Green Smart Gardening Systems

Winter Midterm Progress Report

Brandon Ellis | Jiayu Han | Jack Neff

Progress Report

- Purpose of this Document
- Audience

Brandon Ellis

- My Work
- Recap
- Week 7 – 10
- Demo
- Future Work

Recap

- Winter Break
- Week 1 – 6

Week 7

TA Meeting

- N/A

Client Meeting

- Recap
- Break Report
- Schedule

Work Addressed

- BME280 Testing

Week 8

TA Meeting

- First Meeting

Client Meeting

- BME280 Pictures
- SD Card Reader

Work Addressed

- BME280 Testing

Week 9

TA Meeting

- Schedule

Client Meeting

- Valid Wiring
- SPI vs I2C
- Design Doc
- Intel Logo

Work Addressed

- BME280 Pictures
- Schedule
- SD Card Research

Week 10

TA Meeting

- Database Connection

Client Meeting

- Update on BME280
- Database Connection

Work Addressed

- BME280 Solution

Demo [Wiring]

Demo [Data Flow]

What's Next?

Work to Do

- Sensor
- Board Logic
- Testing

Jack Neff

- Purpose: Describe and demonstrate current functionality of project.
- Audience: Instructors Kirsten Winters and D. Kevin McGrath, Intel clients Po-Cheng Chen, Satoshi Suzuki, and Eduardo Alban

Jack Neff

- My Work
- Recap
- Week 7 – 10
- Demo
- Future Work

My Work

- Front end user interface
- Back end HTTP server
- Back end data storage

Recap

- Week 1 – 6
- VM
- LAMP
- Database connections
- Dummy data

Week 7

Work Addressed

- Set up vineyard visit
- Connected VM to local machine through Filezilla
- Switched from d3.js to FusionCharts

Action Items

- Research and experiment with FusionCharts

Week 8

Work Addressed

- Created preliminary charts
- Visited vineyard

Action Items

- Begin design of homepage
- General smart gardening system research
- Contact Picovale

Week 9

Work Addressed

- Researched automated gardening systems

Action Items

- Continue designing homepage
- Contact Picovale
- Connect Arduino to campus networks

