Course: CSCE 4350.501 - 11546 Fundamentals of Database Systems

Team1: Diana Pappe Casco

Jiya Singh

Colton Pulliam

Assignment: Group Project

AUTOMOBILE COMPANY APPLICATION

Project Description

This project focuses on budding an automobile company. The company needs to keep track of data related to vehicles, dealers, suppliers, manufacturing plants and customers. The database is then used to extract SQL queries that provide insight into sales data and inventory in the automobile company.

The automobile company manages various aspects of the automobile company. The database handles the following data:

- Vehicles
  - Each Vehicle has a vin and additional attributes such as brand, color etc.
- Brands
  - A company can have multiple brands and each brand can have several models.
- Models
  - Models belong to specific brands.
- Options
  - The project has different options for the vehicle such as color, engine type and transmission
- Dealer
  - Dealers buy vehicles from manufacturers and sell them to customers. The database tracks brands available at each dealership and dealership inventory.
- Sales
  - Sales are tracked by date, brand, model, color and dealer.
- Supplier
  - Suppliers provide parts for vehicle models.
- Manufacturing plants
  - Some plants provide parts, some are responsible for assembling the cars.
- Customers
  - Customer data includes name, address, phone number, gender and income.

Project files- Deliverables

Deliverable	Location	File Name
ER Diagram	Project-Team1\Diagrams\	ERDiagram.pdf
ER Diagram Notes	Project-Team1\Diagrams\	ERNotes.pdf
Relational Schema	Project-Team1\Diagrams\	Relational Schema.pdf
SQL Table creation	Project-Team1\Queries\	txtCreatetables.txt sqlCreateTables.sql
SQL Insert Statements	Project-Team1\Queries\	sqlInsertStatements.sql txtInsertStatements.txt
SQL Queries	Project-Team1\Queries\	sqlQueries.sql txtQueries.txt
Interface	Project-Team1\Interface\DBSearchBars\Search\	DBSearchBars package
Read Me	Project-Team1\	ReadMe.pdf

Interface Usage Instructions

Follow These Instructions To Successfully Run These Pages On Any Windows Device:

1. Make sure your computer has Python installed and is executable through some form of command prompt

2. Install these packages through your command prompt:
pip install Flask
pip install sshtunnel
pip install mysql-connector-python

3. Ensure your command prompt path connects to this **filepath (Project-Team1\Interface\DBSearchBars\Search\)**, all the way to /Search, where the actual files to run this program are located. Furthermore, you will want to ensure you are either on UNT wifi or are connected to the CISCO anyconnect vpn client for database access.

4. Start the program by typing 'python dbgui.py' in your command prompt. This will connect you to our database through ssh tunneling using credentials approved for entry. Similar to how you would normally sign in but now much more hands off!

5. From there you should be prompted to open your localhost on a browser such as Chrome. Type in localhost:5000 to get started

6. You should be presented with three available client options, from that point you can click on whichever one and explore its capabilities. Below are more details and tips for your experience to go smoothly

Dealer Client GUI: This is a search bar that shows the dealer inventory of our database.

If you type 'all' into the search bar and submit, you will see all available elements within the database table

You can also more specifically search for any model or brand present within this 'all' table. Just keep in mind that the search bar is not live and does not have any auto-fill or auto-search capabilities, so to ensure correct results search elements use the exact same syntax and spelling that is presented in the 'all' table.

Customer Client GUI: This is very similar to the dealer GUI. The main two differences being that the status column has been swapped for a price column instead in accordance to the project guidelines. Additionally, only vehicles marked with the VehicleStatus of 'I' remain present as the rest would already be sold and unavailable to customers. Other than those changes, it works the same as the dealer GUI

Sales GUI: Finally, we have a different GUI which displays OLAP results based on info from the database. These are made from more predetermined queries, so although you cannot search for specific elements, you do still have the ability for this info to update even after the database has undergone a significant amount of changes. On this page, you can find various info about yearly profit, overall stats, and bestselling elements.

Additional recommendations for running this include restarting your program when changing clients. This means using ^C and then using 'python dbgui.py' again. This is likely optional, but will better ensure your database connection is reliable and your program won't crash.

Other than that, the only other thing worth noting is our actual administration interface, which just remains as the query scripting portion of our MySQLWorkbench project.