**Milestone Four - Enhancement Three: Databases**

1. Briefly describe the artifact. What is it? When was it created?

The third artifact for the Databases section is my InventoryApp, originally developed for CS360: Mobile Architecture & Programming. The app had simple inventory mechanics and utilized SQLite for storing inventory. It had abilities for users to login or create a new user account, manage their inventory by adding, editing or deleting items, and either accept or deny SMS permissions.

1. 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 algorithms and data structure? How was the artifact improved?

I chose to enhance this artifact because I thought the project itself had a lot of room for improvement and could properly showcase my skills in mobile development and database management. The project originally used SQLite for a database and my original plan was to transfer it to using MySQL. After doing some research and a bit of trial and error, I began to realize that due to compatibility issues with Android Studio and security concerns, using MySQL for this project was not the best fit. With this in mind I went forward to transferring the project from SQLite to Firebase, a cloud based database structure. I felt this was a better route to take than MySQL based on the security concerns and compatibility issues I was experiencing. Aside from the SQLite to Firebase database transition and the increased security that Firebase provides, other enhancements included in this artifact include inventory categories and Data Analytics. The categories help section the different items for proper data analytic representation in a pie chart form.

1. Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?

For this enhancement, I chose course outcome requirements #1 and #5. I believe based on my achieved enhancements I met the requirements for both. The cloud-based database structure of Firebase helps for building a collaborative environment with the app where users can access the database on more than one machine. The use of Firebase also helped with keeping security a high priority and helped mitigate any design flaws, vulnerabilities, and ensure that user’s privacy and was a high priority.

1. 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?

In reflection of this artifact’s enhancements, I now feel more comfortable handling databases. Prior to starting the enhancements on this project, I felt that I knew a decent amount about database structures but the transition issues I had with going from SQLite to MySQL forced me to learn a bit more in order to meet the artifact requirements. The issues I had progressed my troubleshooting abilities and helped me get a grasp on a new database structure as well.

**Artifact Images:**

A screenshot of a cell phone

AI-generated content may be incorrect.After Enhancements:

A screenshot of a cell phone

AI-generated content may be incorrect.A screen shot of a phone

AI-generated content may be incorrect.A screen shot of a cell phone

AI-generated content may be incorrect.