Week 10

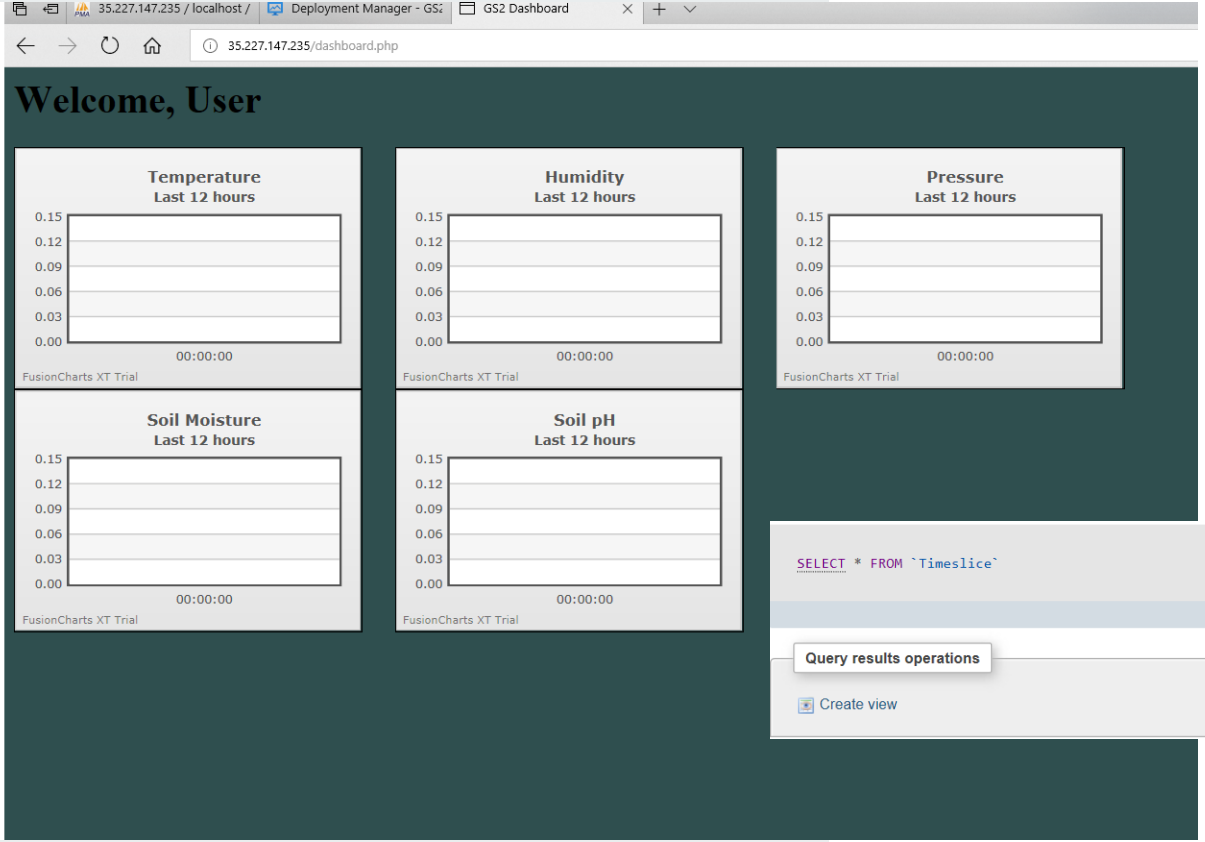
Work Addressed

- Contacted Picovale
- Tweaked homepage layout
- Updated sensor array design

Action Items

- Continue to design homepage
- Connect Arduino to Campus networks
- Meet with group to create user study

Demo [Dummy Data + Database + Web site]



Demo [Dummy Data + Database + Web site]]

http://35.227.147.235/dummy_data_script.php

```
SELECT * FROM `Timeslice`
```

Profiling [Inline] [Edit] [Explain SQL] [Create PHP Code] [Refresh

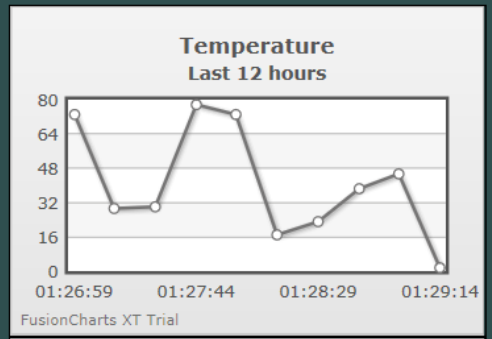
Number of rows: 25 Filter rows: Search this table

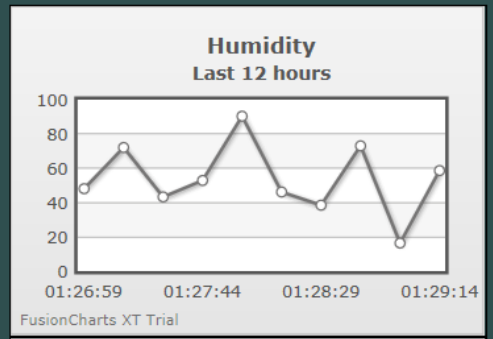
Sort by key: None

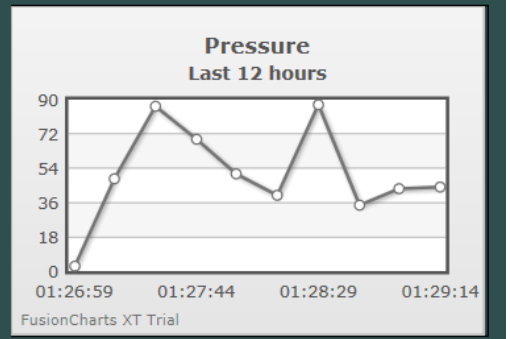
Options

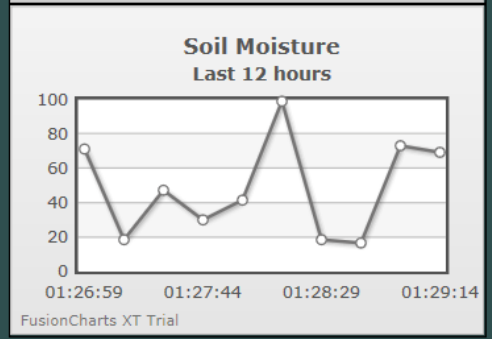
	timesliceID	timestamp	temperature	humidity	pressure	soil_moisture	soil_ph	battery_p
Edit Copy Delete	1	2018-03-22 01:16:58	44.058	14.110	48.420	49.540	0.800	
Edit Copy Delete	2	2018-03-22 01:17:13	74.083	12.370	73.020	15.730	6.700	
Edit Copy Delete	3	2018-03-22 01:17:28	60.008	39.700	11.790	57.860	6.100	
Edit Copy Delete	4	2018-03-22 01:17:43	10.450	65.470	84.850	83.010	11.000	
Edit Copy Delete	5	2018-03-22 01:17:58	31.250	29.560	32.330	68.200	8.500	
Edit Copy Delete	6	2018-03-22 01:18:13	17.358	61.620	31.520	17.470	5.900	
Edit Copy Delete	7	2018-03-22 01:18:28	77.950	93.610	76.320	15.580	3.400	
Edit Copy Delete	8	2018-03-22 01:18:43	1.383	99.080	83.150	69.110	13.700	
Edit Copy Delete	9	2018-03-22 01:18:58	25.433	8.770	34.260	52.510	0.300	
Edit Copy Delete	10	2018-03-22 01:19:13	3.967	24.920	84.610	36.790	12.300	
Edit Copy Delete	11	2018-03-22 01:19:28	6.208	74.160	7.200	76.800	5.800	

