Smart Health Care System

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OVERVIEW

- The system has been designed for the patients in the need of intensive care.
- In this we have been transferring the real time patients' data for the remote observation.
- To improve the health safety with the help of smart sensors and IOT system within the limited budget.
- Internet and data servers with the connectivity via raspberry pi .
- Reduction in time assessment for emergency situation.
- On time health data accessibility.

COMPONENTS

- In this project we have used:
- Arduino-uno
- Raspberry pi-3
- sensors temperature
  - DHT_11 (Temperature and Humidity)
  - Flex Sensor (Position monitoring)
- Actuator – Buzzer

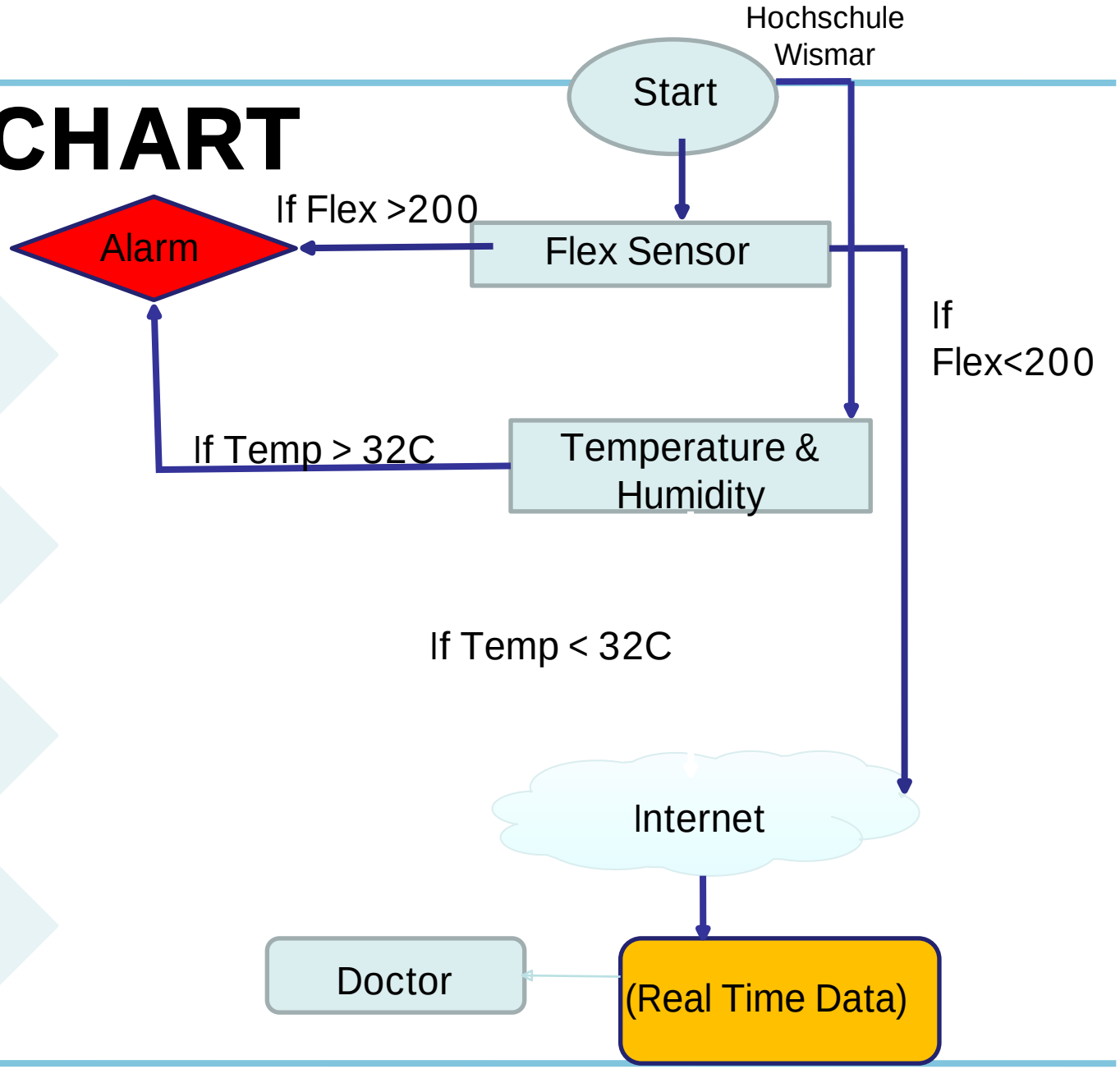
FLOW CHART

Sensors
- Temperature & Humidity: DHT_11
- Flex sensor

Microprocessor
- Raspberry Pi: Abrupt changes in health detection by raspberry pi.

