Project Development phase

Sprint-1

Date	07 November 2022
Team ID	PNT2022TMID39426
Project Name	Project-Hazardous Area Monitoring For Industrial Plant Powered by IoT

Sprint 1:

Detection of Hazard: As a worker, I can monitor the humidity and temperature to have stable environment, so that hazard can be identify.

Program to monitor temperature and Humidity:

```
#include "DHT.h"

#include

#define DHTPIN 5                          // Digital Pin 5

#define DHTTYPE DHT11                     // We are Using DHT11

String apiKey = "OX9T8Y9OL9HD0UBP";     // Edit this API key
according to your Account

String Host_Name = "Pantech";           // Edit Host_Name

String Password = "pantech123";           // Edit Password

SoftwareSerial ser(2, 3);                 // RX, TX

int i=1;

DHT dht(DHTPIN, DHTTYPE);                 // Initialising Pin and
Type of DHT

void setup() {

Serial.begin(115200);                     // enable software
serial

ser.begin(115200);                        // reset ESP8266
```

```
ser.println("AT+RST");                    // Resetting ESP8266

dht.begin();                              // Enabling DHT11

char inv ='"';

String cmd = "AT+CWJAP";


       cmd+= "=";


       cmd+= inv;


       cmd+= Host_Name;


       cmd+= inv;


       cmd+= ",";


       cmd+= inv;


       cmd+= Password;


       cmd+= inv;


ser.println(cmd);                         // Connecting ESP8266 to
your WiFi Router

}
```

```
// the loop

void loop() {

  int humidity =  dht.readHumidity();              // Reading
Humidity Value

  int temperature = dht.readTemperature();         // Reading
Temperature Value

  String state1=String(humidity);                  //
Converting them to string

  String state2=String(temperature);               // as to
send it through URL

  String cmd = "AT+CIPSTART=\"TCP\",\"";           //
Establishing TCP connection

  cmd += "184.106.153.149";                        //
api.thingspeak.com

  cmd += "\",80";                                  // port 80

  ser.println(cmd);
```

```
  Serial.println(cmd);

 if(ser.find("Error")){

    Serial.println("AT+CIPSTART error");

    return;

  }

String getStr = "GET /update?api_key=";          // prepare GET
string

  getStr += apiKey;

  getStr +="&field1=";

  getStr += String(state1);                        // Humidity
Data

  getStr +="&field2=";

  getStr += String(state2);                        //
Temperature Data
```

```
  getStr += "\r\n\r\n";


  cmd = "AT+CIPSEND=";
cmd += String(getStr.length());                    // Total Length
of data


  ser.println(cmd);


  Serial.println(cmd);




if(ser.find(">")){


    ser.print(getStr);


    Serial.print(getStr);


  }


  else{


    ser.println("AT+CIPCLOSE");                     // closing
connection
```

```
    // alert user


    Serial.println("AT+CIPCLOSE");


  }


 delay(1000);                                    // Update after
every 15 seconds


}
```