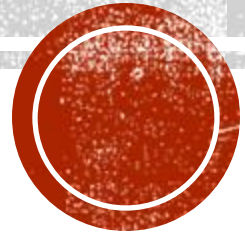
ACRITECH MEETING 4

Prof Madhav Rao



LOGGING DATA IN CSV

- Collected sensor data using Arduino
- Using serial library in python read the Realtime data of all the sensors from COM port and wrote a script to write them in a csv file.
- The scripts creates a new csv file if not present, if presents appends the values to the existing csv file.
- Took 100 readings. Time between each reading is 5 secs.
- Csv file has the data in the order 1) Soil temperature, 2)Temperature, 3)Humidity, 4) Soil Moisture.

	A	B	C	D	E
1	Soil Temperature	Atmosphere Temperature	Humidity	Soil Moisture	
2	30.06	29.7	38.7	103	
3	30.06	29.8	38.8	103	
4	30.06	29.8	38.3	102	
5	30.19	29.8	37.9	103	
6	30.37	29.8	38	102	
7	28.56	29.8	38.5	103	
8	27.56	29.8	38.7	103	
9	27.25	29.8	37.9	103	
10	27.12	29.8	38	102	
11	27.06	29.8	38.8	103	
12	27	29.8	38.1	103	
13	27	29.8	38.1	103	
14	27	29.7	38.4	101	
15	27	29.8	38.1	103	
16	27	29.8	38	103	
17	26.94	29.8	38.7	103	
18	27	29.8	38.6	103	
19	26.94	29.8	38.2	103	
20	26.94	29.8	38.1	104	
21	26.94	29.8	38.2	103	
22	26.94	29.8	37.5	102	
23	26.94	29.8	36.8	103	
24	26.94	29.9	37.1	103	
25	26.94	29.9	38	103	
26	26.94	29.9	38.2	103	
27	26.94	29.9	38	103	
28	26.94	29.9	38.3	102	

