Group 9

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Database Design for Meal Delivery Service Provider System

Our project plan is aimed towards building a database system for meal delivery aggregator/ service providers such as GrubHub and UberEats. This is a growing market that is gaining more traction by the day (https://www.recode.net/2018/4/18/17242262/uber-eats-grubhub-food-delivery-startup) and hence, we thought designing a database to keep track of the sales, orders and performance of the aggregation platform would be very interesting. ***There are three primary entities that a meal delivery aggregator connects: a customer, a deliverer and a restaurant.*** And they all connect through the ever uniting medium of food!

The goal of our database is primarily intended for the aggregator service to:

- Track the customers that frequently order via the platform
- Restaurants that are and aren't performing well within the system
- Deliverers that benefit by participating in this lifecycle.

In addition, the aggregator may also want to:

- Track what cuisines are popular in different locations and during what periods in the year
- Which deliverers are most timely and consistent
- What is the average revenue generated per customer
- What is the average income earner by a deliverer
- Minimum/maximum delays for delivery by deliverer/by location/by restaurant

We have included the first draft of the Entity Relationship Diagram for our database below. To the best of our efforts, we have tried to design it in 3NF. However, as we add data and work more on it, we see a potential for revision of the design and probable addition of new tables to the database to avoid redundancy and improve efficiency.

We currently have a total of 12 tables in our database, namely:

- tblRestaurant
- tblRestaurantDetail
- tblCustomer
- tblLocation
- tblCity
- tblCuisine
- tblOrder
- tblDelivery
- tblTimestamp
- tblItem
- tblRating
- tblDeliveryPerson

The ERD below shows the associations and relationships between the different tables.


tblItem
PK ItemID
FK OrderID
Price
Description
tblRestaurant
PK RestaurantID
RestaurantName
FK LocationID
FK OrderID
FK DetailID
FK DeliveryID
tblLocation
PK LocationID
LocationType
StreetName
FK CityID
PhoneNumber
tblDelivery
PK DeliveryID
EstDeliveryTime
EstDeliveryFee
FK TimeStampID
FK ActualTimeStampID
FK DeliveryPersonID
tblOrder
PK OrderID
FK DeliveryID
FK TimestampID
TotalAmount
tblRestaurantDetail
PK DetailID
FK RatingID
FK CuisineID
PriceScore
MenuURL
tblCity
PK CityID
City
State
Zipcode
tblTimeStamp
PK TimeStampID
FK ActualTimeStampID
TimeStampType
Date
Time
tblCustomer
PK CustomerID
FK LocationID
FK OrderID
AccountNo
Name
tblCuisine
PK CuisineID
Cuisine
Category
tblRating
PK RatingID
CustomerID
RestaurantID
Comment
Rating
tblDeliveryPerson
PK DeliveryPersonID
DeliveryPersonName
ContactNo
FK LocationID