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Module 1 Milestone

Prompt: As a grower, I want to view a dashboard that informs me of the moisture content and nitrogen level in the soil at each of my trees so that I can easily target water use and track nitrogen levels.

The grower app monitors, tracks, and analyzes soil moisture and nitrogen levels so that growers have real-time data for each tree. This will allow the grower to optimize water and fertilizer usage by ensuring each tree receives the optimal amount of water and nitrogen it needs. The user interface will be clean and uncluttered to ensure it is easy to navigate. One way I will do this is by using a dropdown menu that includes types of trees that the grower can select. This will automatically set a standard moisture and nitrogen level for the particular tree, although if the grower wants to set a customizable amount, they will be able to input that as well. Once the sensor detects nitrogen levels below the desired level, it will send an alert to the grower, and when the sensor detects moisture levels below the desired level, the grower can choose to either receive an alert, or to automatically turn on the watering system if it is automated.

The customer base on this system can be greatly increased by not only marketing it to professional growers, but to homeowners or anyone with houseplants. Amateurs would benefit as much if not more from this system, since they are likely not as in tune with nitrogen and moisture levels as a grower. The only real difference in the interface would be to add different grasses, shrubs, and bushes to the dropdown menu. They can still get alerts for nitrogen levels, and moisture, and can even have it connected to their sprinkler system if compatible.

The intent and priorities of the application will remain the same no matter who is using it. It is meant to promote precision agriculture and lawn maintenance, reduce resource consumption by targeting only the trees, plants, or areas that need water and fertilizer, provide the user with information to make good decisions, and be easy to use even for non-technical users.

I did research on trying to find another application that had a main focus on tracking moisture and nitrogen levels actively and communicating that so the user can focus on precision agriculture, but there was very little that I found. For the most part the app was part of a super expensive sensor package, so I didn’t have access to it, or if it was in some of the top rated apps in the Google play store, it was buried in a ton of menus so I never found it. Generally though, agricultural apps were geared towards adults, specifically farmers, agricultural professionals, and growers. They also seemed to have a global audience, as there were generally features that could be customized for different regions. One app that I looked at was fieldmargin: manage your farm. It had fairly good reviews and targets a similar audience. It is essentially an app for managing your farm, incorporated google maps to show a satellite view of your farm, has messaging to your workers, to-do lists, ability to divide your farm into different fields from the maps and a bunch of other features, and at first glance is clean looking, uncluttered, and easy to follow. From the reviews, it would seem it is effective and efficient to use, since for the most part the only negative comments have to do with pricing. The data is encrypted in transit so it should be safe to use. It is useful for day-to-day operations on a farm, specifically in time management and communication with other workers. Through the reviews it seems like no one was complaining about not being able to figure it out, and there were a few reviews that even mentioned it was easy to learn and intuitive to use. There is a chat through the app to keep you connected to other workers in your farm, but I am unclear if there is a more global aspect to the application for communication. I would have to say the app is focused on functionality more than being emotionally engaging.

By learning from what this app has done and the positive response from their users, which I think are most likely the people that would be users of our app, we can design an intuitive and user-centric experience that seamlessly integrates real-time monitoring of soil conditions, personalized recommendations, and a visually engaging interface. Our goal is to not only meet but exceed user expectations, providing growers with a powerful tool that enhances their decision-making, fosters sustainable practices, and ultimately contributes to the success and health of their crops.