#include <SoftwareSerial.h>

SoftwareSerial Seriald(7, 8);//7 tx 8 rx

const int water\_read = A0;

const int soil\_read = A1;

int value\_water;

int value\_soil;

int soil\_thr= 100;

int water\_thr = 100;

int motor\_w = 9;

int motor\_s = 10;

int call\_water =0;

int call\_soil=0;

int called =0;

String instr="";

int i=0;

void callphone()

{

Serial.println("setting up comms");

Seriald.println("AT+CMGF=0");

// delay(5000);

Serial.println("dialling...");

Seriald.println("ATD +917676405737;");

delay(30000);

Seriald.println("ATH0");

Serial.println("Hung up.");

called =1 ;

}

void setup()

{

Serial.begin(9600);

Seriald.begin(9600);

pinMode(water\_read , INPUT);

pinMode(soil\_read , INPUT);

pinMode(motor\_w , OUTPUT);

pinMode(motor\_s , OUTPUT);

delay(1000);

}

void loop()

{

value\_water = analogRead(water\_read);

value\_soil = analogRead(soil\_read);

if ( value\_water <= water\_thr){

if(called ==0)

{

callphone();

}

call\_water = 1;

// Serial.println("Call\_wat:");

//Serial.print(call\_water);

//Serial.println("");

}

else

{

call\_water = 0;

digitalWrite(motor\_w , LOW);

// Serial.println("Call\_wat:");

//Serial.println(call\_water);

// Serial.println("");

}

if ( value\_soil <= soil\_thr){

if(called == 0)

{

callphone();

}

call\_soil=1;

//Serial.println("Call\_soil:");

// Serial.print(call\_soil);

}

else

{

call\_soil =0;

digitalWrite(motor\_s, LOW);

// Serial.println("Call\_soil:");

// Serial.print(call\_soil);

}

while (Serial.available())

{

Seriald.write(Serial.read());//Forward what Serial received to Software Serial Port

}

while(Seriald.available())

{

char ch=Seriald.read();

Serial.write(ch);//Forward what Software Serial received to Serial Port

instr+=ch;

i++;

if(instr[i-4] == 'R' && instr[i-3] == 'I' && instr[i-2] == 'N' && instr[i-1] == 'G' )

{

if(call\_water==1)

{

digitalWrite(motor\_w , HIGH);

Serial.println("WATER MOTOR IS RUNNING");

}

else

{

digitalWrite(motor\_w , LOW);

Serial.println("WATER MOTOR IS NOT RUNNING");

}

if(call\_soil==1)

{

digitalWrite(motor\_s, HIGH);

Serial.println("sOIL MOTOR IS RUNNING");

}

else

{

digitalWrite(motor\_s, LOW);

Serial.println("SOIL MOTOR IS NOT RUNNING");

}

}

}

}