EE366 Final Project
“Home Irrigation System”

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Section: HA

Agenda

Introduction

Circuit Design

Flowchart

Simulation Pictures (Proteus 8)

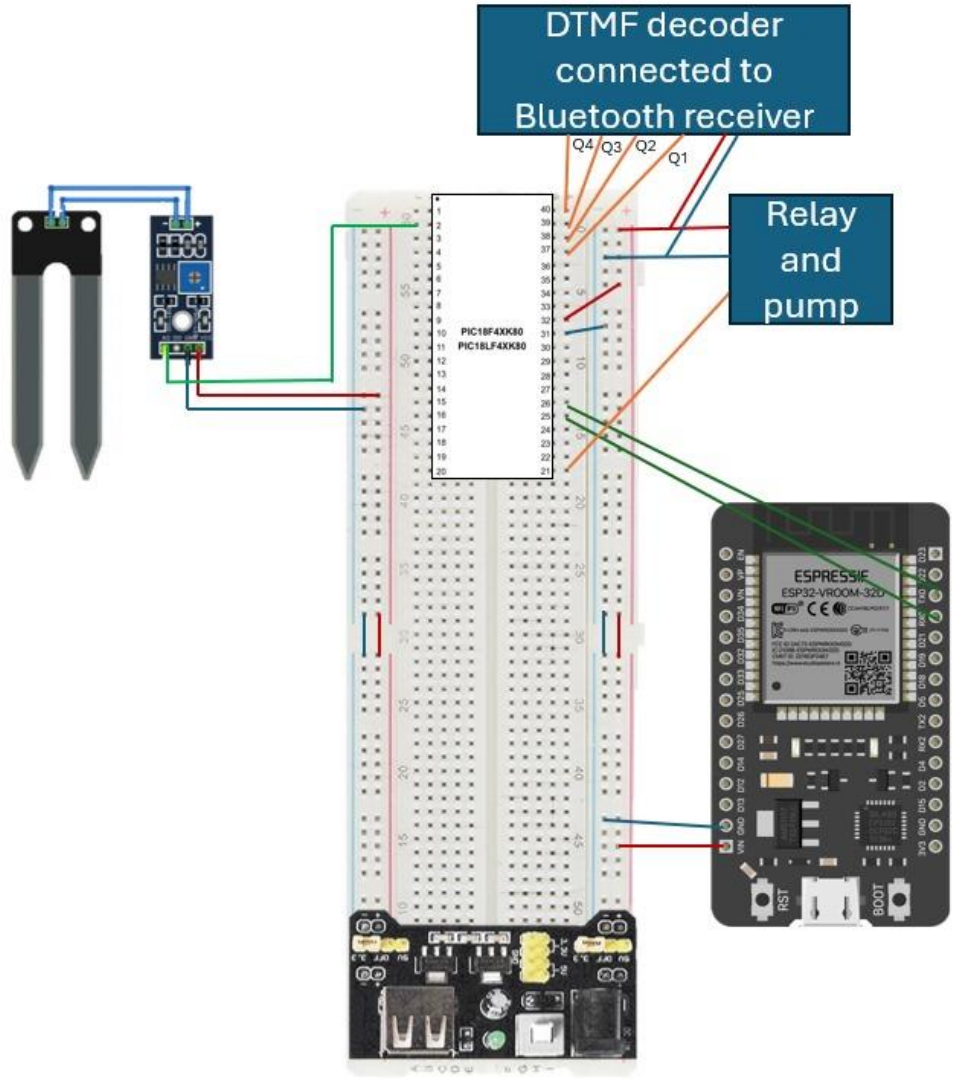
Project Pictures

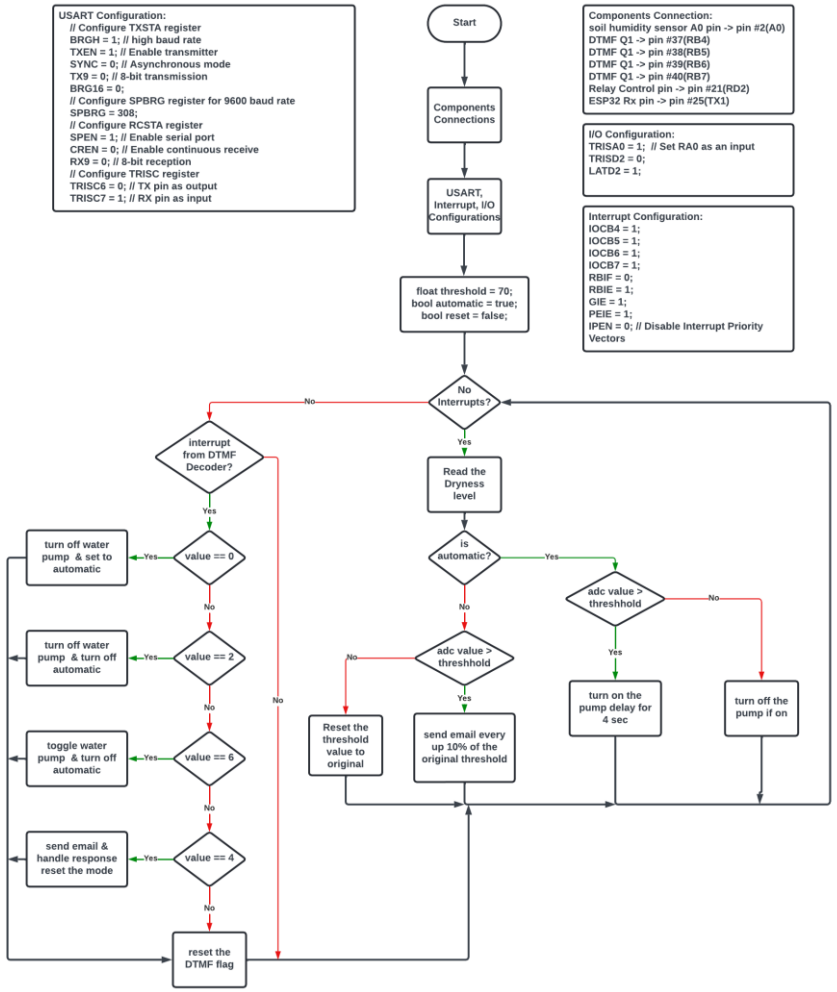
Introduction

- A wiseman once said: “If you mastered the microcontroller, you can control anything” **(Dr.Wassim Alzouch)**
- Our project helps to monitor the soil humidity level.
