

Enhancement one: Software Design/Engineering

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Artifact Description

For my enhancement project, I selected **Stock't**, an application developed in CS 360: Mobile Architecture and Programming, aimed at streamlining inventory management for flower shops. This app addresses critical user needs, including low stock alerts, easy inventory tracking, and efficient communication of inventory levels through SMS notifications. Users can enter and modify inventory information directly on their phones, adjusting counts as products are sold or lost. Additionally, the app notifies users when any product falls below a stock threshold of 50 units, ensuring they remain informed about inventory status. This project not only highlights my technical skills but also reflects my commitment to creating user-centric solutions that enhance operational efficiency.

Justification for Inclusion

I included **Stock't** in my ePortfolio because it effectively showcases my skills and abilities in software development. Specific components of the artifact, such as the implementation of a graph that displays both category and individual item totals, provide valuable insights into inventory status, enhancing the overall user experience. Furthermore, I developed a settings page that allows users to reset their inventory effortlessly.

Throughout the project, I focused on iterative improvements based on user feedback, which is a cornerstone of effective software design. By incorporating these new features, I

significantly enhanced the app's usability and overall value, demonstrating my commitment to continuous improvement and user-centered design principles. In summary, **Stock't** not only reflects my technical abilities in coding and design but also illustrates my understanding of the software development lifecycle, making it a valuable addition to my ePortfolio.

Course Outcomes and Updates

I successfully met the course outcomes I planned to address with the enhancements made to **Stock't**. The project effectively demonstrates my understanding of software engineering principles, particularly in creating a user-centered application for inventory management. Initially, my enhancement plan included developing an analytics dashboard to provide data-driven insights into inventory trends. This goal has been achieved through the addition of a graph displaying both category and individual item totals. Moving forward, I plan to refine this dashboard further by adding comprehensive metrics and visualizations, such as trends over time and comparisons between categories. These enhancements will increase the complexity of the application and further demonstrate my skills in software development.

Reflection on the Enhancement Process

The process of enhancing and modifying **Stock't** was both enlightening and challenging. As I added new features, I gained valuable insights into the intricacies of user interface design and data management, particularly within the context of mobile app development.

One significant challenge I encountered was synchronizing colors in the graph. Initially, the colors did not display correctly, prompting me to explore the underlying mechanics of the graphing tool. By setting the colors before adding them, I discovered that the graph starts with a default color, which highlighted the importance of understanding the tools I was using.

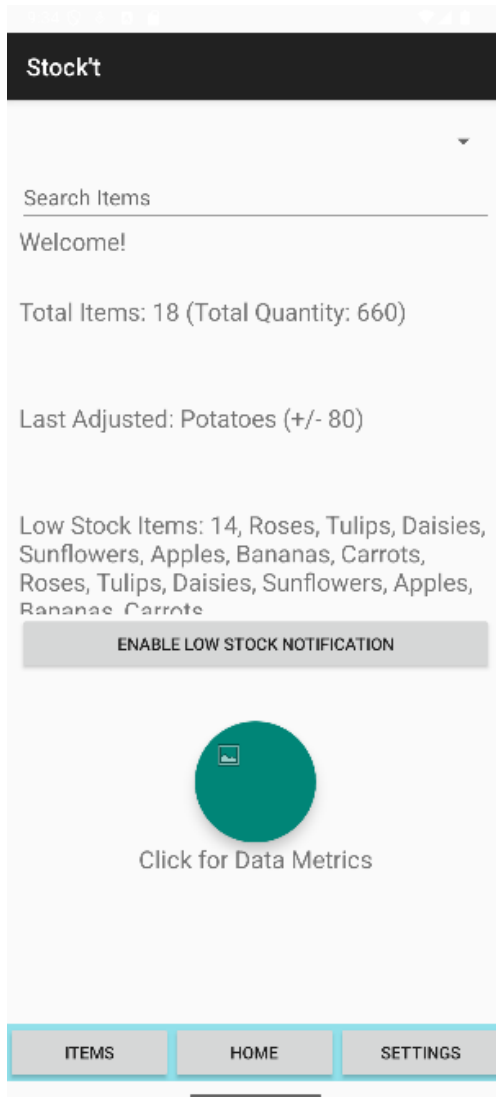
Additionally, switching between the four configurations—Items & Count, Items & Value, Categories & Count, and Categories & Value—proved complex. Extensive work was required to ensure that users could navigate these options seamlessly, but the end result significantly improved the app's usability.

