The artifact I chose for Enhancement Two is an inventory management app I first created in CS-360 while learning Android Studio. It was my first experience developing a real-world application beyond class work, and I selected it for my ePortfolio because it demonstrates both practical use and the most time and effort I’ve invested into a single project. The app highlights my ability to use algorithms and data structures, particularly through SQLite for structured data storage, dynamic lists for managing inventory, and efficient retrieval methods that support scalability.

For this enhancement, I improved the artifact by adding a settings menu, a more polished interface, a SessionManager class to track users, and a custom app icon created in Blender 3D. I also included a log-out function, dynamic column control for the item display, lightweight encryption for user data, and better session handling so users remain logged in until they explicitly log out. These updates allowed me to meet my planned course outcomes, such as designing secure, scalable software solutions and effectively applying data structures for real-world functionality.

The process taught me the importance of writing clean, scalable code. A challenge I had was balancing multiple new features while keeping the project organized, especially around user sessions as most of the enhancement relied on it. I also found that unclear naming conventions quickly led to confusion, so maintaining consistent, descriptive names became essential. Overall, this project shows my growth in applying data structures, improving usability, and strengthening code quality in a meaningful, real-world application.