Networking
- Process the information with data Server.
- Send the accumulated data to the cloud server.

Actuation
- Alarm .



SIMULATION

SOURCE CODE- Arduino

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```
#include "dht.h"
#define dht_apin A1

dht DHT;

int flexs = A0;
int flexdata = 0;
int buzzer = 5;
int val;
int tempPin = 1;

void setup()
{
Serial.begin(9600);

  pinMode(flexs, INPUT);
  pinMode(buzzer, OUTPUT);
  delay(500);
}

void loop()
{

flexdata = analogRead(flexs);

if( flexdata > 200)
{
    analogWrite(buzzer, 150);
}

if( flexdata < 220)
```

45 Arduino Uno on COM8

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```
}

void loop()
{

flexdata = analogRead(flexs);

if( flexdata > 200)
{
    analogWrite(buzzer, 150);
}

if( flexdata < 220)
{
   analogWrite(buzzer,0);
}
  delay(100);

if( DHT.temperature > 32)
{
   analogWrite(buzzer, 150);
}
  delay(100);
  {
    DHT.read11(dht_apin);
    Serial.println(DHT.humidity);
    Serial.println(DHT.temperature);
    Serial.println(flexdata);
    delay(1000);
}
}
```

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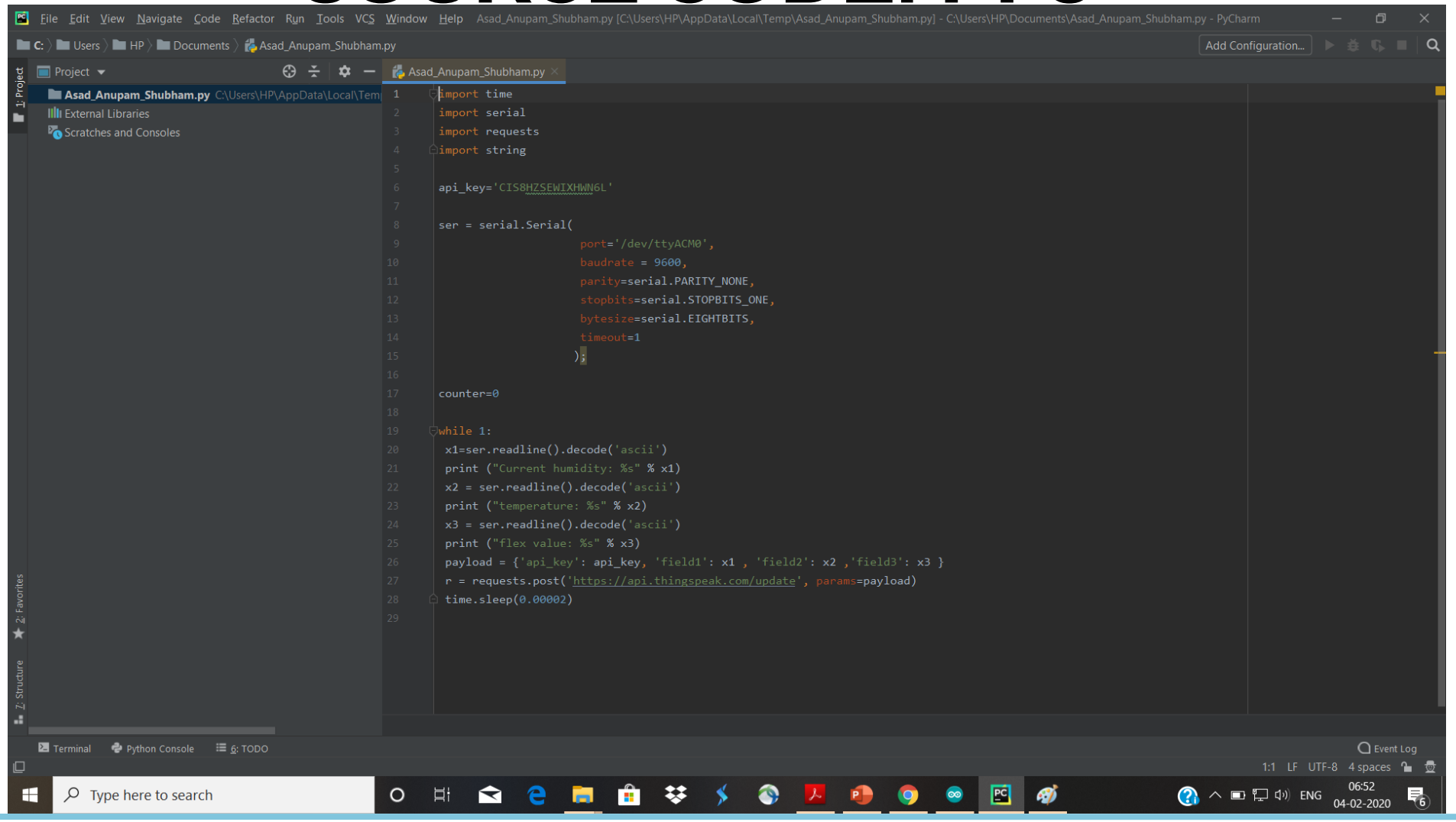
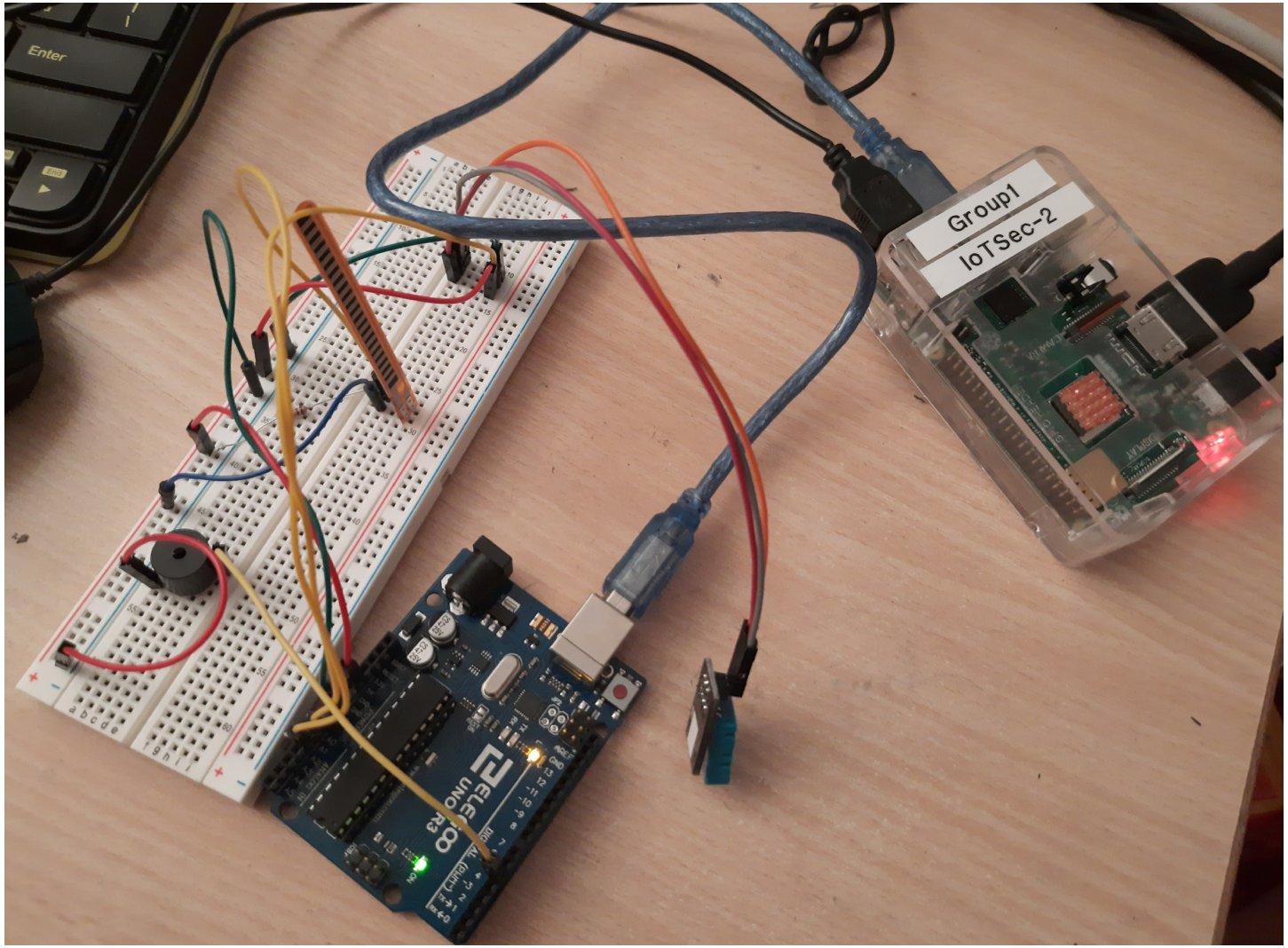
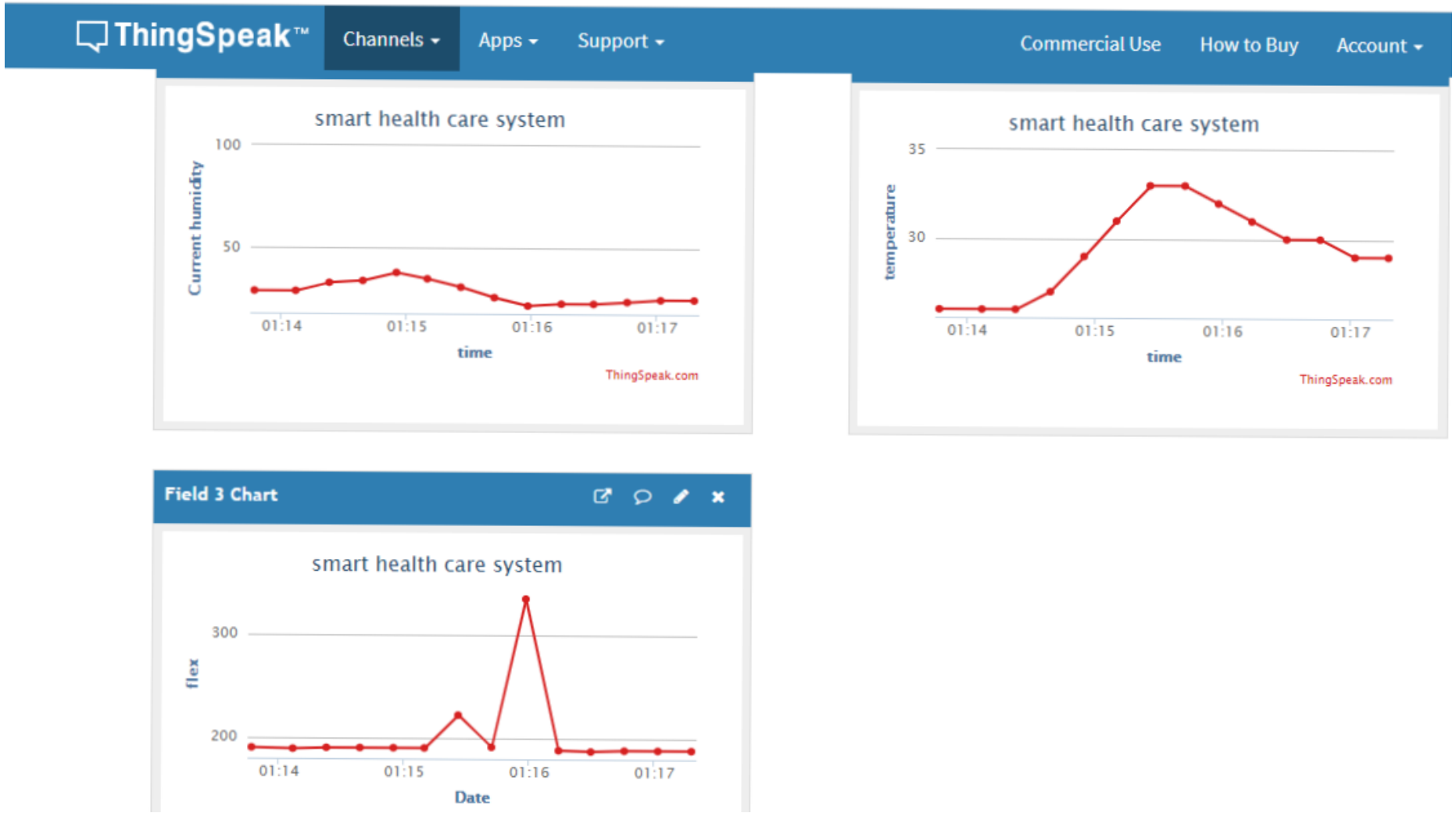
SOURCE CODE: Pi-3



HARDWARE



RESULT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Account
smart health care system
Current humidity
100
50
01:14
01:15
01:16
01:17
time
ThingSpeak.com
smart health care system
temperature
35
30
01:14
01:15
01:16
01:17
time
ThingSpeak.com
Field 3 Chart
smart health care system
flex
300
200
01:14
01:15
01:16
01:17
Date

CONCLUSION

Hereby, We conclude that we can access and monitor the patients' medical conditions as well as emergency services can also be triggered resulting in minimal aid time and It's a pragmatic approach towards smart health care system.

FUTURE SCOPE

- This system can be connected to database system in order to access patients' Medical history globally.
- The Medical devices like pulse oximeter can installed to monitor blood saturation level and pulse rate.

REFERENCES

- ThingSpeak.com – Cloud
- Cisco Packet Tracer
- Netacad.com

THANK YOU