

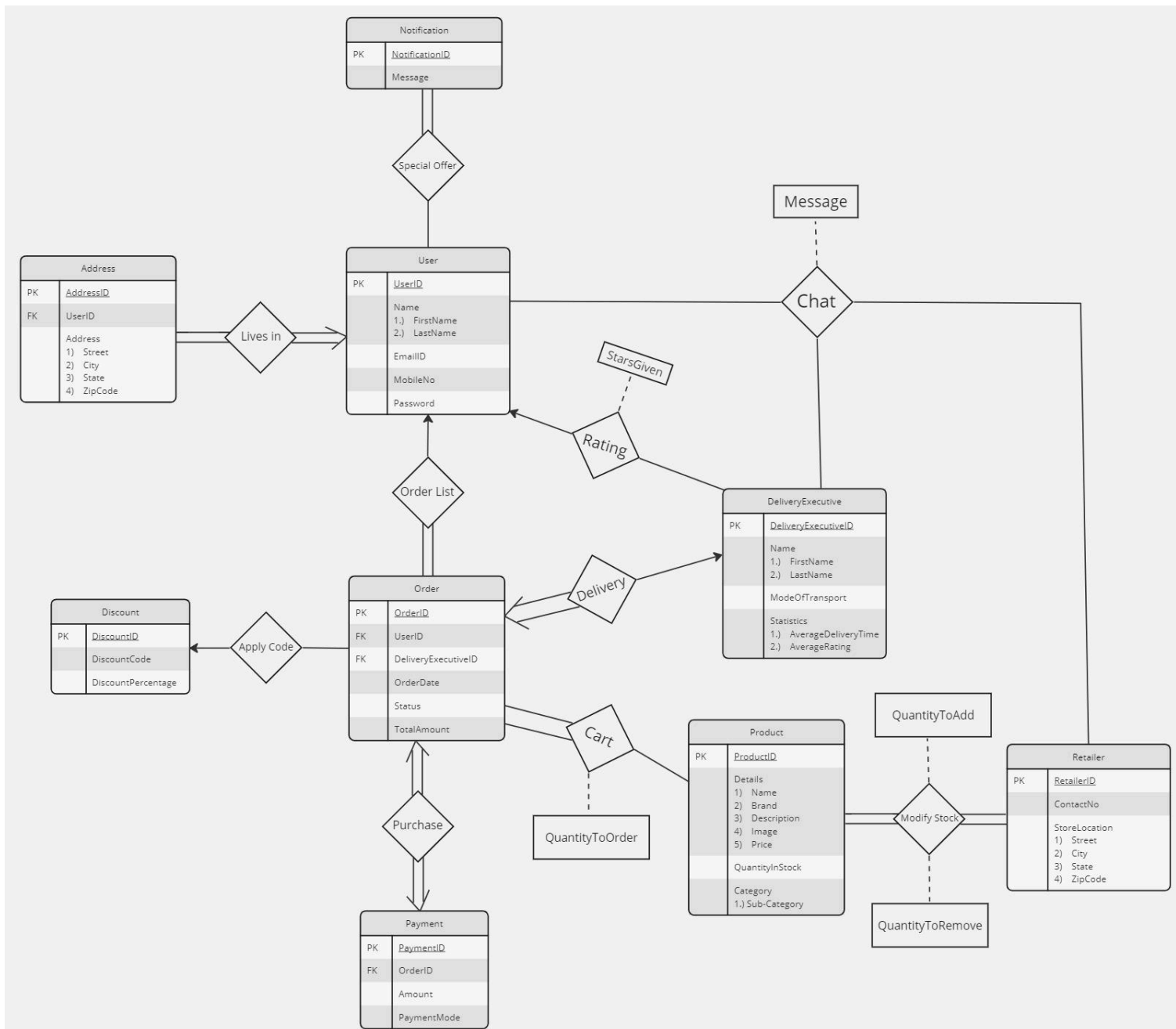
Shop Fresh - The Online Grocery Store

Conceptual and Relational Models

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ER Diagram (Conceptual Model):



ER diagram was created on miro. Miro board link: [ER Diagram](#)

Relational Model (Using reduction to relational schemas):

Principles Used for Mapping ER Model to Relational Model:

1. A many-to-many relationship set is represented as a schema with attributes for the primary keys of the two participating entity sets, and any descriptive attributes of the relationship set.
2. Many-to-one and one-to-many relationship sets that are total on the many-side can be represented by adding an extra attribute to the “many” side, containing the primary key of the “one” side.
3. For one-to-one relationship sets, either side can be chosen to act as the “many” side. That is, an extra attribute can be added to either of the tables corresponding to the two entity sets.
4. If participation is partial on the “many” side, replacing a schema by an extra attribute in the schema corresponding to the “many” side could result in null values. So we do the same as “many” on both sides.

User:

<u>UserID</u>	FirstName	LastName	EmailID	MobileNo	Password

Address:

<u>AddressID</u>	Street	City	State	ZipCode	UserID(FK)

(PK of User is added as FK using 2nd Principle)

DeliveryExecutive:

<u>DeliveryExecutiveID</u>	FirstName	LastName	ModeOfTransport	AverageDeliveryTime	AverageRating

Order:

<u>OrderID</u>	OrderDate	Status	TotalAmount	UserID(FK)	DeliveryExecutiveID(FK)

(PK of User is added as FK using 2nd Principle)

(PK of DeliveryExecutive is added as FK using 3rd Principle)

Payment:

<u>PaymentID</u>	Amount	PaymentMode	OrderID(FK)

(PK of Order is added as FK using 3rd Principle)

Discount:

<u>DiscountID</u>	DiscountCode	DiscountPercentage

Product:

<u>ProductID</u>	Name	Brand	Description	Image	Price	QuantityInStock	Category	Sub-Category

Retailer:

<u>RetailerID</u>	ContactNo	Street	City	State	ZipCode

Notification:

<u>NotificationID</u>	Message

Schemas using Principles 1 and 4:

Notification_Special_Offer_User:

<u>NotificationID(FK)</u>	<u>UserID(FK)</u>

User_Chat_DeliveryExecutive_Retailer:

<u>UserID(FK)</u>	<u>DeliveryExecutiveID(FK)</u>	<u>RetailerID(FK)</u>	Message

User_Rating_DeliveryExecutive:

<u>UserID(FK)</u>	<u>DeliveryExecutiveID(FK)</u>	StarsGiven

Order_Apply_Code_Discount:

<u>OrderID(FK)</u>	<u>DiscountID(FK)</u>

Product_Cart_Order:

<u>ProductID(FK)</u>	<u>OrderID(FK)</u>	QuantityToOrder

Retailer_Modify_stock_Product:

<u>RetailerID(FK)</u>	<u>ProductID(FK)</u>	QuantityToAdd	QuantityToRemove