Another hurdle involved implementing the **MyValueFormatter**, essential for accurately labeling the graph. This challenging aspect ultimately enhanced my ability to manage data visualization effectively. I also faced issues with the database, particularly concerning categories not being saved correctly. Identifying and fixing this bug was crucial, as it directly affected the app's functionality. This experience reinforced the importance of thorough testing and debugging in software development.

In conclusion, the enhancement process for **Stock't** not only improved the app itself but also deepened my understanding of software design and engineering principles, preparing me for future challenges in the field.

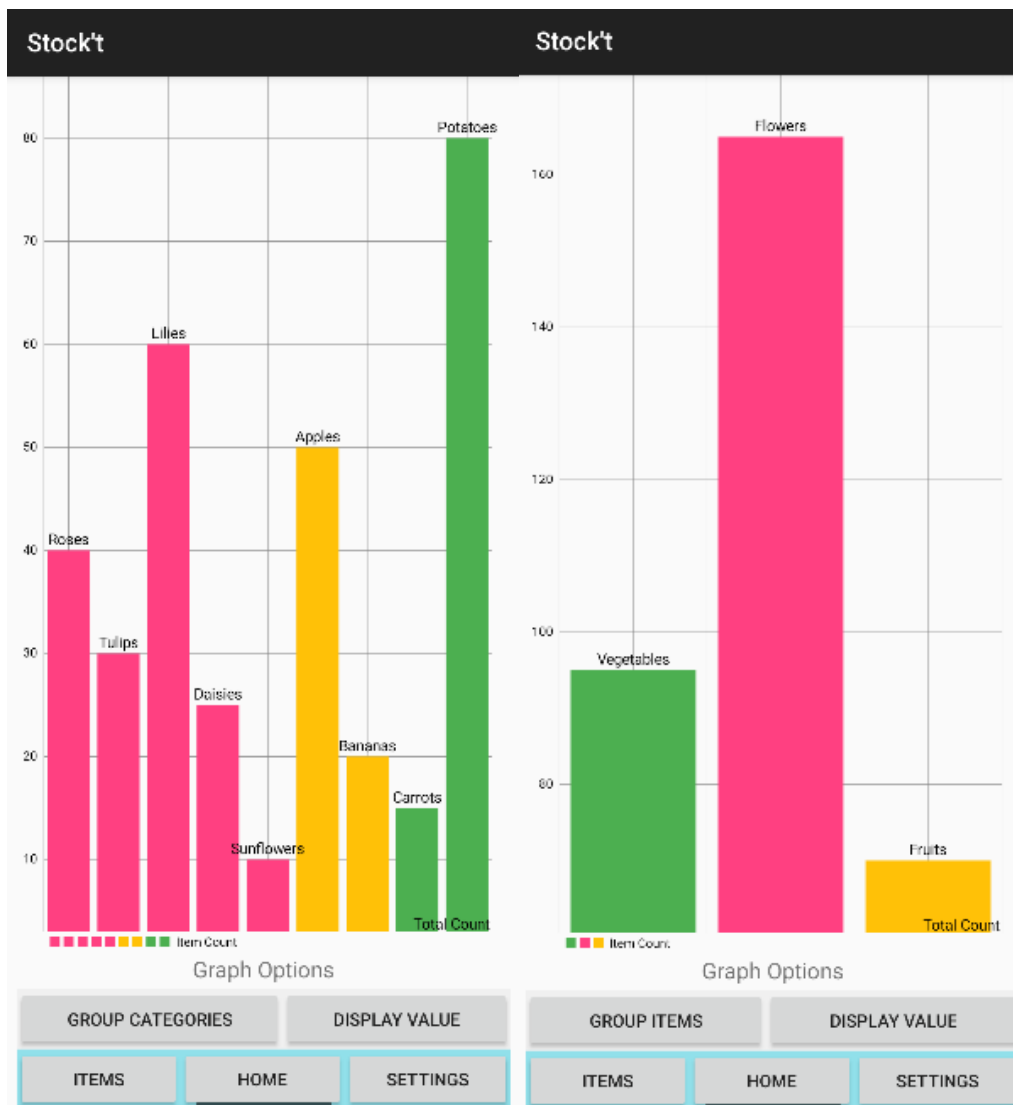
Here are the screens in question;

