DataBases Final Project Paper

Justin Kachornvanich Julian Powell

Purpose:

The goal of this project is to create an online store where a user can create an account and purchase items. The user can create an account or log in and choose to view their five most recent bills or purchase items from the store

Methodology:

We started off by creating the ERM to have a model to base the database off of. The ERM models the relationships between each of the tables and the fields within each table. Next, we converted the entities into the 3rd normal form. Our main focus when creating the normalized tables was to ensure that there was no unnecessary repetition of information when creating the tables within the database. After successfully creating the normalized tables to that standard, we then decided to split some of the tables into smaller, more specific tables in order to make the required select queries more straightforward when attempting to define them. Lastly, we wrote some python code to act as the interface between the user and the database. The python code has a connection to the database using pymysql. It allows the user to log in or create an account to shop. A try-except block was used for the checking of the username and password due to errors pymysql would throw if the username or password did not exist in the database. The user is then given the choice to either purchase items or view their three most recent purchases. If the user chooses to purchase an item then the first 5 items are listed. The python library pandas was used to produce a much cleaner output from the sql query. The user must then input the items Item ID to purchase it and the user is then asked for the amount of the respective item they would like to purchase. Now if the user decides to just view their bills, their three most recent bills will appear and pandas was also used to produce a cleaner output of the data extracted by the query. Lastly, if the user inputs “-1” the program quits. For any input, loops were used to continually ask for a correct form of input.

Continuation:

There were other functionalities that were not required for our group due to us only having two members. These functionalities include a manager interface, SQL queries to perform a purchase, and creating a trigger for the discounts. If we were to have more time with this project implementing the missing functionalities would be our first goal. We would also implement more tables and fields such as an orders table for the manager to order more product or a table that would keep track of the most popular products.

Labor Share Table:

Justin Kachornvanich	Julian Powell
ERM - 50% Normalization - 50% Python Code - 50%	ERM - 50% Normalization - 50% Python Code - 50%