**Project Name: “I Am Having Trouble With My Basil”**

**Plant Monitoring System**

Dimitrios Tsitsirigkos

Jesse Belanger

Our project is intended to monitor the soil moisture and light exposure levels of a plant. If the moisture level is too low, it notifies the user (through an alarm, LED warning light, and an email), and it automatically waters the plant. If the light exposure is too low, or the moisture level is too high, then it again notifies the user via all three channels (sound, led, email).

We have two main modes on our implementation: day and night mode (green and red LED respectively). Everything mentioned above applies in day mode. However, in night mode, we turn off all the LEDs, we stop sensing and the plant goes to 'sleep'. The night mode can be entered by just pressing a button on the board. Night mode is for when there is no more light, and it is too late for the plant to be watered. Health monitoring can then be started again the next day.

In our demo, we will demonstrate all the possible states that our plant can be in. We will start with a dry state. That means that our plant's soil will be dry and that it should be watered. When the plant needs water a motor will rotate a cup, which will pour some water. The speaker will go on and will notify us that there is something wrong going on with our plant. In addition, the red off-board LED will turn on.

After, we will try to cover the light sensor with something so that our device thinks that it is too dark. This will again make a sound through the speaker to let us know that something is again going wrong. The orange led will turn on. We will then uncover the sensor to make our plant enter again its healthy state.

Finally, we will try to overwater our plant by adding some excessive water and this will again create a sound and will turn the light pink LED on.

Every time our plant enters a suboptimal state, an email is sent to both Jesse and Dimitrios that says that we should have a look at our plant because something is not going right.

We will also demonstrate that in night mode our device is completely idle.