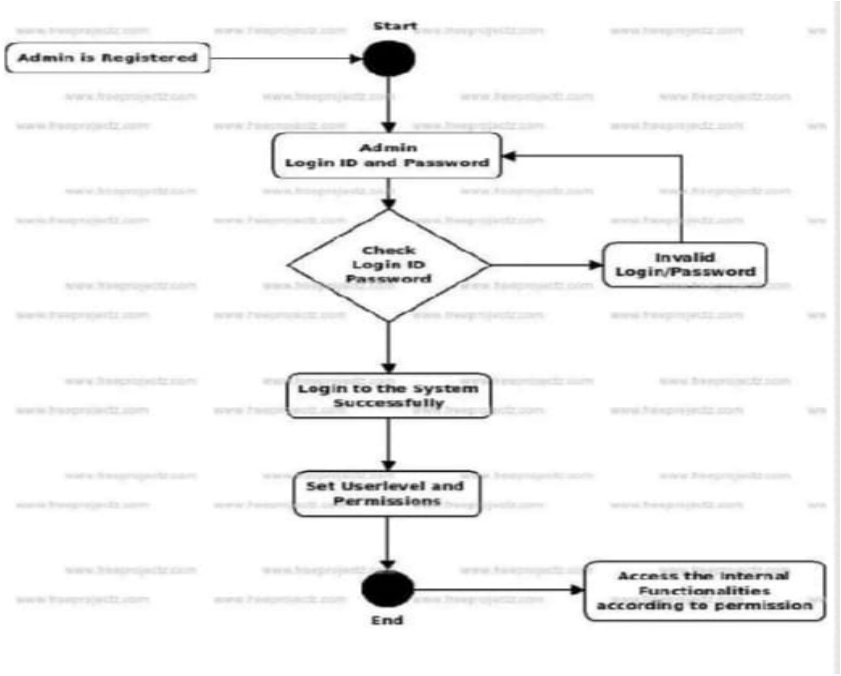
Project Development phase

Project Development delivery of sprint 2

Team ID	PNT2022TMID50828
Project name	**Smart Farming Application**

Architecture:



Program/coding:

```
#include <ESP8266WiFi.h>
#include <ESP8266HTTPClient.h>
#include <Adafruit_ADS1015.h>
WiFiClient client;
String thingSpeakAddress= "http://api.thingspeak.com/update?";
String writeAPIKey;
String tsfield1Name;
String request_string;
HTTPClient http;
Adafruit_ADS1115 ads;
void setup()
{
Serial.begin(115200);
delay(3000);
WiFi.disconnect();
Serial.println("START");
```

```
WiFi.begin("DESKTOP","asdfghjkl");   // Wifi ("ID","Password")
while ((!(WiFi.status() == WL_CONNECTED))){
delay(300);
Serial.println("...");
}
Serial.println("I AM CONNECTED");
Serial.println("Hello!");
Serial.println("Getting single-ended readings from AIN0..3");
Serial.println("ADC Range: +/- 6.144V (1 bit = 3mV/ADS1015, 0.1875mV/ADS1115)");
ads.begin();
}
void loop()
{
int16_t adc0, adc1, adc2, adc3;
Serial.println(" ");
adc0 = ads.readADC_SingleEnded(0);
adc0 = adc0 / 25;
adc1 = ads.readADC_SingleEnded(1);
adc1 = adc1 / 25;
adc2 = ads.readADC_SingleEnded(2);
adc2 = adc2 / 25;
adc3 = ads.readADC_SingleEnded(3);
adc3 = adc3 / 25;
Serial.print("SOIL MOISTURE in persent 1% : "); Serial.println(adc0);
Serial.print("SOIL MOISTURE in persent 2% : "); Serial.println(adc1);
Serial.print("SOIL MOISTURE in persent 3% : "); Serial.println(adc2);
Serial.print("SOIL MOISTURE in persent 4% : "); Serial.println(adc3);
Serial.println(" ");
if (client.connect("api.thingspeak.com",80))
{
request_string = thingSpeakAddress;
request_string += "key=";
request_string += "2YGO2FHN3XI3GFE7";
request_string += "&";
request_string += "field1";
request_string += "=";
request_string += adc0;
http.begin(request_string);
http.GET();
http.end();
}
delay(10);
if (client.connect("api.thingspeak.com",80))
{
request_string = thingSpeakAddress;
request_string += "key=";
request_string += "2YGO2FHN3XI3GFE7";
request_string += "&";
request_string += "field2";
request_string += "=";
request_string += adc1;
http.begin(request_string);
http.GET();
http.end();
}
delay(10);
```

```
if (client.connect("api.thingspeak.com",80))
{
request_string = thingSpeakAddress;
request_string += "key=";
request_string += "2YGO2FHN3XI3GFE7";
request_string += "&";
request_string += "field3";
request_string += "=";
request_string += adc2;
http.begin(request_string);
http.GET();
http.end();
}
delay(10);
if (client.connect("api.thingspeak.com",80))
{
request_string = thingSpeakAddress;
request_string += "key=";
request_string += "2YGO2FHN3XI3GFE7";
request_string += "&";
request_string += "field4";
request_string += "=";
request_string += adc3;
http.begin(request_string);
http.GET();
http.end();
}
delay(10);}
```