CS 499 Milestone 2

The artifact that I selected was my inventory app that I created in CS 360 Mobile Architecture and Programing. The app was initially developed to provide a simple inventory management system that allowed users to log in, add items to a database, and view those items in a list. I selected this artifact for my portfolio because it is a great example of my ability to apply multiple software engineering principles. I am able to demonstrate my skills in improving user experience and usability, managing data structures dynamically, and apply secure and maintainable coding techniques.

I made several enhancements to my inventory app in the category of Software Design and Engineering. My improvements included:

* Improving the item inventory
* Edit quantity of items - tapping on a list item, updating the value without creating duplicates.
* Delete individual items – delete button to delete inventory items
* Clear all items – new ActionBar provides clear all items
* Login recovery – prompts user for email address for recovery
* Adjusting UI components to make the screens more professional

My enhancements aligned with several course outcomes. It aligned with course outcome 3: Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices. It aligned with course outcome 4: Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals. It aligned with course outcome 5: Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources. Through my enhancements to the inventory app, I was able to provide a fully functional, user-centered inventory solution that carefully managed data updates and UI behavior. My enhancements improved usability and user account management.

This milestone helped to grow my technical skills in many ways. I worked on small changes in UI XML to dramatically effect user experience. I went through debugging that involved tracing the flow between the database, adapter, and UI to ensure updates happened in place without creating duplicates. I had a challenge in ensuring my ActionBar was properly displaced and that the overflow menu was functional. This milestone was able to build my ability to critically evaluate software design decisions and align them with real-world user needs.

I identified other enhancements that I will add to my Algorithms and Data structures category and my Databases category. For the Algorithms and Data Structures I will also work on an enhancement to add a multi-row input to add multiple inventory items at once, this will align with course outcomes 3 and 4. In my Database category I will improve the account creation and adding users to the database, . This will align with course outcome 4.