Team: Raspberries – CSCI3308

Requirements

Note: Each requirement is split into a Functional (**F**) and Nonfunctional (**NF**) requirement.

1.) **F:** The system should collect data on soil temperature/humidity and display it to the user.

   NF: We are using the DHT11 temperature/humidity sensor

   NF: The data should be retrievable in a timely manner

   NF: The data should be automatically entered in a database

2.) **F:** The user should be required to make an account with a username and password

   NF: Accounts are created with email verification

3.) **F:** Map locations of temperature/humidity sensors

   NF: Use Google's API to augment longitude and latitude and show sensors on a map

4.) **F:** The ability to use multiple sensors at once

   NF: Use wifi chips to spread the sensors out without needing a computer at each monitor

5.) **F:** Compare user's soil data with local temperature/humidity data

   NF: Gain access to farms' labs' data to compare datasets

6.) **F:** The data should be easily interpretable through visualization

   NF: We will use a baseline level of humidity and temperature based on the local data and create visualization using Google Map APIs and Python graphing tools.

7.) **F:** Notifications for when plants need to be watered

   NF: Once a baseline is established we will set boundaries of +&- 10% to notify the user when the plants need more water, and when they are wasting water.

8.) **F:** Alarms and treatment suggestions

   NF: Through active monitoring we can set alarms for the user when their plants need care.