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INFOSCI 1599 Special Topics: Python

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7 December 2022

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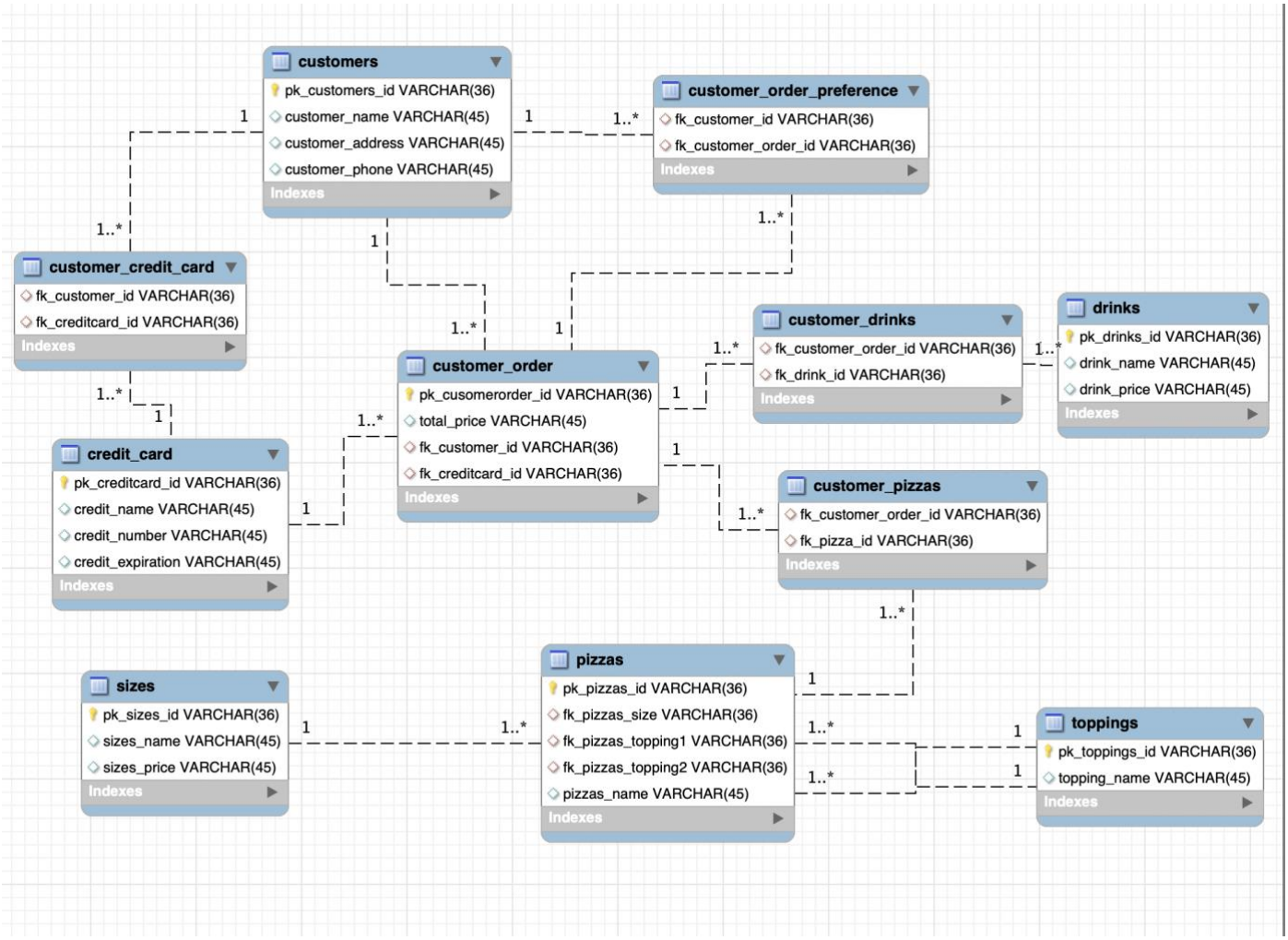
Abstract

Like any business, a pizza restaurant needs to keep track of its customers, customer information, menu items, and even their orders. Building a database driven application for a "Dominoes" style pizza restaurant is important because the business can gather historical data, data on its customers to promote menu items and use any of the data to make business decisions. To succeed in creating the database driven application, I will implement technologies such as python three (specifically utilizing objects), the json library to provide a RESTful API endpoint, and MySQL Workbench for implementing the database. To provide documentation for the project, a Design Document will be provided with the project to give detailed information on the database design, the relationships between database tables, and a description of the goal or purpose of the project.

ER Model


customers
pk_customers_id VARCHAR(36)
customer_name VARCHAR(45)
customer_address VARCHAR(45)
customer_phone VARCHAR(45)
Indexes
customer_order_preference
fk_customer_id VARCHAR(36)
fk_customer_order_id VARCHAR(36)
Indexes
customer_credit_card
fk_customer_id VARCHAR(36)
fk_creditcard_id VARCHAR(36)
Indexes
customer_order
pk_cusomerorder_id VARCHAR(36)
total_price VARCHAR(45)
fk_customer_id VARCHAR(36)
fk_creditcard_id VARCHAR(36)
Indexes
customer_drinks
fk_customer_order_id VARCHAR(36)
fk_drink_id VARCHAR(36)
Indexes
drinks
pk_drinks_id VARCHAR(36)
drink_name VARCHAR(45)
drink_price VARCHAR(45)
Indexes
credit_card
pk_creditcard_id VARCHAR(36)
credit_name VARCHAR(45)
credit_number VARCHAR(45)
credit_expiration VARCHAR(45)
Indexes
customer_pizzas
fk_customer_order_id VARCHAR(36)
fk_pizza_id VARCHAR(36)
Indexes
sizes
pk_sizes_id VARCHAR(36)
sizes_name VARCHAR(45)
sizes_price VARCHAR(45)
Indexes
pizzas
pk_pizzas_id VARCHAR(36)
fk_pizzas_size VARCHAR(36)
fk_pizzas_topping1 VARCHAR(36)
fk_pizzas_topping2 VARCHAR(36)
pizzas_name VARCHAR(45)
Indexes
toppings
pk_toppings_id VARCHAR(36)
topping_name VARCHAR(45)
Indexes

Business Rules

Entity 1	Entity 2	Cardinality on Entity 1 Side	Cardinality on Entity 2 Side	Business Rules
toppings	pizzas	1..*	1..*	One topping can be on many pizzas while one pizza can have many toppings.
pizzas	sizes	1..1	1..*	One pizza has one size, but one size can be used for many pizzas.
Customer_order	Credit_card	1..1	1..*	One order is payed for with one credit card. One credit card can be used for multiple orders.
customer	Customer_order	1..*	1..1	One customer can have many orders. One order has one customer.
drinks	Customer_order	1..*	1..*	One drink can be associated with many order while one order can have multiple drinks.
customers	Credit_cards	1..*	1..*	One customer can have multiple credit cards. One credit card can have multiple customers.
pizza	Customer_order	1..*	1..*	One pizza can be purchased on many orders. One order can

				have multiple pizzas

Closing

Overall, my experience with this project was somewhat positive. I appreciate the insight I gained with creating objects and functions using python while taking advantage of the powerful python libraries such as pymysql, json, and uuid. The only negative aspect of this project was creating the connection for the database and establishing the proper permissions to use UPDATE, DELETE, and similar queries. I ran into some errors when trying to use these queries within MYSQL Workbench and it took longer than expected to find the solution. In general, I would recommend continuing this project as a 'capstone' for this course since it incorporates the skills that we learned in previous assignments while also having relevancy to real world problems.