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.

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Date: March 8th, 2018

Time: 1pm @ Norlin Library

Attendees: Aaron, Abdul, Cooper, Liam, Ryan, Wenle

## **Agile Stand-up Meeting**

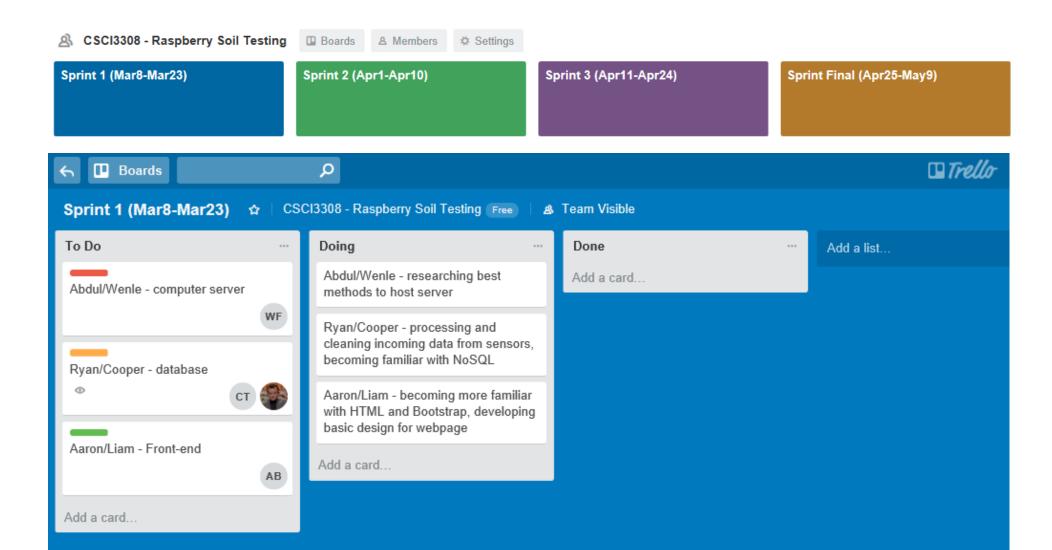
1. What have you completed since the last meeting?

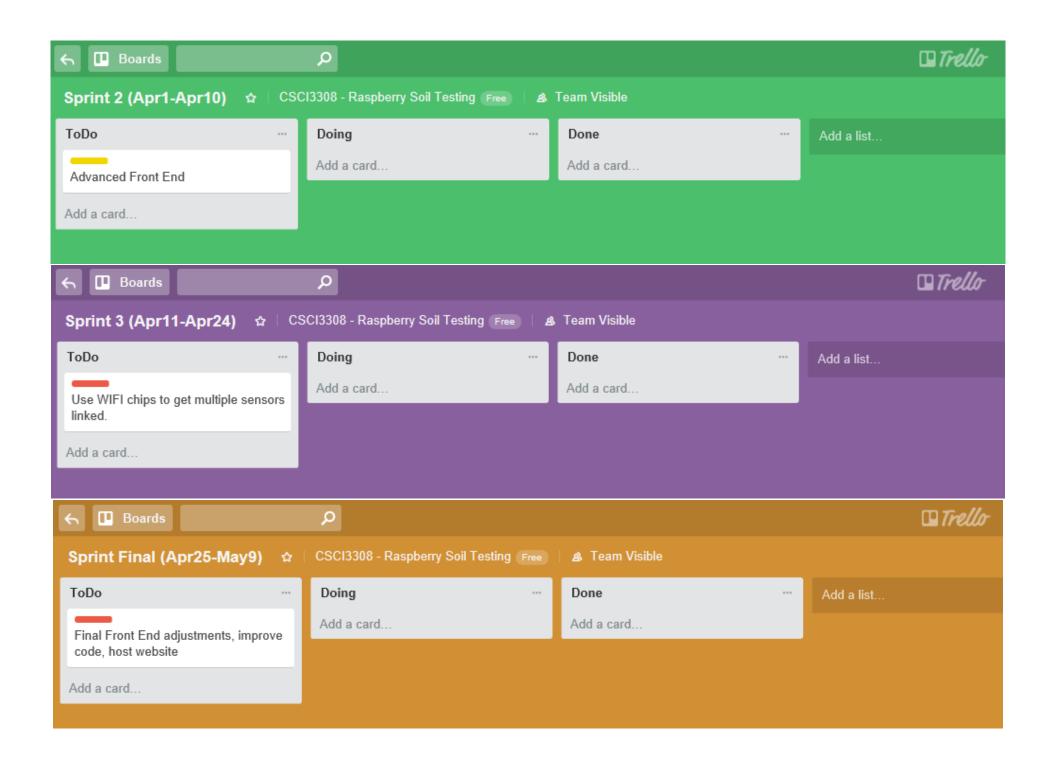
We got an arduino and a humidity sensor, we connected the humidity sensor to the arduino, and we connected the arduino to a computer. We inserted the sensor into piece of soil, and managed to get the readings properly, where a lower number indicates a more moist soil. We also began working on the database and website design.

2. What will you complete before the next meeting? By the next meeting, we will have created the database and website foundation. We will also figure out a way to get the information from the sensors to the website without using a laptop as an intermediary.

3. Describe any obstacles or roadblocks you face:

We wanted to incorporate the raspberry pi to be able to receive the data and process it. However, we faced a problem with the sensor which is that most sensors only provide analog reading, so to work around this we have to use an ADC (analog to digital converter). Instead we decided as a design decision to move towards the arduino which already expects an analog signal and has a built in ADC.





Project Start Date	3/8/201	8 (Thursday)					Week 0	Week 1		Wee	ek 2	Week 3
							26 Feb 2018	5 Mar 201	8	12 Mai	2018	19 Mar 2018
,			•	, ,		WORK	26 27 28 1 2 3 4					19 20 21 22 23 24 25
TASK	WHO	START	END	DAYS	% DONE	WORK DAYS	M T W T F S S	M T W T F	S	SMTWT	FSS	M T W T F S S
First Sprint			-			-						
Database Design	CT/RC	Tue 3/13/18	Mon 3/19/18	7	0%	5						
Data Model	AAWF	Fri 3/16/18	Thu 3/22/18	7	0%	5						
Basic Front End	AB/LK	Fri 3/23/18	Sun 4/01/18	10	0%	6						
Second Sprint			-			-						
Make Advanced Front End		Sun 4/01/18	Tue 4/10/18	10	0%	7						
Third Sprint			-			-						
Use WIFI chip to extend monitoring		Tue 4/10/18	Tue 4/24/18	15	0%	11						
Final Sprint			-			-						
Complete front end with googles API to show location		Tue 4/24/18	Wed 5/09/18	16	0%	12						

Week 4						Week 5							Week 6							Week 7							
26 Mar 2018						2 Apr 2018							9 Apr 2018							16 Apr 2018							
26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
М	Т	w	Т	F	s	s	М	Т	w	Т	F	S	S	М	Т	w	Т	F	s	s	М	Т	w	Т	F	S	s

