

3-2 Milestone Two: Enhancement One: Software Design and Engineering

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CS 499: Computer Science Capstone

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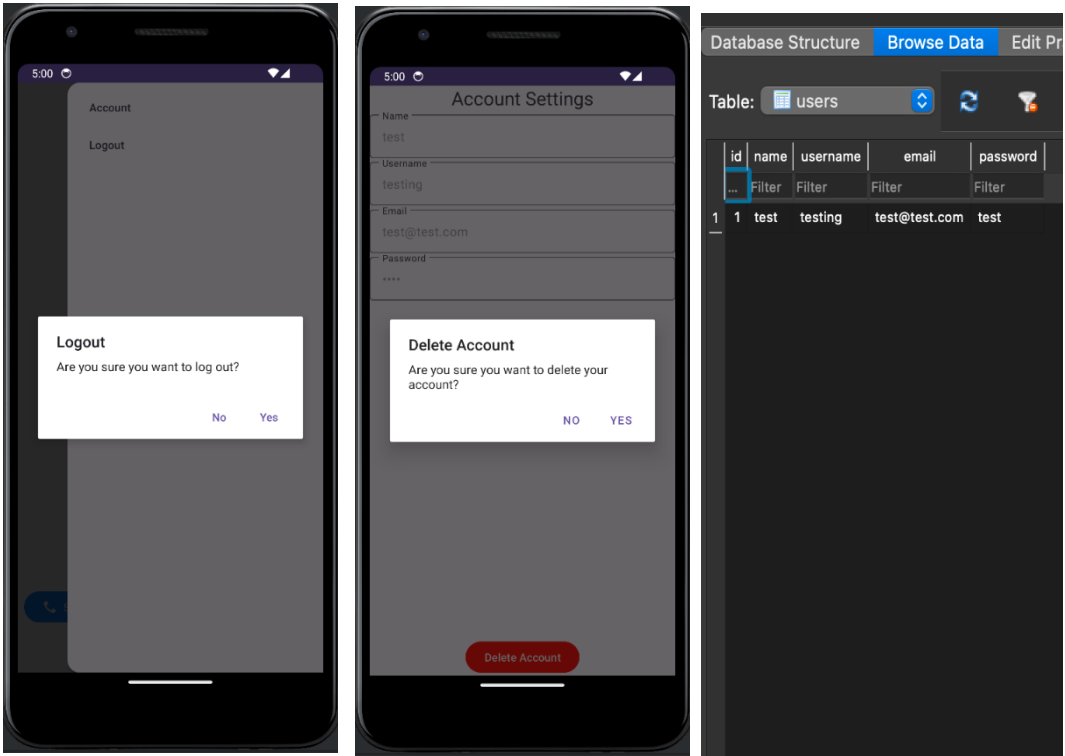
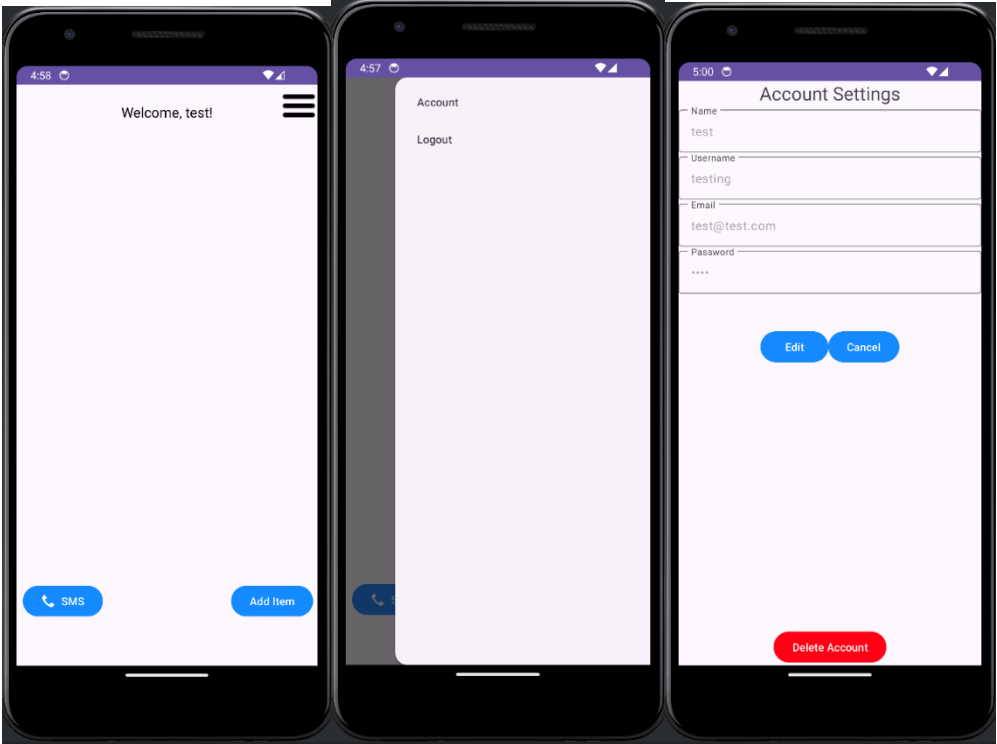
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1. Briefly describe the artifact. What is it? When was it created?

The Artifact I'm going to look at is my inventory application. The goal of this application is to track inventory items. This application was developed within android studio using java featuring an SQLite database. This application was from my CS 360 Mobile Architecture and Programming course and was created last term.

2. Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?

The artifact I selected for the software design and engineering category justifies the inclusion for my ePortfolio. This application demonstrates my skills in software development. With the implementation of the side menu with log out functionality, account settings to allow the user to change their account details and allow the user to delete their account, as well as ensuring users register with their email. I was able to demonstrate my ability to design user-friendly interfaces, implement CRUD (Create, Read, Update, Delete) functionality, and integrate backend databases into mobile applications. Below are some screenshots to give a visual of my enhancement.



3. Did you meet the course objectives you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?

With this enhancement, I met the course objectives planned in module one. Implementing a side menu with editing and deleting user accounts functionality aligns with Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices. Next, I was able to use well-founded and innovative techniques, skills, and tools in computing practices to implement computer solutions that deliver value and accomplish industry-specific goals. I was able to achieve this by integrating email verification for user registration, and the sidebar menu demonstrates an innovative approach in software development. Lastly, throughout this enhancement I demonstrated a security mindset by anticipating potential vulnerabilities and designing solutions to mitigate risks. Implementing user authentication and authorization will ensure the privacy and security of user data. Additionally, I followed best practices by including confirmation messages for important user actions. For example, when a user would like to delete their account, they have been prompted and must confirm the change.

4. Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?

Reflecting on the process of enhancing and modifying the artifact, I have learned new things as well faced challenges. This enhancement specifically gave me insight into understanding the importance of the user. Keeping the user in mind allowed me to focus on improving the user interface (UI) and the user experience (UX) in the design of the enhancement.

The major challenge I faced throughout improvement was getting the user account settings to populate. More specifically, the users name, username, email, and password. I was struggling to retrieve data from the database and update the UI elements accordingly.