1.1: Problem Statement

Plants are a part of the daily lives of many people, from large-scale farmers to hobbyist gardeners. However, all these people encounter the problems and difficulties associated with growing plants: taking time to apply water and fertilizer, confusion about when to apply either and in what quantity, etc. Additionally, those who have more knowledge and experience with plant care still have to spend their time collecting data and monitoring the plants manually. Our device, “Nurture,” exists to alleviate these issues. “Nurture” is a device that, when planted in the soil, will automatically take nutrient and moisture readings, which will then be tracked on a mobile app. Through the use of advanced algorithms, “Nurture” will know when to water and fertilize the plant without any human input. Ultimately, the device exists to help streamline the plant growing process by removing the time-consuming aspects of plant growing and preventing any health issues the plant may experience.

1.2: Intended Users

This product will be useful to anyone who wishes to grow plants. However, “Nurture” is designed with three specific groups in mind:

1. Farmers: A farmer is going to want to know how their crops and soil are doing at all times. Manually taking measurements of these things is sure to be a time-consuming process. By using our app to read soil quality data automatically, we can provide these professionals peace of mind and a lot of saved time.
2. Hobbyist gardeners: A hobbyist, unlike a farmer, won’t have comprehensive knowledge of the plants they are growing. For many, there will be some confusion surrounding when to water, when to fertilize, and how much of each to apply. Having our app decide these aspects for them will let them experience the joys of gardening without all the tough research. Hobbyists are likely to have additional priorities on top of gardening. With our device's ability to automatically dispense water and fertilizer, the hobbyist will be freed of the responsibility to do these actions, allowing them to focus on their other concerns.
3. Researcher: A researcher will have tough deadlines to meet. The process of collecting soil data will slow down their process towards meeting this goal. By automating this process and presenting data in a straightforward, preformatted way, the researcher will be able to save time on data collection and improve their overall research productivity.

Appendix: Empathy maps

https://www.figma.com/file/W1V47EijGF067I6gA1R0Tp/Empathy%2C-Personas%2C-Journey-Maps-16?type=whiteboard&node-id=0-1&t=CI5oMGZ7ltaNdWXC-0