Enhancement 3 Narrative

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

The artifact is a mobile inventory application that I created for Mobile Architecture and Design back in the Spring semester.

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 software development? How was the artifact improved?

I felt that the enhancements of this application would help showcase my skills working with databases as well as highlight my ability to translate business needs to ideas and potentially useful, working products. I improved my artifact by adding barcode scanning technology, binary search algorithm, and connecting it to a Azure SQL database. I feel that these three features can improve the efficiency and integrity of this application.

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?

Yes, the enhancements I made to the mobile inventory application allowed me to successfully meet the course outcomes I planned to achieve in Module One. By designing the app to support multiple users through a centralized Azure SQL database, I employed strategies for building collaborative environments that enable diverse audiences to make informed decisions. Additionally, the integration of barcode scanning and the implementation of a binary search algorithm demonstrated my ability to design and evaluate computing solutions using algorithmic principles and best practices. Throughout the development process, I communicated my work clearly and professionally, reflecting on my skills in delivering technically sound and audience-appropriate documentation and code. Connecting the app to cloud-based infrastructure showcased my ability to use innovative tools and techniques that provide real-world value. Although security was not the primary focus in this phase, managing database access permissions helped me develop a security mindset by anticipating potential vulnerabilities in a multi-user environment. Moving forward, I plan to focus more on enhancing the application’s security features, including stronger authentication and encryption, to better protect data and user privacy.

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?

I faced several challenges when trying to connect to my database both through Python and through Android Studio. I needed to add permissions for access to my database as well as make sure that it was accessible if someone else wanted to access it as well, especially since this is an application that is intended for multiple users. I learned a lot about the layout of Azure products, specifically their databases. It has helped that I recently got certified in AWS Cloud, so I am aware of the number of products and layers that a cloud infrastructure would have.