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: H:/SEM 6/PE/Meeting 4/data_log.py ==============================
==============================
Connected to Arduino port:COM3
Created file
Soil Temperature,Atmosphere Temperature,Humidity,Soil Moisture
30.06,29.70,38.70,103
30.06,29.80,38.80,103
30.06,29.80,38.30,102
30.19,29.80,37.90,103
30.37,29.80,38.00,102
28.56,29.80,38.50,103
27.56,29.80,38.70,103
27.25,29.80,37.90,103
27.12,29.80,38.00,102
27.06,29.80,38.80,103
27.00,29.80,38.10,103
27.00,29.80,38.10,103
27.00,29.70,38.40,101
27.00,29.80,38.10,103
27.00,29.80,38.00,103
26.94,29.80,38.70,103
27.00,29.80,38.60,103
26.94,29.80,38.20,103
26.94,29.80,38.10,104
26.94,29.80,38.20,103
26.94,29.80,37.50,102
26.94,29.80,36.80,103
26.94,29.90,37.10,103
26.94,29.90,38.00,103
26.94,29.90,38.20,103
26.94,29.90,38.00,103
26.94,29.90,38.30,102
27.00,29.90,39.00,102
26.94,29.90,38.40,103
26.94,29.90,36.80,103
26.94,29.90,38.10,104
26.94,29.90,38.70,102
26.94,29.90,38.40,103
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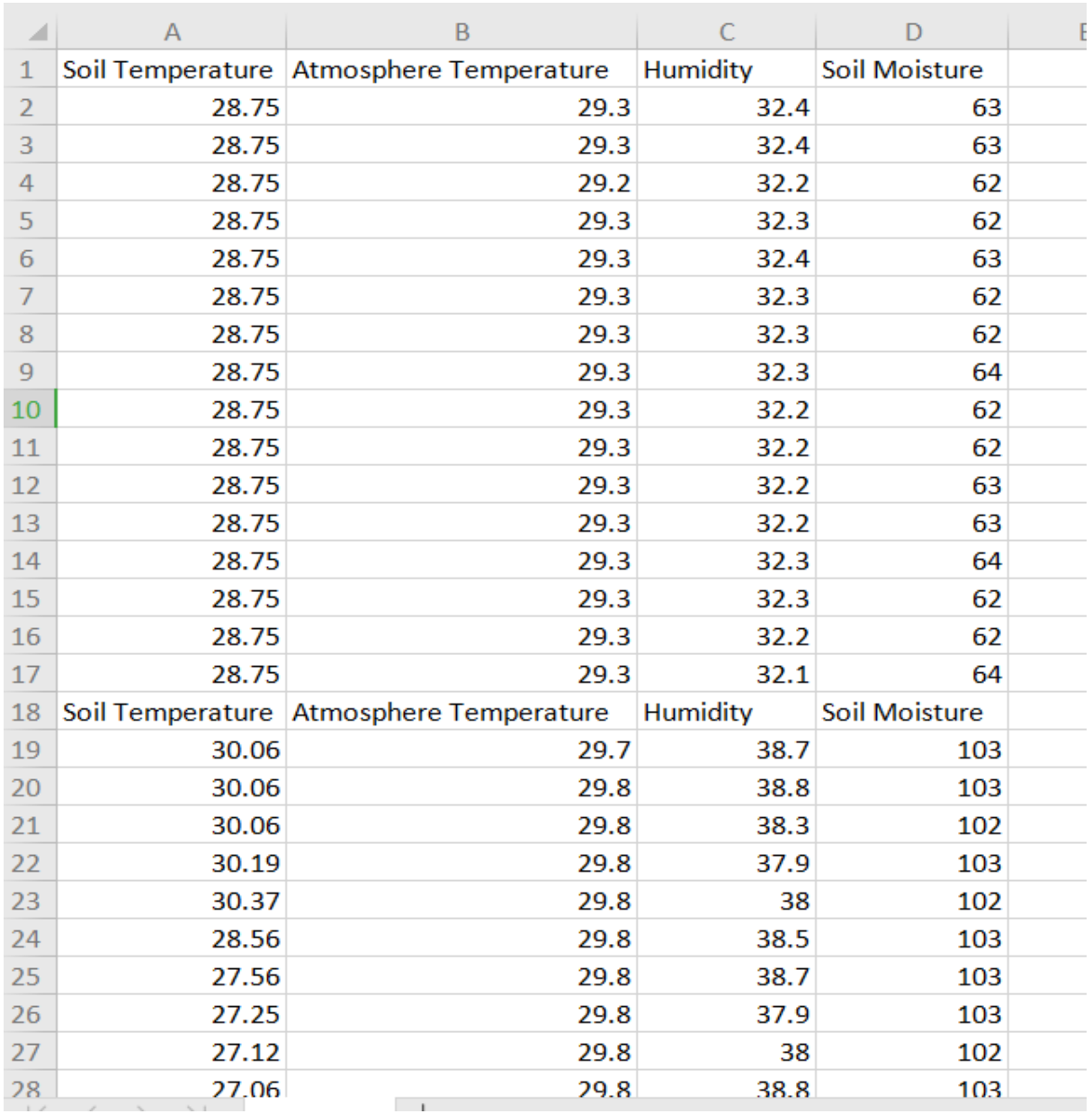
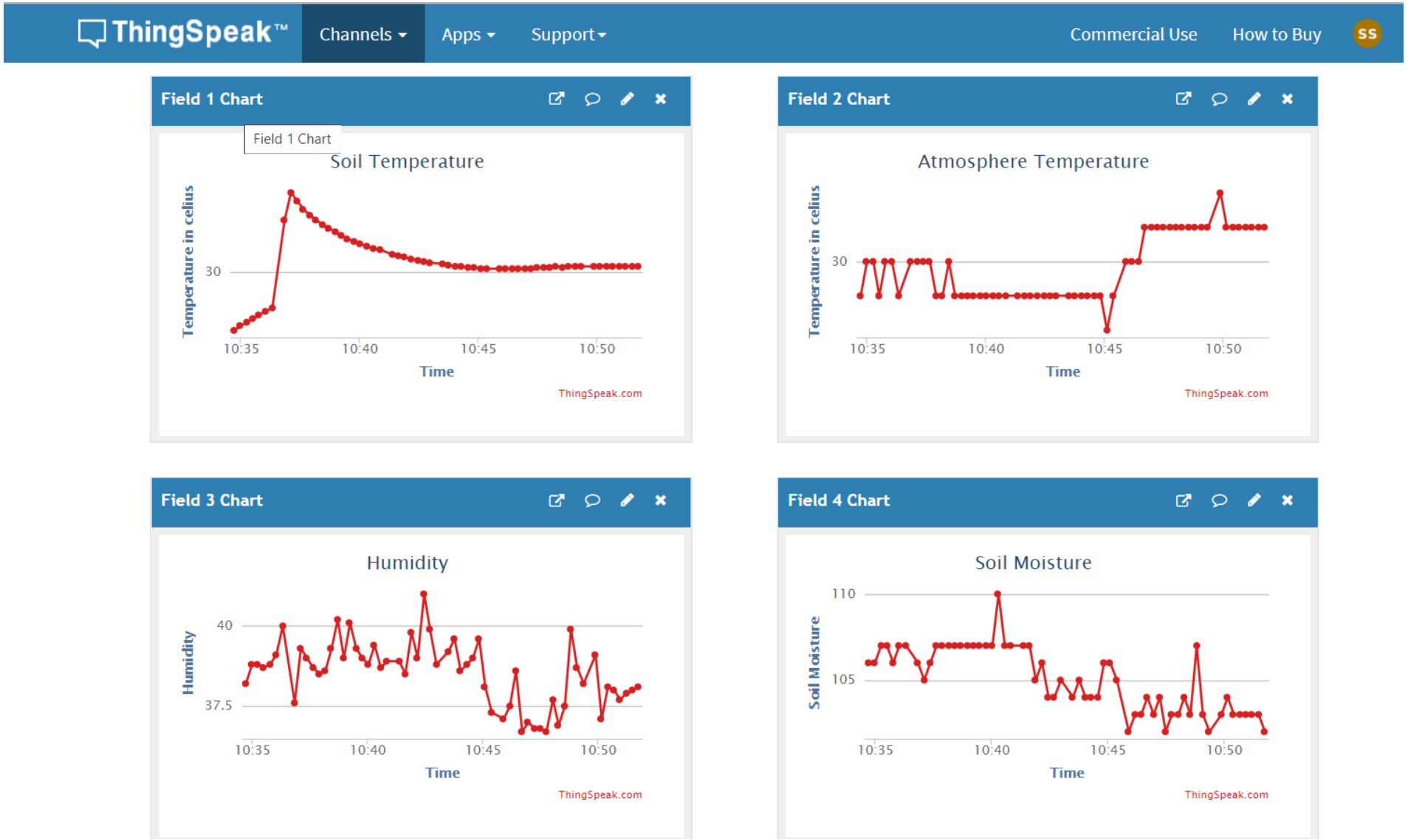


