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01/24/2025

CS499

Enhancement One Narrative

Enhancement One Narrative – StockSense

Overview
Enhancement One for the StockSense application focused on implementing modular and focused
views, specifically the `DbSelectionView` and `SearchViewActivity`. The `DbSelectionView`
allows users to select the database they want to interact with, while the `SearchViewActivity`
provides an interface for viewing and searching items in the selected database. This modular
approach adheres to the principle of separation of concerns, making the application more
maintainable and scalable.

The inclusion of CSV import/export functionality significantly enhances the application's
usability. Using the OpenCSV library, I implemented efficient data parsing and exporting,
enabling seamless data transfer between StockSense and external tools like Excel. Additionally,
integrating `RecyclerView` ensures a dynamic, user-friendly interface that scales efficiently.

Technical Skills Demonstrated

- Android UI Design: Implemented RecyclerView for a dynamic, scalable user interface.
- Data Handling: Integrated CSV import/export to facilitate data transfer between
  StockSense and external tools like Excel.
- Error Handling & Security: Improved error management in database interactions and
  removed insecure credential storage, planning for a more secure authentication system.
- Version Control: Managed the enhancement via Git branches, reinforcing structured
  workflows.

Challenges & Learning
While implementing these enhancements, one major challenge was debugging Supabase API
interactions via Retrofit. Using Postman allowed me to validate API calls efficiently.
Additionally, modularizing views and cleaning up legacy code posed complexities, but breaking
the problem into smaller tasks improved workflow.

Course Outcomes Addressed

- Designing computing solutions: Developed a structured UI with modular components.
- Applying software engineering principles: Followed best practices in UI design and
  structured data management.

- Professional communication: Used clear documentation and structured workflow diagrams.