

Maya Mistry

Professor German

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Final Project Paper: Coffee Shop Database

Problem

A large number of students at universities seek different places to study whether it's on campus or off, and long study days come with the need of a cup of coffee or tea. Just between me and my friends at Chapman, we love to go to local coffee shops in the Orange County area to either study, chat with friends over a cup of coffee, or maybe just grab a drink or snack on the go. Over the last four years at Chapman, I have gone to many coffee shops for the main purpose of finding new and fun places to study and get work since I am not much of a coffee drinker. With that being said, students and people in general go to coffee shops for many different reasons. The one issue that comes with this is allowing a student to find a coffee shop for their specific needs at that very moment or day. For example, a student might need to find a coffee shop just to study for an hour but needs it to be close enough to Chapman so they can get back for your class. Or, a student might be craving a specific drink that not all coffee shops serve. There could be a huge number of things that students look for and the Chapman community should have access to a resource that can provide specific information as such.

Solution

The solution to this issue is the relational database I created that holds different information about the various local coffee shops around the Orange County area. The different aspects to each coffee shop include:

- General information about the coffee shop
- Food and drink items served
- Aspects of each coffee shop in terms of how good of a study spot it is
- Employee reviews

The purpose is to allow students at Chapman to add, delete, update, and display all information regarding the coffee shops for their own use, especially when there are changes that need to be made as information gets updated.

Related Work

Applications that resemble this similar concept would easily be Google, Yelp, and other similar applications that people use on a daily basis. However, this application is niche to the Chapman community and is made to fit the needs of students more than anyone else. This database is different from just finding coffee shops on either Google or Yelp because this database is very specific towards university students. Users of the database can find coffee shops that serve specific menu items by simply entering a drink name that they are craving at that moment. Another different feature is that users can find a coffee shop that they would like to study at and decide which needs fit best for them. This is done by presenting if shops have wifi, music, outlets, or indoor seating. A specific aspect that is crucial for Chapman students is seeing how close a coffee shop is to Chapman's campus by looking at the average drive time column.

Framework and Database

The relational database was created using MySQL Server via the Google Cloud Platform. The front-end of the application was created using Python as a console application. Various libraries were used such as faker, Dataframe from Pandas, and CSV to be able to generate certain reports for some users. The Database consisted of 5 main tables: Food, Employee, CoffeeShop,

Drink, and StudySpots, with 4 other helper tables that query together the coffee shops and different aspects of each shop so I would not have to repeat the same queries over and over again. The application allows you to perform basic CRUD operations but you can perform them in small increments rather than all at once through these menu options:

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Here is what you can do with the Coffee Shop Database:
(1) - Display all information from the database
(2) - Filtered results from the database
(3) - Add a new coffee shop to the database
(4) - Delete a coffee shop from the database
(5) - Update information about a specific coffee shop
(6) - Update the price and rating of a drink item from a specific coffee shop
(7) - Update the price and rating of a food item from a specific coffee shop
(8) - Update information about an employee from a specific coffee shop
(9) - Add food items that a specific coffee shop serves
(10) - Add drink items that a specific coffee shop serves
(11) - Add an employee that works at a specific coffee shop
(12) - Generate CSV file reports
(13) - Quit application
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What would you like to do? Enter the numerical value:
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Results

Example of adding a food item to a coffee shop's menu:

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Enter the ID for which coffee shop you would like to add a food item for: 146
  Food ID      Food Name
0      111      Chocolate Croissant
1      112      Avocado Toast
2      113      Chocolate Chip Muffin
3      114      Breakfast Sandwich
4      116      Blueberry Muffin
5      117      Toasted Bagel and cream cheese
6      118      Plain Bagel and cream cheese
7      122      Donut
8      127      Plain Croissant
9      129      Breakfast Burrito
10     134      Scone
11     136      Cookie
12     138      Coffee Cake
13     145      Plain Muffin
Does the food item you want to add already exists in this table above? Enter 1 for yes and 0 for no: 1
Enter the food ID that you would like to add for this coffee shop: 112
Enter the rating of this food item at this specific coffee shop: 9
Enter the price of this food item at this specific coffee shop: 3
Successfully add this food item to the database for this coffee shop!
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Example of filtering out results to find coffee shops that service a specific drink:

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You chose to print out filtered results!
What type of results would you like to print out from the database?
(1) - Coffee Shops organized by distance
(2) - Coffee Shops that are the best study spots
(3) - Coffee Shops with great customer service
(4) - Coffee Shops with the cheapest drinks
(5) - Coffee Shops with the cheapest food
(6) - Coffee Shops with the best drinks
(7) - Coffee Shops with the best food
(8) - Coffee Shops with this specific drink: ___
Enter the numerical value of which option you would like to choose: 8
What kind of drink are you looking for?: Iced Latte

      Coffee Shop Name  Drink Name
0      Portola Coffee Roasters  Iced Latte
1      Bodhi Leaf Coffee Traders  Iced Latte
2              Philz Coffee  Iced Latte
3 Morning Lavender Boutique & Cafe  Iced Latte
4          The Cafe Krave  Iced Latte
  
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Schema

