

Database Design and Implementation

Project Proposal

Five Guys Burgers and Fries Database

CIS 353 02 - TR - Database

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Database Requirements

The Five Guys Database will record data surrounding the operation of a single Five Guys location. This includes information about customers, food orders placed, crew members, managers, and secret shoppers. The database will also record data for reports written by managers about different crew members. The database also records data for reports from secret shoppers. Secret shoppers are customers who are sent by corporate to record the efficiency of a Five Guys location. The database only holds the ID number of Secret Shoppers to allow them to stay anonymous to the individual location. This database only records information about the day-to-day operation of the restaurant, not the inventory and shipment information.

Customer

The database will record the credit card number, first name, last name, and whether or not a customer is a secret shopper for every customer. Every customer can place one food order at a time. If a customer does not place a food order they are not recorded in the database, and a customer's food order can be as big or small as they wish. Each customer also has the potential to be a secret shopper, but the employees would not know this information until the end of the customers stay.

Food Order

Every food order will have the order number, the items within the order, the cost, and the time the order was placed. Every food order is ordered by a customer and can be made by multiple crew members. The database records through this relationship the time it took to complete the order and the number of crew members involved. Each food order is supervised by one manager. If the customer that placed a food order is a secret shopper, the food order they placed receives a report about the order.

Manager

The database will record the manager ID, first name, and last name of every manager. Managers must be either a basic manager, general manager, or a district manager. Each manager can supervise multiple food orders. Managers also create reports about the performance of different crew members, but never the same crew member on the same date.

Crew Member

The database records the crew ID, the first name, last name, and wage of every crew member that works at the restaurant. Crew members can work on multiple different food orders. Crew members also receive reports about their performance from managers, but never on the same date by the same manager.

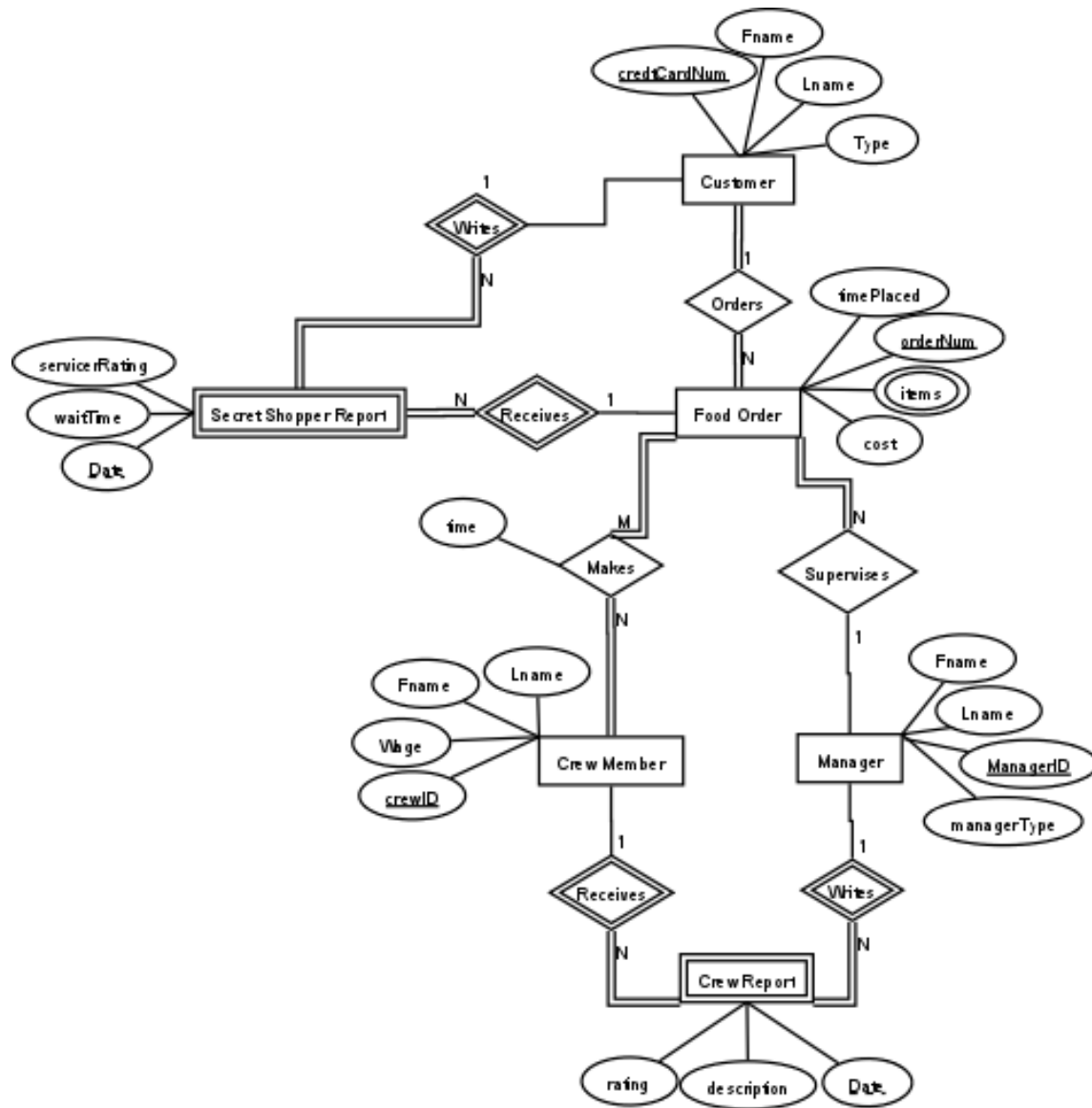
Secret Shopper Report

The database records the date the report was written, how long the secret shopper had to wait to receive their food, and the rating of the service. The report is created by a secret shopper, but never by the same secret shopper on the same date. The report is written about the food order placed by the secret shopper.

Crew Report

The crew report will contain the rating given, a description of why, and the date it was written. Crew reports are written by managers who are evaluating the performance of a crew member. Crew members receive the report from the manager who wrote it. A manager can only write one report about a specific crew member once per day. They may write reports about different crew members on the same day. Crew members never receive a report by the same manager on the same day. They can receive multiple reports from multiple managers on the same day.

ER Diagram



Basic Relational Schema

Customers(creditCardNum, Fname, Lname, customerType)

Food Order(orderNum, timePlaced, cost, items, customerCreditCardNum, managerID)

Crew Members(crewID, Fname, Lname, wage)

Managers(manager ID, Fname, Lname, managerType)

Crew Report(date, managerID, crewID, rating, description)

Secret Shopper Report(date, secretshopperID, orderNum, serviceRating, time)

Items(Item, orderNum)

Makes(crewID, orderNum, time)

Integrity Constraints

IC name & table(s)	IC type	English statement
IC1 Table Crew Members	Key	The crew ID of each crew member is the key of the table
IC2 Table Managers	Foreign Key	The managerID in the table FoodOrder is a foreign key of the managerID in Managers.
IC3 Table Crew Report	1 attribute	The rating must be 0-100
IC4 Table Secret Shopper Reports	2 attribute 1 row	If the wait time is greater than 8 minutes, than the service rating must be lower than 80