INFO 6210 – FoodTruck Business Database

Database Specification: Purpose, Business Problems Addressed and Business Rules

Database Purpose:

The purpose of the database is to maintain data of Foodtrucks across the city and leverage the orders data to improve profits, thus benefiting business growth.

Business Problems Addressed:

- A source for information on Foodtrucks across the city and a method to improve revenue for every FoodTruck.
- Selection of locations for the Foodtruck owners that are in line with the type of cuisine and income generated based on the number of orders.
- Analysis of expenditure of each Foodtruck and systematically reducing expenditure thus improving business revenue.
- Analysis of Customer Orders and deciding on what is a popular food choice in a neighbourhood.

Business Rules:

- Each Foodtruck may have only one owner whereas One person can be the owner of multiple Foodtruck.
- Each Foodtruck may have any number of Orders and Staff.
- Staff may be employed by more than one Food truck.
- Each Foodtruck may have any number of Food Items on the Menu and any type of Cuisine.

- Each Foodtruck will have a single unique Menu.
- Each FoodItem belongs to a unique Cuisine on the Menu.
- Each Customer will have one or more Order and OrderItem where their order details including order rating is tracked.
- A Foodtruck must have separate Income (from Orders) and Expenditure (from Staff Payslips and Supplies) from which revenue is calculated.
- Location of the foodtruck may change everyday.
- Overall Foodtruck rating is the average of the ratings given for each order by the Customer.

Design Requirements:

- Use Crow's Foot Notation and conform to Third Normalized form.
- E-R Diagram created by MySQL Workbench, therefore Primary and Foreign Key is identified by MySQL Workbench Notation.

Design Decisions:

Entity name	**Why entity included?**	**How entity is related to other entities?**
Foodtruck	Gives a comprehensive view of all the food trucks across the city including information on their owner, Opening and Closing times, Menu and the date on which it was started.	Being the central premise of the database structure, it is related to Order through Order ID, FoodTruckRating through Rating ID, Revenue by Revenue ID, Menu by Menu ID, FoodTruckSupplies, FoodTruckStart and FoodTruckLocation by Foodtruck ID
Customer	To store details about customers who visit food trucks including their name, phone number, favoured cuisine and ethnicity in order to make further analysis	It is related to Order and OrderItem by Customer ID

Cuisine	To store data of the cuisine served by food trucks	It is related to the table FooItems through Cuisine ID
Order	To store data about the orders received by food trucks including order values, payment type and transaction date and time	It is related to OrderItem by OrderID, OrderIncome and FoodTruck by FootruckID
Date	To record the information of a particular food truck stationed at a particular location on a specific date	It is related to the Location table by Date ID
Location	To maintain information on the location of each food truck including Location, Street, City and Neighbourhood	It is related to FoodTruckLocation and Date by Date ID
Revenue	Used to calculate the revenue generated by each food truck	It is related to FoodTruck and Expenditure tables by Revenue ID
Menu	To store the menu produced by each food truck	It is related to Foodtruck and FoodItems tables by Menu ID
OrderItem	Contains information about the orders placed by a customer. Contains Items in the order, as well as quantity. A ratings attribute is also present, to assign a rating for each orders.	It is related to the Customer table by Customer ID and Order table by Order ID

OrderIncome	To calculate income generated by each food truck based on the orders received	It is related to Foodtruck table by FoodtruckID and Revenue table by OrderIncomeID
Expenditure	To calculate the total expenditure that each food truck incurs including supplies, staff wages, utilities and overheads	It is related to Revenue table byExpenditure ID
Staff	To maintain information on staff working at each food truck including their name, phone number and address	It is related to FoodTruckStaff by Staff ID
Payslip	It records information on the wages of each staff member working in food trucks and their employment type	It is related to FoodTruckStaff by FoodTruckID and Staff ID.
Supplies	The table contains data on the supplies that are needed for day to day operation of each food truck and cost incurred towards procuring them	It is related to SuppliesCost table by FoodTruck ID.
SuppliesCost	It provides information on the total cost spent by each food truck for their day to day operations (supplies).	It is related to Supplies by SuppliesID and Foodtruck by FoodtruckID

FoodTruckLocation	It is used to track the location of each food truck and the date on which each truck is at a particular location	It is related to location table by Location ID, Date table by Date ID and to FoodTruck by FoodTruck ID
FoodTruckStaff	It records the staff working in each food truck and maps Foodtruck ID with the Staff ID	It is related to Staff by Staff ID and related to Payslip by an aggregate of FoodTruck ID and Staff ID
FoodItems	It contains information about the food items in the menu used in each cuisine for every food truck	It is related to Cuisine table by Cuisine ID, Menu table by Menu ID and OrderItem by OrderItemID