

DBS Coursework 1

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1 Design : Part 1

1.1 ER-Diagram

Refer to ER Diagram on page 2. Instead of making separate customer and Burrito Club entity with Sign_Up relationship between them, I have merged them to a single entity (Club_Members).

This is because the customers who do not sign up to the club will have incomplete information, and hence not useful to the company.

Finally, Rice is not added to Burrito as an attribute, the specification stated that all burritos come with rice. Therefore, this attribute was omitted.

1.2 Cardinalities and Assumption

- There exists more markets than the number of available food trucks. So not all markets are assigned. Therefore, relation 'place' connected to both Food Truck and Market entities despite having 'assign' relation between them.
- Every item sold from the food truck is either Burrito or beverage.
- All markets have unique post code.

1.3 Relational Schema

Refer to Page 3 for relational Schema.

Primary keys are single underlined and Foreign Keys are Double Underlined.

1.4 Constraints

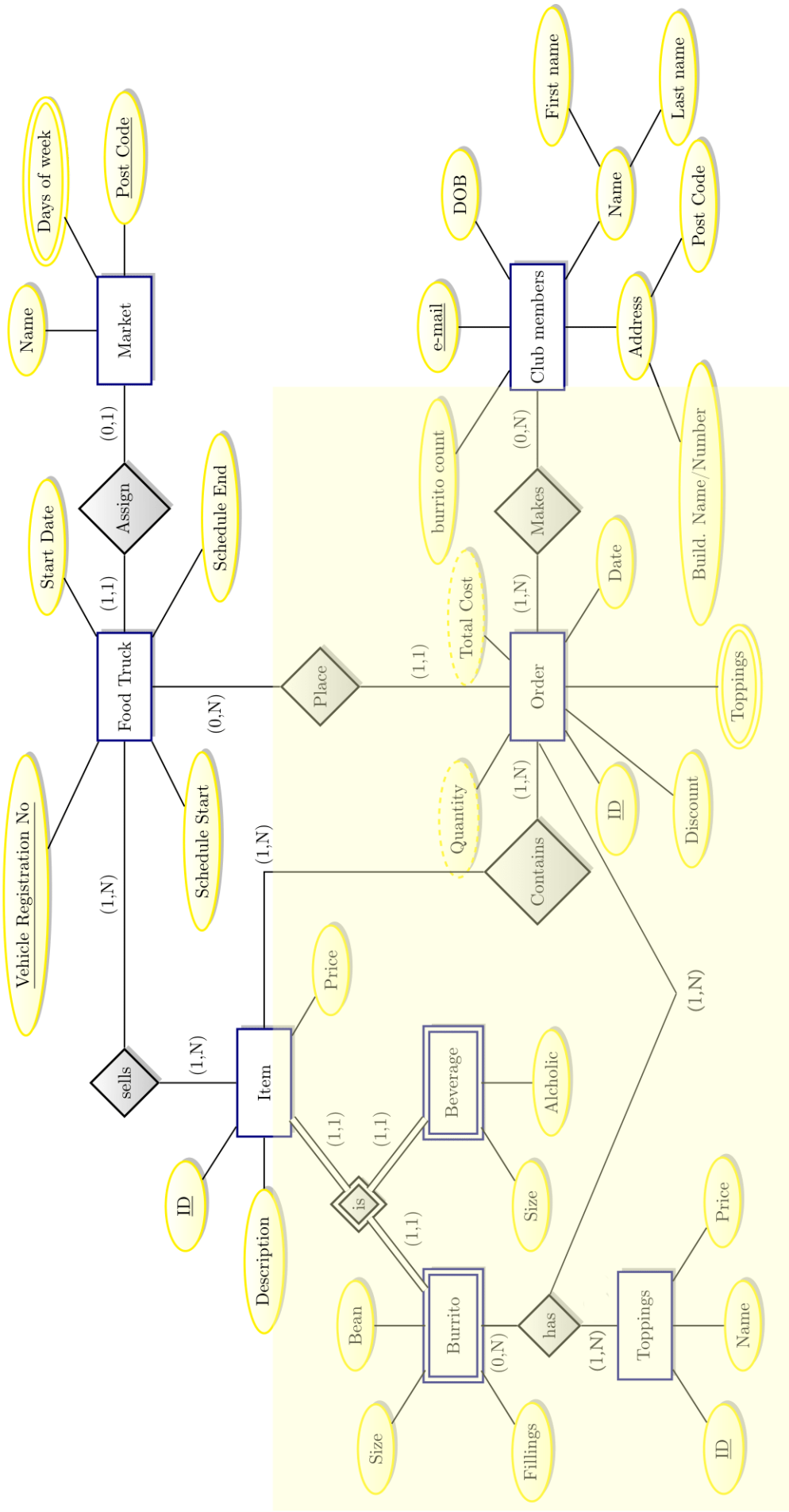
1.4.1 Domain Constraints

1. FOOD_TRUCK(Vehicle_Registration_Number: String, Start_Date: Date, Market_Postcode: String, Order_ID: Integer)
2. BEVERAGE(Item_ID: Integer, Price: Float, Description: String, Alcoholic: Boolean, Size: String, Fillings: String, Bean: String)
3. BURRITO_TOPPINGS(ITEM_ID: Integer, Toppings: String)

1.4.2 Semantic Constraints

1. Start_Date should be past date.
2. Vehicle_Registration_Number should be actual registration number of a car, not just any string.
3. Market_Postcode should be real post code in London.

2 E-R Diagram



3 Relational Schema

FOODTRUCK

<u>Vehicle_registration_number</u>	Start_Date	Schedule_Start	Schedule_End	<u>Market_Postcode</u>
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MARKET

<u>Postcode</u>	Name
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BURRITO

<u>Item_ID</u>	Price	Description	Size	Fillings	Bean
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TOPPINGS

<u>ID</u>	Name	Price
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BEVERAGE

<u>Item_ID</u>	Price	Description	Alcoholic	Size
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ORDER

<u>ID</u>	Date	Discount_amount	<u>Vehicle_registration_number</u>
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CLUB_MEMBERS

<u>email</u>	DOB	Building_Name	Postcode	First_Name	Last_Name	Burrito_count
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BURRITO_HAS_TOPPINGS

<u>Order_ID</u>	<u>Burrito_ID</u>	<u>Topping_ID</u>
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MARKET_DAY_OF_WEEK

<u>Market_Postcode</u>	<u>Day_of_week</u>
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Order_Toppings

<u>Order_Id</u>	<u>Toppings</u>
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FOODTRUCK SELLS BURRITO

<u>FoodTruck_VRN</u>	<u>Burrito_ID</u>
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FOODTRUCK SELLS BEVERAGE

<u>FoodTruck_VRN</u>	<u>Burrito_ID</u>
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ORDER CONTAINS BURRITO

<u>Burrito_ID</u>	<u>Order_ID</u>
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ORDER CONTAINS BEVERAGE

<u>Beverage_ID</u>	<u>Order_ID</u>
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CLUB_MEMBER MAKES ORDER

<u>Club_member_email</u>	<u>Order_ID</u>
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