

CS-360 3-3 Submit Project One

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I've chosen to work on the Weight-Tracking application. In this project submission I'll build a comprehensive application development proposal. Starting with the application's major components I will need to begin with a database. This database ideally should be hosted for users' applications to authenticate against, query for previous weight results, setting a goal weight, and push updating weights too. Secondly, the application will require a modern user interface which can be achieved by one of the recommended android UI design samples. I've chosen to work with the Material Design 3 user interface (Android, n.d.). Finally, the application will require an ability to display data in a format that is visual in nature such as a plot graph.

There are three identified user groups that this application is likely to attract. The first is a user looking to lose weight. This means that application wording and the milestone system for any achievements should be prepared in such a way that the weight is being decremented. Secondly, another user identified to use this application are users looking to maintain their weight. Users that are looking to maintain their weight will want to be congratulated on keeping the weight stable. Finally, the last user identified is those looking to gain weight as their target. Imagine your goal is to gain weight but the application design is providing you with negative user interface and designs as your weight increments. For this reason, the design will need to account for their specific goal. With all these goals in mind we should collect the user's goal at signup and include it to be editable in the user settings.

The first screen that a user would face is the login and sign-up page. This page should consist of two buttons that lead to their own respective layouts. The first is the login button leading to two editable text fields for an email and password. Below these fields should be two buttons, login and forgot password. Returning to the first screen with the login and sign-up page we can explore the sign-up layout. This layout should include an email, password, re-typed

password, and a confirm button. This page may have alternative sign in options such as signing in or up with your google account using the Credential Manager API (User authentication with passkeys, n.d.).

The second screen a user could expect after signing up is the goals layout. This layout would include a radio field asking what type of user they are such as their goal of increasing, maintaining, or losing weight. This will affect the design of the application later. This area will also have a goal weight editable field. Finally, this layout will contain a button to confirm the field's input. If the user has already signed up and they will be taken to the third screen which is the primary landing screen. This page will consist of three aspects. The top half of the screen will be a visual representation of their goals such as a line graph of their weights. The bottom half of the screen would be a grid-like table with two columns. The first column being the date of the weight logged and the second a value for the weight itself. The third element on this page would be a floating button on the right side of the screen that would contain a plus symbol. This button allows the user to navigate to the fourth screen.

The fourth screen is a new weight entry including three elements. The first element would be on the top half of the screen to capture the date and time of the logged weight as found in the material 3 selection components (Selection Components, n.d.). The second element is to allow the user to enter a numerical input for their weight to the nearest tenth of a pound. Finally, the last element is a button to confirm their entry. The fifth and last screen the user would interact with is the user settings page accessed from the third screen. This layout would include radio buttons to toggle between pounds and kilograms for the displayed weight. In addition, the layout would include goal management systems such as those found on the signup page. Finally, a confirmation button for the settings and a deletion button to remove their data and account

from the system. The only data the user will need to bring to the application to be successful is the date, time, and weight data.

The functionality of the application in terms of code design and connected user interface starts with the main activity. This activity is normally your landing page when the application is opened and authenticated. On this main landing page, we won't be collecting any data but displaying it through various means as defined above. The Settings icon and the new weight entry buttons will both link to other layouts. These layouts will provide data when they're finished or potentially backed out by the user. These layouts are activated when the corresponding UI buttons are clicked from the landing page which links to the one click listener. This listener associates to class and layout file containing the logic and user interface needed to accomplish the application goals. When the user provided data is captured on these pages they will push to the database before calling the finished state and returning to the landing page. Editable fields in this application will primarily be numerical for capturing the weights provided but upon signing up the user may be faced with a plain text editable field. Other data fields include the date and time selection tools which enable fast and user-friendly selection through a graphical interface for the user.

References

Andriod. (n.d.). *Design for mobile*. Retrieved from Andriod Developers:

<https://developer.android.com/design/ui/mobile>

Android. (n.d.). *User authentication with passkeys*. Retrieved from Android Developer:

<https://developer.android.com/design/ui/mobile/guides/patterns/passkeys>

Android. (n.d.). *Selection Components*. Retrieved from Android Developer:

<https://developer.android.com/design/ui/mobile/guides/components/material-overview#selection>