**CS-499 Milestone 4**

***“Briefly describe the artifact. What is it? When was it created?”***

Today, I decided to work more with my Grocery Tracking Database from CS-210. I’ve added an SQL database with login information. Now when start the application it will ask you for a username and password. I’ve already created your login credentials. The username is SNHU. The password is also SNHU. This is the same application I had worked with in an earlier milestone. So, a brief description: This application uses an editable database to track a grocery store’s inventory. It can then use the information found in the database to perform functions with that data. These functions create easy visualizations that can allow the user to make data driven decisions for the store.

***“Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?”***

I added an SQL database to the program as well as a login screen. This shows my ability to work with SQL databases and add them to pre-existing programs. The database itself contains the various usernames and passwords. I created this database using DB Browser.

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This shows some beginner ability in security, but the main point of this improvement was to be able to add database functionality to this program. This improvement will allow me to transfer the text file that contains the store’s inventory into an actual SQL database table in the future. The main goal of this is to provide better database management software for the grocery store!

***“Did you meet the course objectives you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?”***

Looking back on it, I was going to add the database to my other spreadsheet pay tracking program, but I ended up adding it to this one instead. I think this was a good start, but I still have more work to do to meet the actual course objective. As we approach the end of the course, I plan to add more database functionality to the store’s inventory. I also would like to add the ability to create an account from the login screen that will update the SQL database. I think this should be manageable and I have been enjoying this work.

***“Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?”***

It has been about two years since I worked with SQL. So, I didn’t have an IDE, or really any idea how or even if I could add an SQL database to pre-existing C++ program. Turns out you can, using SQLite and DB Browser. The first challenge I faced was creating the SQLite.lib file and adding it to the directories in my GroceryTracker application. It isn’t as simple as just downloading the file. This post on [Stack Overflow](https://stackoverflow.com/questions/76349657/what-is-the-missing-sqlite3-lib-file-when-trying-to-run-rustqlite-with-precomp) was extremely helpful, and will give you a tutorial for creating the .lib file. Once I created it, I had to move it into the GroceryTracker applications directory.

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I added the header file to the code, and linked all the additional dependencies in Visual Studio 2019

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Linking all these SQL files correctly was difficult. Thankfully, I remember doing some of this before, and I was able to make it work. Thanks for reading!

***References***

***Stack Overflow. (n.d.). What is the missing sqlite3.lib file when trying to run rustqlite with precomp. Retrieved from*** [***https://stackoverflow.com/questions/76349657/what-is-the-missing-sqlite3-lib-file-when-trying-to-run-rustqlite-with-precomp***](https://stackoverflow.com/questions/76349657/what-is-the-missing-sqlite3-lib-file-when-trying-to-run-rustqlite-with-precomp)

***SQLite. (n.d.). Download Page. Retrieved from*** [***https://www.sqlite.org/download.html***](https://www.sqlite.org/download.html)

***Zeljic, D. (2017, June 14). Simple SQLite3 wrapper for Rust. GitHub Gist. Retrieved from*** [***https://gist.github.com/zeljic/d8b542788b225b1bcb5fce169ee28c55***](https://gist.github.com/zeljic/d8b542788b225b1bcb5fce169ee28c55)

***DB Browser for SQLite. (n.d.). Downloads. Retrieved from*** [***https://sqlitebrowser.org/dl/***](https://sqlitebrowser.org/dl/)