**Narrative: Software Design & Engineering Enhancement**  
**Name:** Mariana  
**Artifact:** Inventory Management Android Application

**1. Description of the Artifact**  
The artifact is an Android application built with Kotlin and SQLite that functions as a simple inventory management system. It was created as a capstone project for a previous course. Its core functionality includes user authentication (login/registration) and full CRUD (Create, Read, Update, Delete) operations for inventory items. A key feature is a low-stock alert system that can send SMS notifications.

**2. Justification for Inclusion and Showcased Skills**  
I selected this artifact for my ePortfolio because it is a complete, functional application that demonstrates foundational Android development skills. The enhancements I collaborated on specifically showcase advanced software design and engineering principles. The creation of the BaseRepository class demonstrates a crucial skill: the ability to refactor code to adhere to the DRY (Don't Repeat Yourself) principle. By identifying and eliminating duplication in the two repository classes, I've shown I can design for maintainability and reduce the potential for future bugs. Furthermore, extracting the hard-coded "magic number" into a Constants file showcases an understanding of maintainability and professional coding standards. These are not just coding tricks; they are essential practices that I would bring to a professional development team to improve code quality and collaboration.

**3. Meeting Course Outcomes**  
This enhancement directly addresses the course outcome: "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."

The planned outcome was met. We successfully refactored the repositories and implemented constants. This enhancement delivers value by creating a more robust and maintainable codebase, which is an industry-specific goal of any software engineering team. My plan for outcome coverage remains unchanged, as this work has provided a strong foundation for the next enhancements in Algorithms and Databases.

**4. Reflection on the Process**  
The process of enhancing this artifact was a practical lesson in the real-world software development lifecycle. I learned that even a well-structured project can benefit from iterative improvement and that code review is an invaluable tool for identifying these opportunities. The main challenge was understanding the existing codebase well enough to make changes without breaking functionality. This required careful analysis and testing. Collaborating with the original developer was key; it taught me how to communicate technical ideas effectively, ask clarifying questions, and ensure that our changes were logically sound. This experience reinforced that software engineering is as much about communication and careful design as it is about writing code.