**Enhancement One: Software Design and Engineering**

**To Do List (Mobile App) Zoe Domagalski**

The artifact is an Android to-do list application developed using Java and Android Studio. It includes functionalities such as adding, updating, and removing tasks, as well as displaying all tasks in a list view. The original version of the artifact was created in IT-390 Mobile App Development.

I selected this artifact for inclusion in my ePortfolio because it demonstrates my skills and abilities in software development, particularly in mobile application development working with Java and Android Studio.

**Specific components of the artifact that showcase my abilities include:**

* Implementation of SQLite database for data storage.
* User interface design using XML layouts.
* Utilization of adapters to populate list views.
* Handling user input and interactions through event listeners.

Improvements made to the artifact include enhancing the user interface design, optimizing database operations for efficiency, restructuring the code for better efficiency, and improving security and error handling.

The enhancements made to the artifact align with the course objectives related to software design and engineering from Module One. These objectives include refactoring the code to follow consistent naming conventions and improve code readability, fixing functionality of the app’s buttons, improving security, implementing error handling, and improving skills in software design and development.

The enhancements made to the artifact effectively cover the planned outcomes for Module One. However, during the process and challenges faced while working on this enhancement, I may consider updating my outcome-coverage plans to include additional objectives related to better UI/UX design and error handling.

During the process of enhancing and modifying the artifact, I learned valuable lessons about UI/UX design principles, database optimization techniques, and error handling strategies. I learned the importance of executing database operations asynchronously to enhance the app's responsiveness and prevent UI freezes and to prioritize usability and aesthetics to create a more engaging and intuitive user experience. Implementing error handling mechanisms taught me the importance of managing exceptions and providing meaningful error messages to users. Overall, the enhancement process provided an opportunity for growth and improvement in various aspects of software development.