CS-499

Professor Ogoh

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Milestone Two Narrative

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

The artifact I chose was my full-stack mobile application from CS-360 Mobile Architecture and Programming. I called the app “Track My Weight”, and it is a weight tracker app that lets the user create an account and login, add new weight values, and check their weight history. I created this app back in February of this year, so just around 9 or 10 months ago. The current artifact can be found here, but you can check the commit history to go back to the original: [https://github.com/michaelTurco/CS-360-Mobile-Architecture-And-Programming]

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?

I picked this artifact to include in my portfolio, since it is a full-stack application, and had a lot of room for improvement. Through my learning at SNHU and personal projects, I’ve learned a lot about both front-end design for UI and user experience, as well as back-end database management and coding standard best practices, and this artifact will be a good example of how I’ve grown over the years. So far, I’ve worked on completing the first milestone in my artifact enhancement plan, which was in software engineering and design. I’ve improved the design and user experience in the app, and did some major refactoring and code cleanup. In the login screen,

I've added a 'remember me' toggle button, so the user can auto login when opening the app, as well as added a descriptive title with an app icon on the top of the login so you can tell what you are logging into. In the settings page, I added a custom measurement unit selector, so the user can select kilograms instead of pounds if they so please. This changes many texts across the app, and changes how the user input is interpreted as before stored. Lastly, I added the start of the graph page, where the user can see their weight inputs plotted on a graph over time, and see their goal weight as a dotted line. The graph is interactive and can be pinched and dragged around, but as of right now only the UI is done, and it has placeholder data until I get to the next milestone.

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

Yes, I did! I planned to meet course outcome #1, #2, and #4, and I believe I did through my enhancements so far. I do not have any updates to my outcome-coverage plans.

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?

While enhancing and modifying the artifact, it was a little slow at first, when just getting into the project and remembering how it was all organized. Once I made the first few small changes, I started picking up speed and I got into a good rhythm. I started off by mainly doing some bulk code cleanup and refactoring, like optimizing imports, re-organizing classes, renaming variables, and making subfunctions, which all helped out a ton with making the code more readable and maintainable. I learned a lot in doing this, such as how to easily access UI elements through the 'binding' variable, and how to cleanly set up the button and textbox event listeners without it being a big mess of code. I ended up making some utility classes, like 'UnitConverter' and 'NavigationUtils' to clean up the code even further, and I learned a lot about how the 'fragment',

‘activity’, and ‘context’ classes are all related, which made it a lot easier to understand. When working on the graph page, I faced some challenges in figuring out how I would make such a feature packed graph with zoom and tap gestures all built in, let alone rendering points and the grid lines properly with any scale. I found a standard and professionally used library for an android graph widget, and it ended up having all the features I needed, and I credited a good tutorial I found to get the basic implementation down. There were several times in this enhancement where I got fairly stuck and referenced an external help link, and each time I would add a reference in the code to where I got help from. There wasn’t too much that got in my way, but one last challenge I remember was dealing with submenus in my app, since every menu I had dealt with before was one on the main navigation bar. I ran into all sorts of issues with the submenu refusing to close when switching to another menu, the menu transitions refusing to fade properly, and not being able to open the original menu after opening a submenu. It was quite a headache but after reviewing the android navigation documentation a few times and using a helper class, I was able to get it to work properly as I wanted it.

I’ve attached an image below of my updated LucidSpark diagram showing my actual implementation in Android Studio

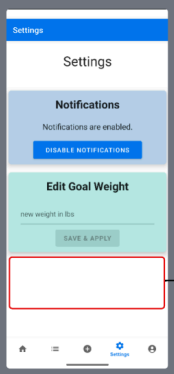
Software Engineering and Design

Original Implementation

add an app name, maybe even an icon to a title bar

Looks a little empty, doesn't have the app name anywhere, or what you are logging into

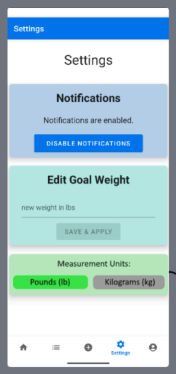
add a 'Remember Me' option so that users don't have to sign in every time



Add a section where the user can switch between 'lb' and 'kg' for a measurement unit

Rough example after enhancement (made using photo editor)

The app will be called 'Track My Weight', and has this a logo of a dumbbell

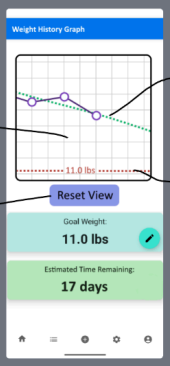


This will also need to change the user input when set to kilograms, and the data display elements!

Toggle button, switch between 'lb' and 'kgs'. Store this preference to local storage

user can drag around and view their weight values as points on the graph

reset view button, which re aligns the graph to the center



show the estimation / trend line with a green dotted line

show the goal weight with a dotted line

Actual Implementation after Milestone Two