Project One

This project looks to create an application that addresses the problem statement “as a grower, I want to view a dashboard that informs me of the moisture content and nitrogen levels in the soil at each of my trees so that I can easily target water use and track nitrogen levels.” After interviewing potential users of the application, it was decided to split the application into three main parts. The dashboard is the first screen that loads when the application is opened. The other screens consist of a tree details screen, moisture level details screen, and nitrogen level details screen.

On the dashboard screen, in the top section there are two icons the user can swipe between. The first one icon is for looking at the soil moisture level details screen. The other icon is for looking at the soil nitrogen level details screen. Both of them are clickable and clicking on either of them will take the user to the corresponding details screen. The section below the icons consists of a list of the individual trees that the user has. Each entry in the list has an image of the tree along with a name for that tree. The user can click on any one of the tree listings. That will take the user to the details screen for that tree.

The tree details screen consists of three sections. The top section of the screen shows an image of the tree along with the tree name. Below that are two line graphs; one for moisture levels and another for nitrogen levels. Above and to the right of the graphs there is a selector where the user can choose the timespan over which to view both the moisture level and nitrogen level graphs. The last section, under the graphs, contains a scrollable list of articles and videos with helpful tips and facts about caring for that type of tree.

The final two screens, the moisture level details screen, and the nitrogen level details screen, are identical in design. The only different between them is the data they display, the moisture level data or nitrogen level data. The top section of the screen contains a line graph showing the levels of all the users' trees over the selected timespan. There is a selector above the graph where the user can choose the timespan over which to view the data. The bottom section consists of a list of the individual trees that the user has. Above the list is a selector to filter the list to show only certain trees. Each entry in the list has an image of the tree along with a name for that tree and the current moisture level and nitrogen level for that tree. The user can click on any one of the tree listings. That will take the user to the details screen for that tree.

The design benefits the user by displaying the information they want to see clean and simple visual elements. Through the use of responsive design, the challenge of fitting on a wide range of screen sizes can easily be addressed by adjusted the size of each element. Additionally, using this app with paired sensors at each tree allows the soil data for moisture and nitrogen levels to be updated continuously. Previous research and along with the follow up user interviews helped to guide and confirm my decisions regarding the design of this application. Researching the Apple and Android design guidelines confirmed that my decisions regarding the simple style, with the spaced-out content, and the large clickable elements that I created was the correct approach.

On a smart watch display the changes to the app screens would be minimal. Since the elements on each screen were designed which scalability in mind, the only elements that would need to change are the graphs and each entry in the tree list. They could be shrunk to fit on the smaller screen. On a watch screen the application could be reduced to three screens that the user can swipe between to access. The first one shows the graph from the moisture levels details screen.

The second one would show the graph from the nitrogen levels details screen. The third screen would show the list of trees, with each one showing the trees current moisture level and nitrogen level. Any tree on the list can be clicked to display the tree details screen for that tree. That screen would just be a scaled down version of the normal tree details screen. By making these changes the app would be usable on the small screen of a watch while not reducing the functionality of the app.

Again, by keeping the design simple with spaced out with large touch elements, the different application screens can be scaled up to fit on the larger display of a touch-based kiosk. The rotated display would allow for much larger graphs to be displayed when looking at either the moistures levels graph or nitrogen levels graph. This would be an added benefit of using the larger display in a different orientation. None of the other elements of the screens would need to be changed other than scaling them up appropriately.