Home Monitoring System

ECE 612 – Real Time Embedded Systems

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Objective

Collect the data of the house.

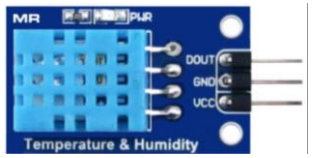
Send it through email.

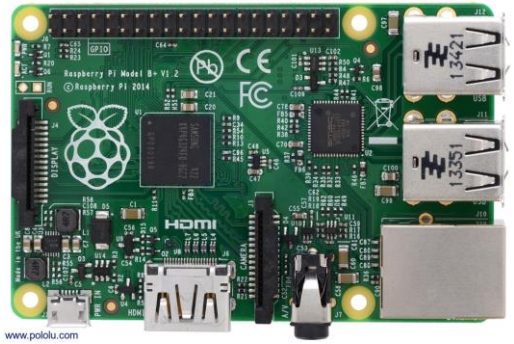
Components

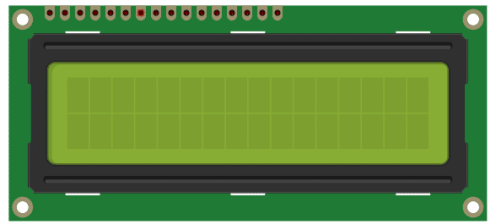
- RaspberryPi B+ - 1
- PIR Sensor - 1
- Servo Motor - 1
- DHT11 Sensor - 3
- LCD 16x2 - 1
- LED - 1
- EDUP 802.11g - 1

