

Design Documentation for Mini Project I

General Overview:

Purpose: This program allows a user to interact with a database containing compatible tables and values. It provides the user with an interface to navigate around a database and view/modify specific values by selecting options from the terminal. This program deals with users, products, sales, bids, user reviews and product reviews. All input except password is case insensitive. Make sure you are using Python 3.5 or later.

To begin, type: python3 main.py database.db

Menu Layout:

LOGIN MENU

↳ SYSTEM MENU

↳ PRODUCT SELECTION

↳ SALE SELECTION

↳ SALE SELECTION

↳ SALE SELECTION

↳ USER SELECTION

↳ SALE SELECTION

Detailed Design of Software:

Login Menu:

1. Registered login: for existing users to login
2. Unregistered login: for new users to login
3. Exit program: exits the whole program

System Menu:

1. List products: view products with active sales, allows selection of those products
2. Search for sales: view active sales based on keywords, allows selection of those sales
3. Post a sale: user can post a sale after entering information
4. Search for users: view users based on a keyword, allows selection of those users
5. Logout: logs out of current user and returns to the login menu
6. Exit program: exits the whole program

Product Selection:

1. Write a product review: write a review for a specific product, after entering information
2. List reviews of product: view all reviews about the selected product

3. List active sales of product: view all active sales containing the selected product
4. Exit menu: exits current menu back to the system menu
5. Exit program: exits the whole program

Sale Selection:

1. Place bid on sale: users can place a bid on a specific sale, after entering information
2. List seller's active sales: view all active sales of the selected sale's seller
3. List reviews of the seller: view all reviews about the selected sale's seller
4. Exit menu: exits current menu back to the system menu
5. Exit program: exits the whole program

User Selection:

1. Write a user review: write a review for a specific user, after entering information
2. List their active sales: view all active sales from the selected user
3. List reviews of the user: view all reviews about the selected user
4. Exit menu: exits current menu back to the system menu
5. Exit program: exits the whole program

Testing Strategy:

Most testing revolved around the information input and SQL query results display. To prevent crashing or invalid values being inserted into the database, most inputs check for a valid domain and correct data type. Unique values are enforced by checking if the value already exists within the database before being inserted. Displaying SQL query results would sometimes cause crashes when there were no results found or they contained an "all NULL result". To prevent this, empty results are checked for and "all NULL results" are removed when necessary. When an error is found, an error message is printed and the input loops until valid.

Testing with information input involved entering incorrectly formatted input, checking the edge cases for input domains and inputting existing values for unique values. Testing with SQL queries involved manually writing out query results and checking if the program results matched the manually written ones.

Group Work Strategy (Group of 2):

Project breakdown: brianjos worked on the design/functionality of the program and the SQL queries. jsample was responsible for fixing bugs and making improvements to the initial design.

Each task: each task was completed by brianjos.

Time spent: brianjos (a week and a half), jsample (half a week)

Method of coordination: communicated over email and Discord. Pushed work onto a private GitHub repository.