

PROJECT STEP 5 - DRAFT

Boba Best-Teas

Garrick Chan
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WEBSITE URL

<http://flip3.engr.oregonstate.edu:8084/>

Project Outline and Database Outline

A small Boba Tea shop has been taking orders over the phone during the COVID-19 Pandemic, they receive between 200-400 calls per day with each order placed being anywhere between \$6-\$40 so on a slow day they make a minimum of \$1,200. Their current system requires them to talk to each customer over the phone, write down their order, repeat the order back to the customer, then the written order is taken to the kitchen for an employee to start working on it. This slows them down and makes customers wait on their phone queue for too long before being able to place an order. The store wants to be able to input the orders on a computer instead of having to write them down and eventually give customers the option to do it online themselves and have the staff making the drinks being able to see the orders as soon as they are placed. With this system, ordering drinks and customizing each drink with toppings will be easier than ever for both staff and customers.

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Entities

customers: Keeps track of the customer using the following attributes:

- Customer ID (customer_id - INT, PK, NOT NULL, AUTO INCREMENT, UNIQUE)
- First Name (first_name - VARCHAR, NOT NULL): First name of the customer.
- Last Name (last_name - VARCHAR, NOT NULL): Last name of the customer.
- Phone Number (phone_number - VARCHAR): Using this format ###-###-####. Phone numbers must be unique, no two customers can have the same number.

orders: Tracks the customers to which the orders belong.

- Order ID (order_id - INT, PK, NOT NULL, AUTO INCREMENT, UNIQUE)
- Customer (customer_id - INT, FK, NOT NULL): ID of the customer who made this order.

drinks_instances: When a customer orders a particular drink from base_drinks, a drink instance is created. This instance is then connected to any toppings the customer wants to add. This allows a customer to order multiple of the same base drink, each with different toppings or sizes.

- Instance ID (instance_id - INT, PK, NOT NULL, AUTO INCREMENT, UNIQUE)
- Order ID (order_id - INT, FK, NOT NULL): References the order this instance is part of.
- Drink ID (drink_id - INT, FK, NOT NULL): References the base drink.
- Size (size - INT, NOT NULL): 0 for Small, 1 for Medium, and 2 for Large.

toppings: Toppings can be added to drinks_instances

- Topping ID (topping_id - INT, PK, NOT NULL, AUTO INCREMENT, UNIQUE)
- Topping Name (topping_name - VARCHAR, NOT NULL): The name of the topping.
- Topping Cost (topping_cost, DECIMAL [4,2], NOT NULL): Price of the topping.

base_drinks: Tracks drinks on the menu and the cost of each, based on size.

- Drink ID (drink_id - INT, PK, NOT NULL, AUTO INCREMENT, UNIQUE)
- Name (drink_name - VARCHAR, NOT NULL): The name of the base drink.
- Small Cost (small_cost - DECIMAL [4,2], NOT NULL): Price of a small drink.
- Medium Cost (medium_cost - DECIMAL [4,2], NOT NULL): Price of a medium drink.
- Large Cost (large_cost - DECIMAL [4,2], NOT NULL): Price of a large drink.

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Relationships

A 1:M relationship between customers and orders. An order made by exactly one customer, and a customer can place many orders.

A 1:M relationship between orders and drinks_instances. An order is composed of at least one drink instance, and any given drink instance belongs to exactly one order.

A M:M relationship between drinks_instances and toppings. Drinks instances can have 0 or more toppings. Toppings can be in 0 or more drinks instances. A table called drinks_toppings, containing foreign keys to drinks_instances and toppings, is used to achieve the M:M relationship between drinks_instances and toppings.

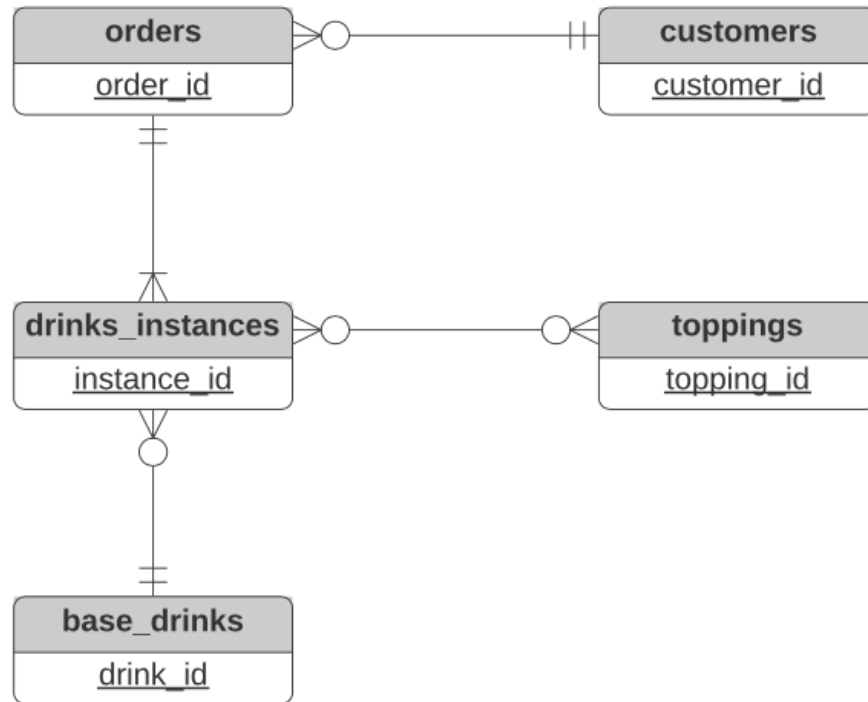
A 1:M relationship between base_drinks and drinks_instances. Any given drink instance is based on exactly one base drink. A base drink can be the basis of 0 or more drink instances.

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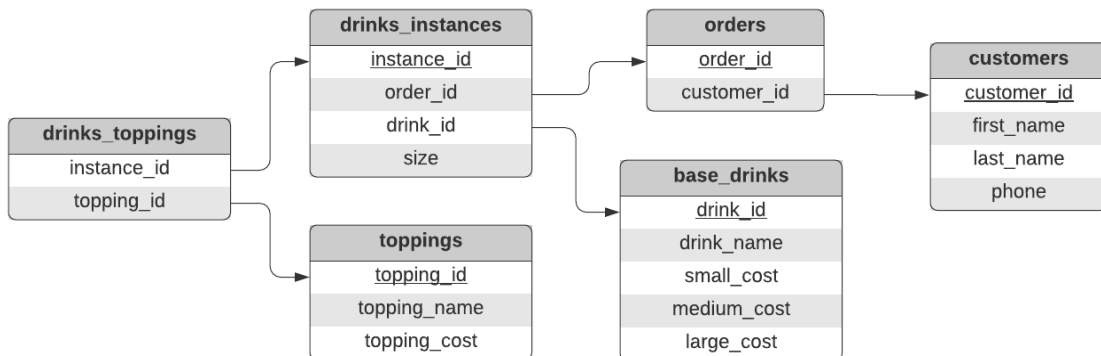
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Entity-Relationship Diagram



Schema



drinks_toppings is used to achieve the M:M relationship between drinks_instances and Toppings