	A	B	C	D
1	Soil Temperature	Atmosphere Temperature	Humidity	Soil Moisture
2	28.75	29.3	32.4	63
3	28.75	29.3	32.4	63
4	28.75	29.2	32.2	62
5	28.75	29.3	32.3	62
6	28.75	29.3	32.4	63
7	28.75	29.3	32.3	62
8	28.75	29.3	32.3	62
9	28.75	29.3	32.3	64
10	28.75	29.3	32.2	62
11	28.75	29.3	32.2	62
12	28.75	29.3	32.2	63
13	28.75	29.3	32.2	63
14	28.75	29.3	32.3	64
15	28.75	29.3	32.3	62
16	28.75	29.3	32.2	62
17	28.75	29.3	32.1	64
18	Soil Temperature	Atmosphere Temperature	Humidity	Soil Moisture
19	30.06	29.7	38.7	103
20	30.06	29.8	38.8	103
21	30.06	29.8	38.3	102
22	30.19	29.8	37.9	103
23	30.37	29.8	38	102
24	28.56	29.8	38.5	103
25	27.56	29.8	38.7	103
26	27.25	29.8	37.9	103
27	27.12	29.8	38	102
28	27.06	29.8	38.8	103

LOGGING DATA TO CLOUD

- Using ThingSpeak Platform to log the data of sensors
- Like above Logging data to csv, used python script to upload sensor data.
- Here python acts as a middle ware between Arduino and Thingspeak platform.
- Using http2lib library in python sent data to the cloud platform.


ThingSpeak™
Channels
Apps
Support
Commercial Use
How to Buy
SS
Field 1 Chart
Field 1 Chart
Soil Temperature
Temperature in celius
30
10:35
10:40
10:45
10:50
Time
ThingSpeak.com
Field 2 Chart
Atmosphere Temperature
Temperature in celius
30
10:35
10:40
10:45
10:50
Time
ThingSpeak.com
Field 3 Chart
Humidity
Humidity
40
37.5
10:35
10:40
10:45
10:50
Time
ThingSpeak.com
Field 4 Chart
Soil Moisture
Soil Moisture
110
105
10:35
10:40
10:45
10:50
Time
ThingSpeak.com

```
================== RESTART: H:/SEM 6/PE/Meeting 4/cloud_log.py ==================
Connected to Arduino port:COM3
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['33.56', '29.80', '38.80', '106']
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['33.25', '29.80', '38.90', '105']
['33.13', '29.80', '39.10', '105']
['32.94', '29.80', '40.20', '105']
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['32.63', '29.80', '40.00', '105']
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['32.38', '29.80', '39.40', '83']
['32.19', '29.80', '38.80', '103']
['32.13', '29.90', '39.10', '104']
['32.00', '29.90', '39.00', '103']
['31.94', '29.90', '38.90', '104']
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['27.44', '29.90', '38.20', '105']
['27.12', '29.90', '38.60', '105']
['27.00', '30.00', '38.40', '105']
['26.94', '29.90', '38.70', '106']
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['26.87', '29.90', '38.80', '106']
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['27.37', '30.00', '38.80', '107']
['27.56', '29.90', '38.70', '107']
['27.75', '30.00', '38.80', '106']
['27.94', '30.00', '39.10', '107']
['28.12', '29.90', '40.00', '107']
```