

4-2 Milestone Three: Enhancement Two: Algorithms and Data Structure

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During this week I have worked on updating both projects' algorithms and data structure area. For pet Shelter web application, I revamped the entire code base, replacing old dependencies with MySQL database and replacing all functionalities with new ones. It was quite challenging. The first challenge was the dependence on Jupyter Notebook, due to old dependencies I had to get rid of it and move the implementation to python files. After I successfully was able to run the project with it. I noticed a lot of broken parts, starting with image, map and other...etc. I noticed that controls ids were not unique and that's created an issue for the browser to parse the component property. I resolved these issues and then, I cut out many parts to separate class for modularity and readability. I added another dropdown list for search, replaced radio options with checklist. I started wiring all controls and callback functions with new user inputs.

I developed a new function to fetch user selections in dictionary in key-value pairs and then generate a SQL statement accordingly. As I used SQL Server for most part of my career I never had to wrap SQL statement in brackets, however for MySQL I had to so I created a list of assumed SQL statements and depends on the length I alter SQL statements with brackets and union keyword to make sure the result set is correct and represent user's selection.

The mobile app didn't have much work like the pet-shelter, the transformation was standard. The search criteria is much simpler. I changed a lot of logic in the Adapter class to accommodate the new change. Search criteria were as simple as adding a new text input and bind it with the adapter to filter items names according to user's input. The hard part that I am still working on is firebase.

Checkpoint	Software Design and Engineering	Algorithms and Data Structures	Databases
Name of Artifact Used	Artifact name: Company Data Dashboard Origin: CS 340 Client-Server Side Application Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming	Artifact name: Company Data Dashboard Origin: CS 340 Client-Server Side Application Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming	Artifact name: Company Data Dashboard Origin: CS 340 Client-Server Side Application Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming
Status of Initial Enhancement	Enhancements completed	Enhancements completed	Enhancements completed

Submission Status	Submitted waiting on feedback from the instructor	Submitted waiting on feedback from the instructor	Submitted waiting on feedback from the instructor
Status of Final Enhancement	Finished and waiting for feedback from the instructor	Finished and waiting for feedback from the instructor	Finished and waiting for feedback from the instructor
Uploaded to ePortfolio	Uploaded to Github without narrative of Git Pages	Uploaded to Github without narrative of Git Pages	Uploaded to Github without narrative of Git Pages
Status of Finalized ePortfolio	Planned but not yet completed	Planned but not yet completed	Planned but not yet completed

Enhanced Artifacts Git Repo Link:

<https://github.com/mohamedsaleh1984/ePortfolio/tree/main/Milestones>