Food Delivery System

Database Specification : Purpose, Business Problems Addressed and Business Rules

Database Purpose :

To build a Database System for Food Delivery that allows mass storage of Customer and Restaurant data. This system will efficiently manage different entities involved like customer, restaurants, order which will help the Customer to order food, keep track of the order. Restaurant can manage their orders, evaluate sales performance.

Business Problems Addressed :

- To understand how many Customers exist in the Food Delivery System.
- To understand how many orders are received per restaurant.
- To understand how well a restaurant is performing based on the feedback it has received.
- To understand how many orders belong to a restaurant and have a count of the number of orders cancelled.
- To understand how many Delivery Vehicles are being used on a weekly basis.

These pieces of information is key for the Food Delivery System and their officials & Customers to know

Business Rules :

- Every Customer can have only 1 Address.
- Even though the Restaurants belong to the same chain, they all have different RestaurantID's .
- Every Restaurant can have only 1 menuID.
- Every DeliveryPerson can be assigned to only 1 DeliveryVehicle.
- Every OrderLineId will have a unique CustomerID, RestaurantID and OrderID.

Design Decisions :

Entity Name	Why Entity is Included ?	How Entity is related to other entities ?
Customer	This entity is used to store the records of each Customer in the Food Delivery System. It has CustomerID as a Primary Key and also contains details of each Customer such as name, address, email etc.	It holds a non identifying relationship with OrderLine Address and FeedbackEntity.
Restaurant	This entity is used to store the records of each Restaurant in the Food Delivery System. It has RestaurantID as a Primary Key and also contains details of each Restaurant such as name, address, feedback etc.	It holds a non identifying relationship with OrderLine,Address, Feedback and Menu Entity.
Order	This entity is used to store the orders placed by each Customer. It has OrderID as Primary Key. Also holds details about each Order such as DriverID, OrderDate & Time, Quantity.	It holds a non identifying relationship with OrderLine, Payment and DeliveryPerson Entity. It holds an identifying relationship with OrderFood Entity.
OrderLine	This is the core Entity in the database. It connects the three most important entities Customer, Order and Restaurant. It holds OrderLineID as surrogate key. It keeps track of the current status of Order delivery.	It holds a non identifying relationship with Customer, Order, Restaurant and DeliveryStatus entities. As there are many to many relationships with these entities, OrderLine is created as associative entity.
DeliveryStatus	This Entity holds the status of each Order. The status can be either delivered, inTransit or cancelled. It also hold information such as OrderTime, DeliveryTime etc.	It holds a non identifying relationship with OrderLine.

Feedback	This entity holds the feedback given by Customer for a particular Restaurant. It holds FeedbackID as Primary Key.	It holds a non identifying relationship with Customer and Restaurant.
Address	This Entity holds the address of both Customers and Restaurants. It holds AddressID as Primary Keys. Also contains details such as Street, city, pincode etc.	It holds a non identifying relationship with Customer and Restaurant.
DeliveryPerson	This Entity holds the information responsible for the Person delivering the orders. It hold DriverID as the Primary Key and other details related such as name, mobileNumber, email etc. It also holds reference to the DeliveryVehicle Entity.	It holds a non identifying relationship with Order entities. It holds an identifying relationship with DeliveryVehicle Entity.
DeliveryVehicle	This Entity holds the information related to the Vehicle used by DeliveryPerson. It holds VehicleID as Primary Key and also contains VehicleType, License and DriverID.	It hold identifying relationship with DeliveryPerson.
Food	This Entity holds different kinds of food items. It holds FoodID as Primary Key and other information such as Category and UnitPrice.	It holds an identifying relationship with OrderFood Entity. It holds a non identifying relationship with MenuItem Entity.
OrderFood	This Entity holds FoodID and OrderID as Composite Primary Key.	It holds an identifying relationship with Food and Orders.As there is a many to many relationship with this entity, OrderFood is created as associative entity.
Menu	Every Restaurant has a distinct menu of their own. This Entity holds these menus of each Restaurant and it has MenuID and RestaurantID as Composite Primary Key	It holds a non identifying relationship with MenuItem and Restaurant Entity.

MenuItem	This Entity connects Menu and Food entities. It holds MenuFoodID as the surrogate key.	It holds a non identifying relationship with Food and Menu. As there is a many to many relationship with this entity, MenuItem is created as associative entity.
Payment	This Entity holds the payment details of Customer. It holds PaymentID as Primary Key and other information such as CustomerID, OrderID, PaymentType, Amount and PaymentDate.	It holds a non identifying relationship with Order Entity.