**IMPLEMENTATION**

Arduino Sketch:

#include <SimpleDHT.h>

#include <ESP8266WiFi.h>

#include <BlynkSimpleEsp8266.h>

#define BLYNK\_TEMPLATE\_ID "TMPLVbaABeQv"

#define BLYNK\_TEMPLATE\_NAME "KrushiMitra"

#define BLYNK\_AUTH\_TOKEN "Nxog8BqyARv1zTQrsdaDo0-tj1oCGXQO"

char auth[] = BLYNK\_AUTH\_TOKEN;

char ssid[] = "";  //Enter your WIFI name

char pass[] = "";  //Enter your WIFI password

#define light\_sensor A0

int soil = 4;  //D2

int pinDHT11 = 0; //D3

byte humid,temp;

int light\_value, soil\_moist;

int fan = 2; //D4

int lights = 14; //D5

int water = 12; //D6

//Actuator flags for manual override; -1=auto, 0=off, 1=on

int fanf = 0;

int lightf = 0;

int waterf = 0;

SimpleDHT11 dht11(pinDHT11);

BlynkTimer timer;

void myTimer()

{

  // This function describes what will happen with each timer tick

  Blynk.virtualWrite(V0, humid);

  Blynk.virtualWrite(V1, temp);

  Blynk.virtualWrite(V3, light\_value);

  Blynk.virtualWrite(V2, soil\_moist);

}

BLYNK\_WRITE(V4) // Executes when the value of virtual pin 4 changes

{

  lightf = param.asInt();  //Light

}

BLYNK\_WRITE(V5) // Executes when the value of virtual pin 5 changes

{

  fanf = param.asInt();  //Fan

}

BLYNK\_WRITE(V6) // Executes when the value of virtual pin 6 changes

{

  waterf = param.asInt();  //Water

}

void setup(){

  //Initiate Serial communication.

  Serial.begin(9600);

  Blynk.begin(auth, ssid, pass, "blynk.cloud", 80);

  pinMode(light\_sensor, INPUT);

  pinMode(soil, INPUT);

  pinMode(fan, OUTPUT);

  pinMode(lights, OUTPUT);

  pinMode(water, OUTPUT);

  timer.setInterval(500L, myTimer);

}

void loop(){

  if (dht11.read(&temp, &humid, NULL)) {

    Serial.print("Read DHT11 failed.");

    return;

  }

  light\_value = analogRead(light\_sensor);

  soil\_moist = digitalRead(soil);

  if(soil\_moist==1)

  {

    soil\_moist=0;

  }

  else

  {

    soil\_moist=1;

  }

  Serial.print("H:");

  Serial.print(humid);

  Serial.print(" T:");

  Serial.print(temp);

  Serial.println();

  Serial.print("Light:");

  Serial.print(light\_value);

  Serial.println();

  Serial.print("Soil Moisture:");

  Serial.print(soil\_moist);

  Serial.println();

  if((light\_value<=700 && lightf==-1) || lightf==1)

  {

    digitalWrite(lights, HIGH);

  }

  else

  {

    digitalWrite(lights, LOW);

  }

  if((temp>=25 && fanf==-1) || fanf==1)

  {

    digitalWrite(fan, HIGH);

  }

  else

  {

    digitalWrite(fan, LOW);

  }

  if((soil\_moist==0 && waterf==-1) || waterf==1)

  {

    digitalWrite(water, HIGH);

    delay(200);

    digitalWrite(water, LOW);

  }

  else

  {

    digitalWrite(water, LOW);

  }

  delay(2000);  //2 sec

  // Runs all Blynk stuff

  Blynk.run();

  // runs BlynkTimer

  timer.run();

}