

Milestone Two: Software Design/Engineering

David Garcia

CS 499 Capstone

Prof Brooke

September 17, 2023

Software Design and Engineering Narrative

Artifact

This artifact was created during my CS 360 course which involved learning about mobile application architecture and using android studio IDE to fulfill this requirement. The artifact itself is one of the three options during the course to focus on. These included an inventory keeping app, weight tracker app, and event tracker. I chose the inventory keeping application because it seemed more interesting than the others. The main components include the login screen and inventory grid.

Why I Chose This Artifact

I chose this artifact to showcase the software design and engineering aspect of this CS program because I wanted to show how I could design and implement a simple interface from its original state. When I began, the screen I had created within the app were bare bones, white background, and default purple buttons. After researching more about UI/UX design and color theory, I employed complementary colors to the UI. This makes it more appealing to look at as opposed to what it was before. When it was time to implement the UI design, I tweaked the xml files as well as creating object-oriented code so that these aspects could be portable. For example, the xml files “colors” and “shape_round” are object-oriented. The artifact was improved in its look and some of its functionality. The login/sign up was not functioning at all and now it is fully functioning. The original UI is shown below.

Login







Username

Password

LOGIN

SIGN UP

Inventory

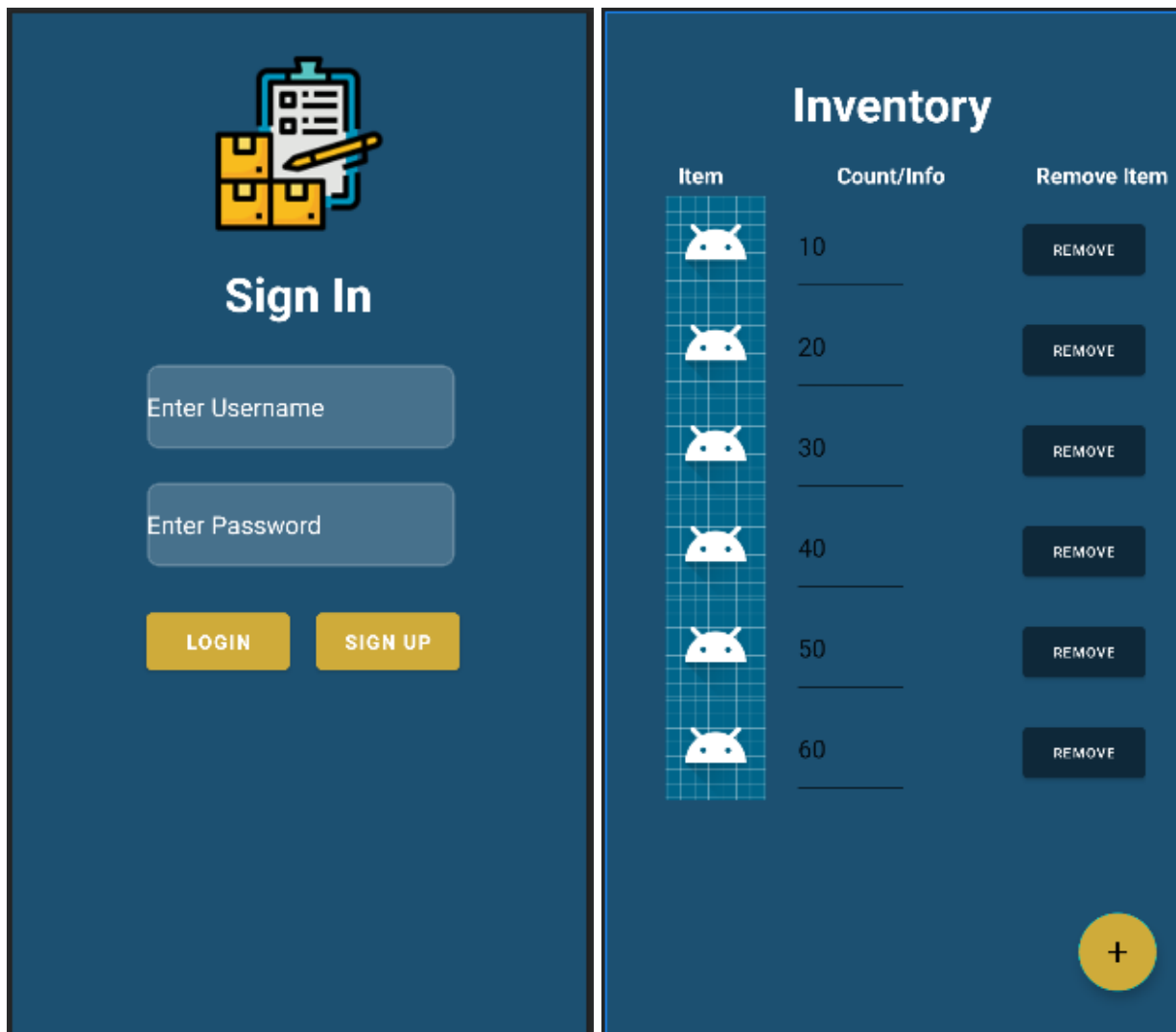
Item	Count/Info	Remove Item
	10	<div>REMOVE</div>
	20	<div>REMOVE</div>
	30	<div>REMOVE</div>
	40	<div>REMOVE</div>
	50	<div>REMOVE</div>
	60	<div>REMOVE</div>

+

Course Objectives

I met the course objective of using techniques, skills, and tools for implementing a computer solution regarding software design. I redesigned the app UI from scratch as well as implementing a functioning log in system for app security. I was able to implement the login system correctly by solving some computation problems within the code. I have fixed the login/sign up activities which were not functioning at the beginning of this course. A lot of testing was done to ensure that the login was functional. Before the enhancements, the login function would not login the user but when a user would register for the first time it would allow

the user into the app. I gave the application a complimentary color palette that is easy to look at and differentiate the buttons and other aspects of it. I utilized a noncopyrighted image to act as an application icon within the log in screen. Though this is my first time truly designing, I am happy that it is simple yet cohesive.



Reflect

The process of improving this application opened my eyes to the possibility of me creating something of value in the future. I did not think I would ever be capable of designing

something or programming something, but now I have. I have come further than I could have imagined. The biggest challenge that I encountered during this enhancement was first figuring out a design for this app and correcting the broken login/signup functionality. I was able to overcome this by testing, researching, and critical thinking. Researching concepts that I was not familiar with or rusty on, such as UI/UX design and color theories in relation to human emotion, helped me because I was able to learn something new or just refresh my brain and implement what I have just discovered. I learned a lot about just trying out new things as well. Testing if something works or not within the project. Trial and error were my friends with this project.