK ProductID
SupplierID
RestaurantID
SupplyDate
Supplier
PK SupplierID
SupplierFirstName
SupplierLastName
SupplierContactNumber
SupplierEmailID
SupplierStreet
SupplierCity
SupplierState
SupplierZipCode
Menu
PK MenuID
FK RestaurantID
MenuName
Product
PK ProductID
ProductName
ProductDescription
ProductQuantity
CostPrice
Menu Item
PK MenuItemID
FK MenuID
DishName
DishDescription
DishPrice
DishType

Key Database Design Decisions: Entities:

1. **CUSTOMER:** The customer orders from the restaurant using the online application.

2. **RESTAURANT:** The restaurant accepts orders from the customer and delivers it using a delivery person.
3. **ADDRESS:** Address consists of street, city, and state attributes that depicts the actual address of the entity when linked to it.

4. **MENU:** The menu consists of all the cuisines that enables a customer to browse through multiple options.

5. **MENU ITEM:** The menu item has a variety of items under each menu for the customer to order.

6. **ORDER:** An order is placed by the customer and is processed by the restaurant.

7. **ORDER ITEM:** The order item is the quantity of the food item being ordered.

8. **PAYMENT:** Payment is made by the customer to the restaurant using the app.

9. **DELIVERY:** Delivery of the order is made to the customer.

10. **DELIVERY PERSON:** The delivery person delivers the order from the restaurant to the customer. One delivery person can deliver one or more orders.

11. **PRODUCT:** The product has raw materials like kitchen equipment, vegetables, and fruits which have to be supplied to the restaurant.

12. **SUPPLIER:** The supplier is the person who supplies items from the inventory to the restaurant.

13. **SUPPLY:** Supply is an associative entity which records whether the items are received by the restaurant or not.

Entities Relationship:

1) CUSTOMER TO ORDER- One Mandatory to Many Optional - A customer can place one or multiple orders, but an order has to belong to at least one customer.

2) **ORDER TO ORDER ITEM**- One Mandatory to Many Mandatory - An order should have one or multiple order items, but an order item has to belong to at least one order.

3) **CUSTOMER TO ADDRESS**- One Mandatory to Many Mandatory - A customer can have multiple addresses, but that particular address belongs to a single customer who has created it.

4) **ORDER TO PAYMENT** - One Mandatory to Many Mandatory - A single order can have multiple payments with successful or unsuccessful payments, but payment can be made to a single order at a time.

5) **ORDER TO DELIVERY**- Many to One Mandatory - Each order must be delivered and each delivery may contain multiple orders.

6) **DELIVERY TO DELIVERY PERSON** - Many Optional to One Mandatory - A particular delivery person can deliver multiple orders, whereas each delivery should be done by a delivery person.

7) **RESTAURANT TO ORDER**- One Mandatory to Many Optional- One restaurant can take many orders from the customers, whereas one order must be placed to a particular restaurant at a time.

8) **MENU ITEM TO MENU**- One Mandatory to Many Mandatory - A Menu must have multiple menu items and a Menu item must belong to at least one Menu.

9) **MENU TO RESTAURANT**- Many Mandatory to One Mandatory - A restaurant should have one or multiple menus, but a menu has to belong to at least one restaurant.

10) **RESTAURANT TO SUPPLY**- One Mandatory to Many Optional - A restaurant can have one or multiple supplies, but at least one restaurant has to be supplied.

11) **SUPPLY TO SUPPLIER**- Many Optional to One Mandatory - A supplier can get

many supplies, but a supply can only be taken from a single supplier.

12) **SUPPLY TO PRODUCT**- Many Optional to One Mandatory - A product can have multiple supplies by a supplier but a supply can be done to a single product at a time.

Business Problems Being addressed:

1. The database will enable restaurant owners to view and manage all incoming orders in real- time. With this feature, they will be able to prepare and fulfil orders as efficiently as possible.

2. The ability to store and manage customer information will allow restaurants to offer a more personalized experience to customers, including contact details and order histories, to provide a better customer experience to customers.

3. Security of customer information is crucial to ensure the privacy and integrity of data.

4. A set of detailed reports and analytics that will let restaurants understand how their business is doing by providing them with detailed information about sales, inventory, and customer behavior, allowing them to make informed decisions.

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