Design

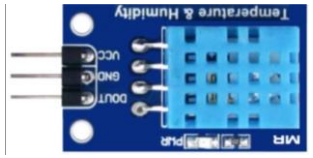
Living Room



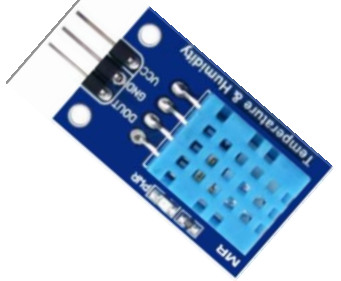




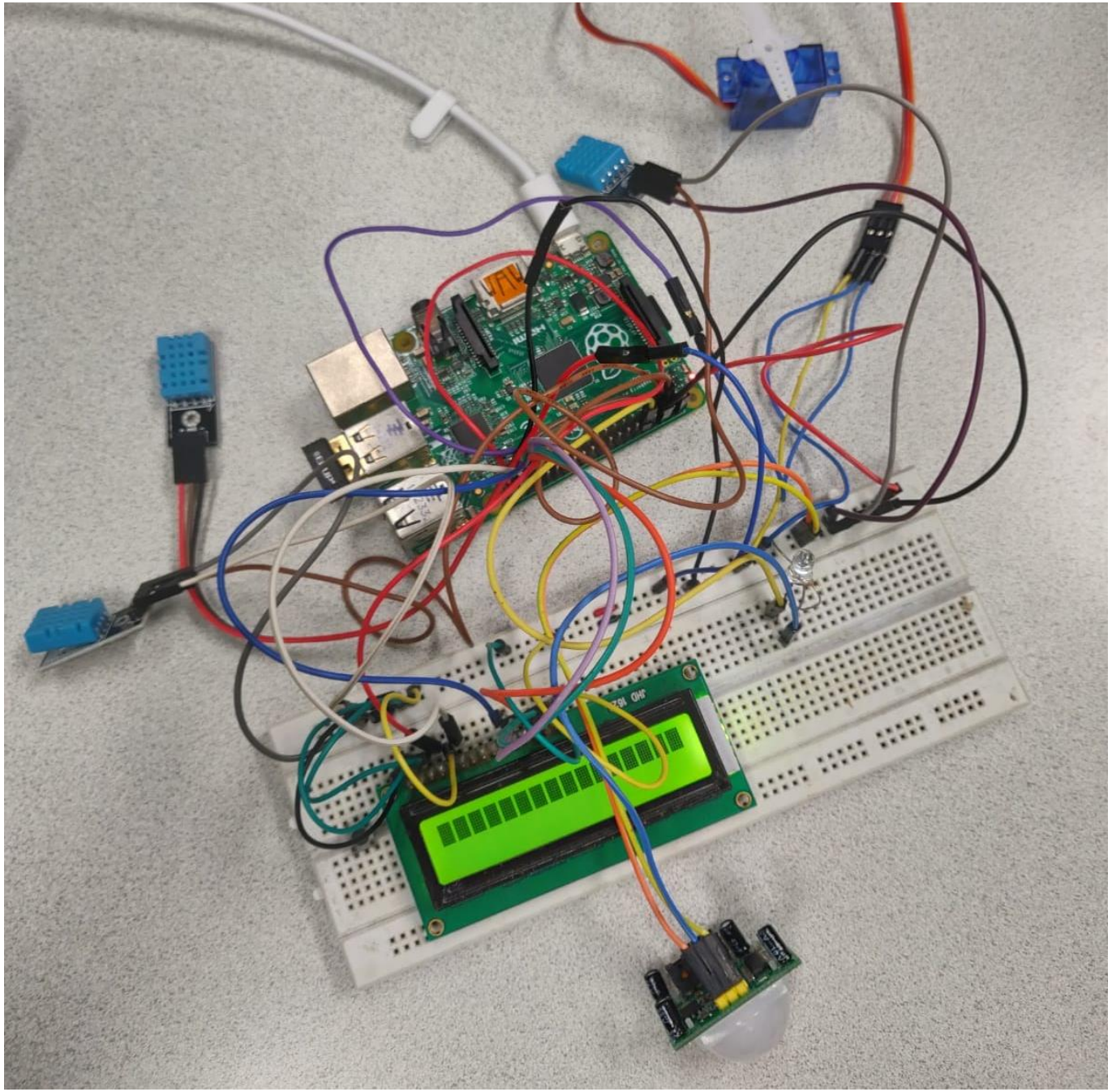
Room 1



Room 2



Real Time Setup



Working

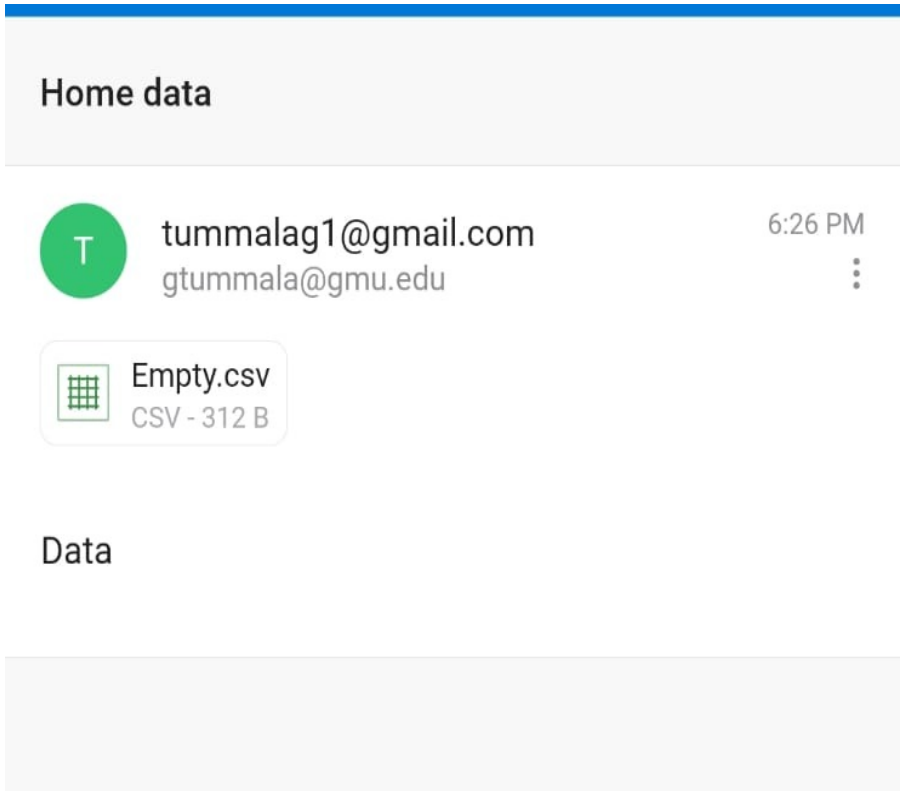
Raspberry Pi collects data from 3 humidity and temperature sensors namely Living Room, Room 1 and Room 2 Sensors.

