

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.

Sprint 1 (Mar8-Mar23)

Sprint 2 (Apr1-Apr10)

Sprint 3 (Apr11-Apr24)

Sprint Final (Apr25-May9)



 Boards






Sprint 1 (Mar8-Mar23) ☆

CSCI3308 - Raspberry Soil Testing

Free

 Team Visible

To Do

Abdul/Wenle - computer server

WF

Ryan/Cooper - database



CT



Aaron/Liam - Front-end

AB

Add a card...

Doing

Abdul/Wenle - researching best methods to host server

Ryan/Cooper - processing and cleaning incoming data from sensors, becoming familiar with NoSQL



Aaron/Liam - becoming more familiar with HTML and Bootstrap, developing basic design for webpage


Add a card...

Done

Add a card...

Add a list...

 Boards



Sprint 2 (Apr1-Apr10) ☆ | CSCI3308 - Raspberry Soil Testing Free | Team Visible

ToDo ...

Advanced Front End

Add a card...



Doing ...


Add a card...

Done ...

Add a card...

Add a list...

 Boards



Sprint 3 (Apr11-Apr24) ☆ | CSCI3308 - Raspberry Soil Testing Free | Team Visible

ToDo ...

Use WIFI chips to get multiple sensors linked.

Add a card...



Doing ...


Add a card...

Done ...

Add a card...

Add a list...

 Boards



Sprint Final (Apr25-May9) ☆ | CSCI3308 - Raspberry Soil Testing Free | Team Visible

ToDo ...

Final Front End adjustments, improve code, host website

Add a card...

Doing ...

Add a card...

Done ...

Add a card...

Add a list...

Raspberries Gantt

Gantt Chart Template © 2006-2018 by Vertex42.com

Project Start Date 3/8/2018 (Thursday)

Project Start Date 3/8/2018 (Thursday)							Week 0							Week 1					Week 2						Week 3									
							26 Feb 2018							5 Mar 2018					12 Mar 2018						19 Mar 2018									
							26	27	28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
							M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
TASK	WHO	START	END	DAYS	% DONE	WORK DAYS																												
First Sprint																																		
Database Design	CT/RC	Tue 3/13/18	Mon 3/19/18	7	0%	5																												
Data Model	AA/WF	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
M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S

