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StockSense Artifact Narrative

The StockSense application was originally developed as part of CS360: Mobile Architecture and Programming. It was designed as a simple inventory management system, allowing users to track stock levels locally on their mobile devices. The initial implementation used SQLite for data storage, functioning as a single-user application without real-time data synchronization or multi-user access. While it demonstrated core mobile development concepts, its scalability and usability were limited in a production environment.

From its inception, StockSense had several areas for potential improvement to make it a more versatile and scalable tool. One of the most significant limitations was its local-only storage, which restricted accessibility and made collaborative inventory tracking impossible. Additionally, it lacked user authentication, meaning data was not protected from unauthorized access. Without a structured multi-user environment, the application could not support shared inventory management, making it impractical for real-world business use.

To address these shortcomings, StockSense underwent enhancements to evolve into a more robust, production-level system. The original local database implementation was transitioned to a cloud-based solution, enabling multiple users to access and manage inventory remotely. Secure authentication mechanisms were integrated to ensure data integrity and prevent unauthorized access. The application’s search functionality was optimized to improve efficiency and responsiveness when handling larger datasets. Additionally, scalability improvements were

made to support a broader range of user needs, making the system more adaptable for real-world use.

This artifact was selected for my ePortfolio because it demonstrates my ability to design and develop a scalable, secure, and user-friendly mobile application. By taking a foundational project and evolving it into a more sophisticated system, I aimed to replicate a real-world development environment, ensuring the application could be used beyond an academic setting. The enhancements reflect key software engineering principles, including system architecture, database management, security considerations, and performance optimization—all crucial skills for professional software development.

StockSense's evolution highlights the journey from an initial concept to a production-oriented solution, reinforcing my ability to analyze, improve, and refine software to meet real-world needs. This project not only showcases my technical expertise but also my strategic approach to designing scalable and secure applications that provide tangible value to users.