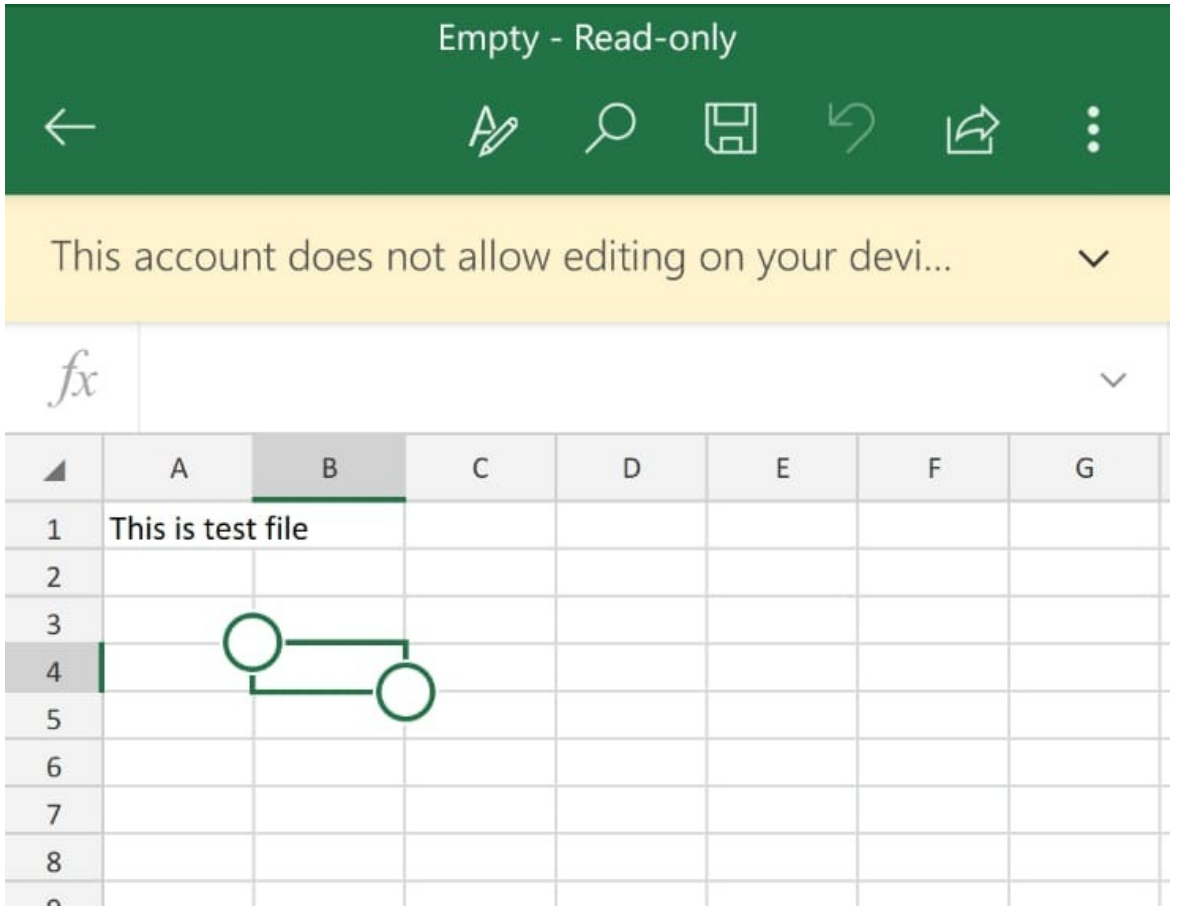
There is PIR sensor in Living Room, when it detects any motion it turns on Light in the living room.

There is one servo motor in room 1 if the humidity in the room is greater than 80% servo motor opens window.

There is LCD screen that shows all the data that generated inside the house.

Results: Test file





Results: Data File

Home data

T tummalag1@gmail.com
gtummala@gmu.edu
7:00 PM

Data2019050618.csv
CSV - 18 kB

Data

G10

	A	B	C	D	E
1	Date	Area	Temperature C	Humidity %	
2	5/6/2019 18:26	L R	23	57	
3	5/6/2019 18:26	R 1	23	59	
4	5/6/2019 18:26	R 2	23	61	
5	5/6/2019 18:26	R 1 Servo	Window Close		
6	#NAME?	Area	Temperature C	Humidity %	
7	5/6/2019 18:27	L R	23	57	
8	5/6/2019 18:27	R 1	23	62	
9	5/6/2019 18:27	R 2	23	62	
10	5/6/2019 18:27	R 1 Servo	Window Close		
11	#NAME?	Area	Temperature C	Humidity %	
12	5/6/2019 18:27	L R	23	57	
13	5/6/2019 18:27	R 1	23	59	
14	5/6/2019 18:27	R 2	23	61	
15	5/6/2019 18:27	R 1 Servo	Window Close		
16	#NAME?	Area	Temperature C	Humidity %	
17	5/6/2019 18:28	L R	23	57	
18	5/6/2019 18:28	R 1	23	62	
19	5/6/2019 18:28	R 2	23	61	
20	5/6/2019 18:28	R 1 Servo	Window Close		
21	#NAME?	Area	Temperature C	Humidity %	
22	5/6/2019 18:28	L R	23	57	
23	5/6/2019 18:28	R 1	23	62	
24	5/6/2019 18:28	R 2	23	61	
25	5/6/2019 18:28	R 1 Servo	Window Close		
26	#NAME?	Area	Temperature C	Humidity %	
27	5/6/2019 18:28	L R	23	57	
28	5/6/2019 18:28	R 1	23	59	
29	5/6/2019 18:28	R 2	23	61	
30	5/6/2019 18:28	R 1 Servo	Window Close		
31	#NAME?	Area	Temperature C	Humidity %	

Data2019050618

Thank you