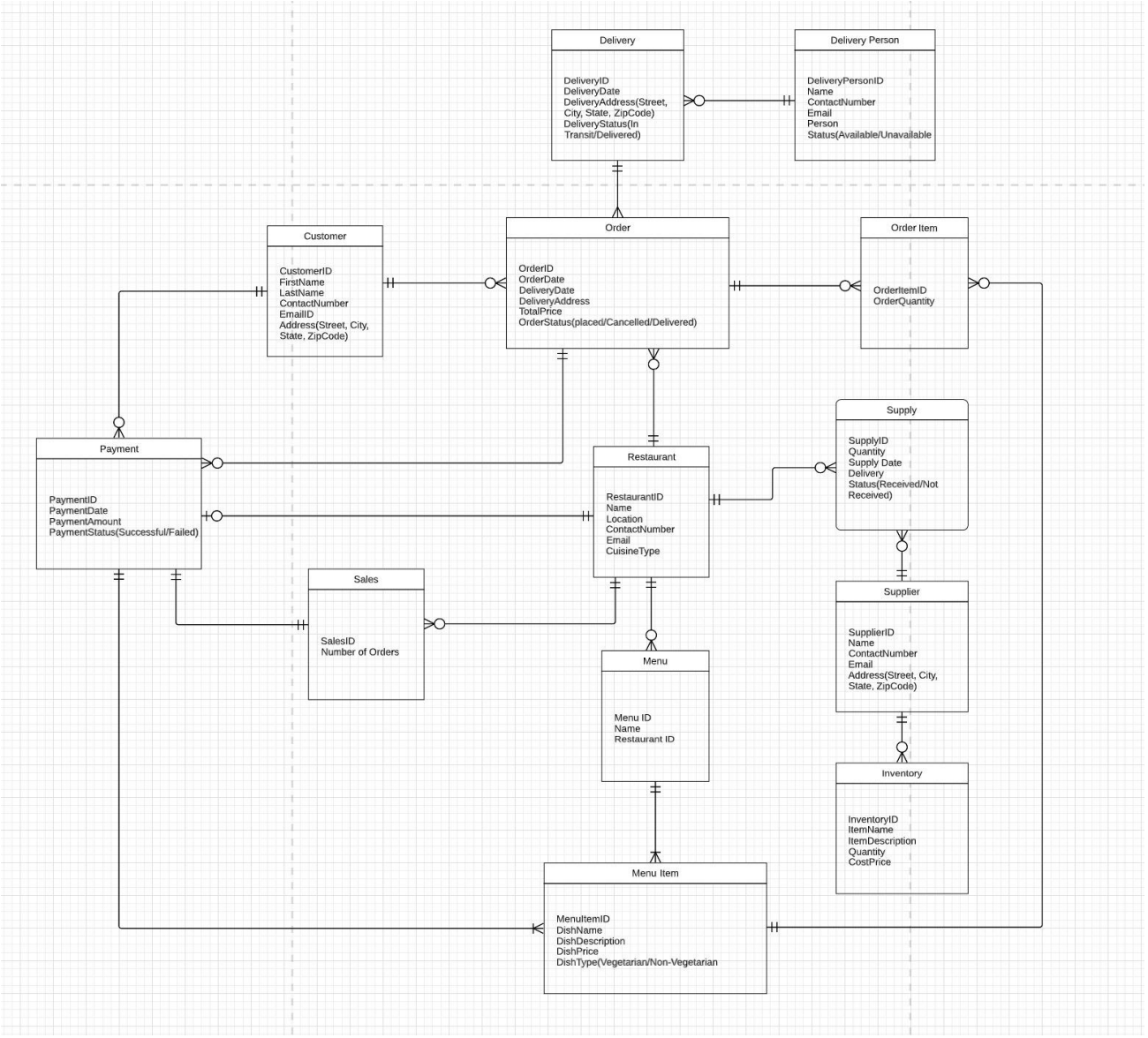
https://github.com/JahnaviGangarapu/Dmdd_Group12

DATA MANAGEMENT AND DATABASE DESIGN
PROJECT-P2
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 customise 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.



Key Database Design Decisions:

Entities:

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

2. **RESTAURANT:** Restaurant accepts orders from the customer and delivers it using a delivery person.

3. **MENU:** Menu consists of all the cuisines that enables a customer to browse through multiple options.

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

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

6. **ORDER ITEM:** Order item is the quantity of the food item which is being ordered.

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

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

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

10. **SALES:** Sales is the number of orders and is recorded by the restaurant to keep a track of their day-to-day growth.

11. **INVENTORY:** Inventory has items to be supplied to the restaurant.

12. **SUPPLIER:** 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 Optional - An order can have one or multiple order items, but an order item has to belong to at least one order.

3) **CUSTOMER TO PAYMENT**- One Mandatory to Many Optional - A customer can make one or multiple payments depending whether the payment is successful or a failure, but a payment has to belong to at least one customer.

4) **PAYMENT TO SALES** - One Mandatory to One Mandatory - Total number of sales can be depicted with the help of total number of sales tracked. So, after a successful payment, the order gets recorded and the sales is calculated by the total number of orders per day.

5) **DELIVERY TO ORDER**- One Mandatory to Many - An order must have a delivery and each delivery can have 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) **ORDER TO PAYMENT -** One Mandatory to Many Optional -An order can have multiple payments depending on whether the payment is successful or failure and a payment should belong to one order.

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

9) **ORDER ITEM TO MENU ITEM**- One Mandatory to Many Optional- One menu item can have multiple order items in a particular quantity whereas one order item should belong to a particular menu item.

10) **MENU ITEM TO MENU**- Mandatory one to mandatory many - A Menu must have multiple menu items and a Menu item must belong to a menu.

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

12) **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.

13) **SUPPLY TO SUPPLIER**- Many optional to one mandatory - A supplier can get many supplies from inventory , but a supply can only be taken from a single supplier .

14) **SUPPLIER TO INVENTORY**- One Mandatory to Many Optional- A supplier can work for multiple items in an inventory and an inventory should supply items by the use of the supplier.

15) **RESTAURANT TO SALES -** One mandatory to many optional - A restaurant can have multiple sales by recording the number of orders and each sales recorded should belong to at least one restaurant.

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 personalised 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 behaviour, allowing them to make informed decisions.

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