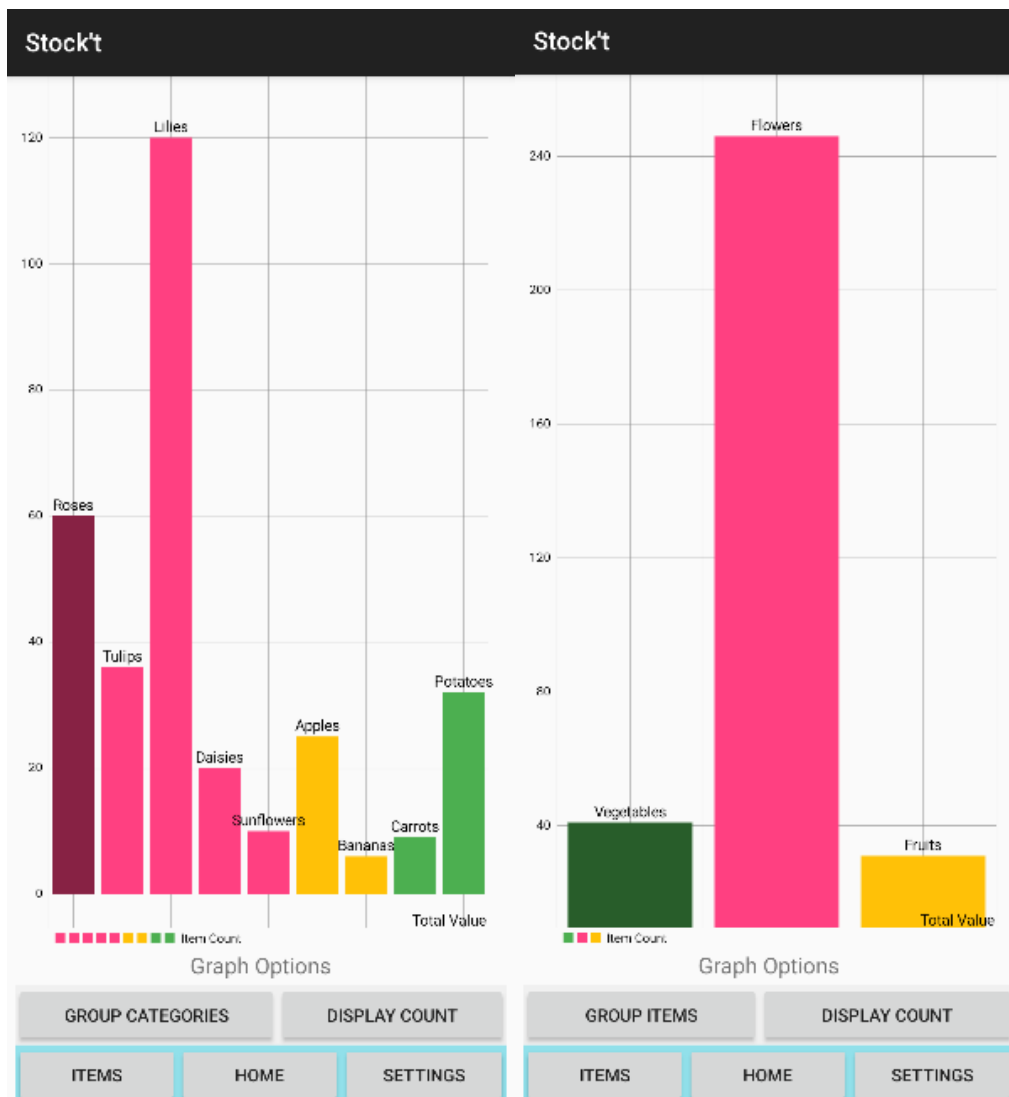
- Home Screen
 - Added functionality
 - For Total Item Count and Total Inventory Count
 - For Stock Flow summary to display the most recent inventory changes
 - For Low Stock Items displayed as a list



- Item Graph Screen (4)
 - Added
 - Bar chart for displaying item counts of all items
 - labels to the bar charts to identify items
 - colors to the bars to better distinguish them based on the category of the item

- functionality for swapping bar chart from displaying items to displaying category counts
- the ability to swap between seeing total item count and total item value
- Made the Y axis label change from Total Count to Total Value when swapping between the two settings





- Settings Screen
 - Added functionality for resetting the database

Stock't

Settings

RESET DATABASE

ITEMS

HOME

SETTINGS