#include<LiquidCrystal.h>

#include<Wire.h>

#include <SoftwareSerial.h>

#define rxPin 2

#define txPin 3

SoftwareSerial sim800(rxPin, txPin);

LiquidCrystal lcd(12, 11, 10, 9, 8, 7);

int LevelSensor = 14;

int red = 6;

int green = 4;

int Solinoidrelay = 15;

int buzzer = 5;

int buttonState = 1;

void setup()

{

Serial.begin(9600);

sim800.begin(9600);

Serial.println("SIM800L software serial initialize");

sim800.println("AT");

pinMode(LevelSensor, INPUT\_PULLUP);

pinMode (red, OUTPUT);

pinMode (Solinoidrelay, OUTPUT);

pinMode (green, OUTPUT);

pinMode (buzzer, OUTPUT);

lcd.begin(16, 2);

lcd.setCursor(0, 0);

lcd.print(" GSM based Saline");

lcd.setCursor(0, 1);

lcd.print(" Monitoring system");

delay(3000);

lcd.setCursor(0, 0);

lcd.print(" ");

lcd.setCursor(0, 1);

lcd.print(" ");

delay(3000);

lcd.clear();

}

void loop()

{

buttonState = digitalRead(LevelSensor);

if (buttonState == HIGH)

{

digitalWrite(red, LOW);

digitalWrite(green, HIGH);

digitalWrite(buzzer, LOW);

digitalWrite(Solinoidrelay, LOW);

Serial.println("Saline LEVEL - LOW");

lcd.setCursor(0, 0);

lcd.print("S-Level:- Normal ");

lcd.setCursor(0, 1);

lcd.print(" Motor ON.");

SendMessagelevelNotFull();

}

else

{

digitalWrite(red, HIGH);

digitalWrite(green, LOW);

digitalWrite(buzzer, HIGH);

digitalWrite(Solinoidrelay, HIGH);

Serial.println("Saline LEVEL - HIGH");

lcd.setCursor(0, 0);

lcd.print("S-Level:- FULL.. ");

lcd.setCursor(0, 1);

lcd.print(" Motor OFF");

SendMessagelevelFull();;

}

delay(1000);

}

void SendMessagelevelFull()

{

sim800.println("AT+CMGF=1");

delay(1000);

sim800.println((char)26);

delay(100);

sim800.println("AT+CMGS=\"+9180087 17525\"\r");

delay(1000);

sim800.println("Saline level is full, please check pump!");

delay(1000);

}

void SendMessagelevelNotFull()

{

sim800.println("AT+CMGF=1");

delay(1000);

sim800.println((char)26);

delay(100);

sim800.println("AT+CMGS=\"+9180087 17525\"\r");

delay(1000);

sim800.println("Saline level monitoring started");

delay(1000);

}