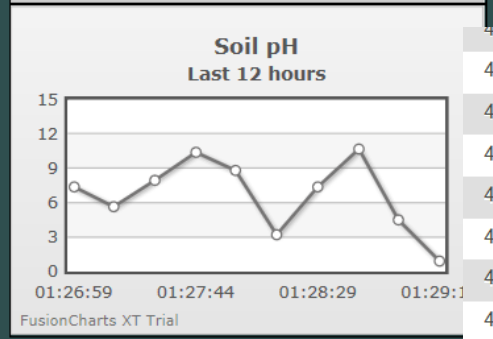
Demo [Dummy Data + Database + Web site]]











43	2018-03-22 01:27:29	30.133	43.340	86.270	46.910	7.900
44	2018-03-22 01:27:44	77.525	52.780	69.560	30.090	10.400
45	2018-03-22 01:27:59	72.958	90.320	50.720	41.380	8.800
46	2018-03-22 01:28:14	17.067	46.310	39.640	98.630	3.200
47	2018-03-22 01:28:29	23.133	38.870	87.030	17.880	7.400
48	2018-03-22 01:28:44	38.433	73.480	34.680	16.380	10.700
49	2018-03-22 01:28:59	45.150	16.550	43.050	73.470	4.500
50	2018-03-22 01:29:14	1.767	58.730	44.130	69.550	0.800

From left to right: ID, timestamp, temp, humidity, pressure, soil moisture, soil ph

What's Next?

Work to Do

- User studies
- Web site
- Graphs
- Other functionality/research

Jiayu Han

- My Work
- Recap
- Week 7 – 10
- Demo
- Future Work

My Work

- Wi-Fi
- Power
- Packaging(3D Model/Print)

Recap

- Week 1 – 6

Week 7

TA Meeting

- Alpha Version(pushed)

Client Meeting

- Packaging Rough Draft
- Updated Shopping List

Work Addressed

- Soil sensor Location on Packaging
- Solar Panel Voltage(6v to 5v)

Week 8

TA Meeting

- Alpha Version(pushed)
- 3D HUBS

Client Meeting

- Vineyard visit

Work Addressed

- Soil Sensor Location Change

Week 9

TA Meeting

- Alpha Version(pushed)

Client Meeting

- 3D Print(Intel/OSU/3D Hubs)
- BME Sensor Location Test

Work Addressed

- Packaging
- Test Power System

Week 10

TA Meeting

- Alpha Version showed

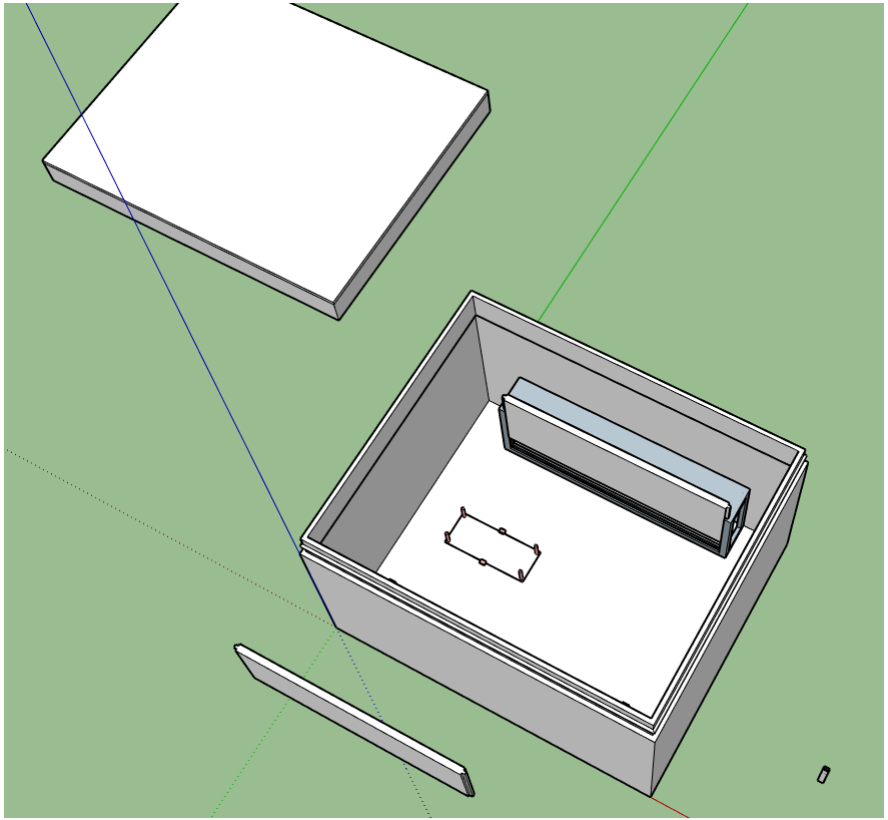
Client Meeting

- Packaging
- Updates
- Alpha Version

Work Addressed

- Packaging
- Battery Percentage Display
- Sensors

Demo [3D Model]



What's Next?

Work to Do

- 3D Model(Polishing/Print)
- Battery Percentage
- Testing