- Automatically provide the soil with some water when it gets dry.
- Notify the user through an e-mail with the moisture level.
- Allow the user to manually control the pump that waters the **soil.**

Circuit Design

Auto = 1
Manual = 2
Pump = 6
Reset/off = 4





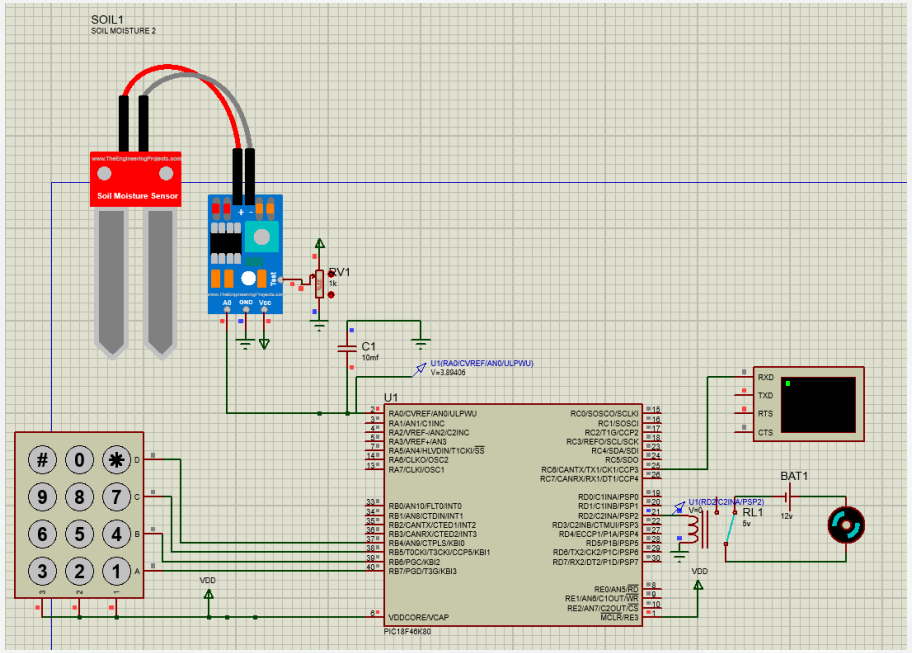
Flowchart

If the manual mode is on, an e-mail will be sent every +10 of the threshold if the soil was still dry.

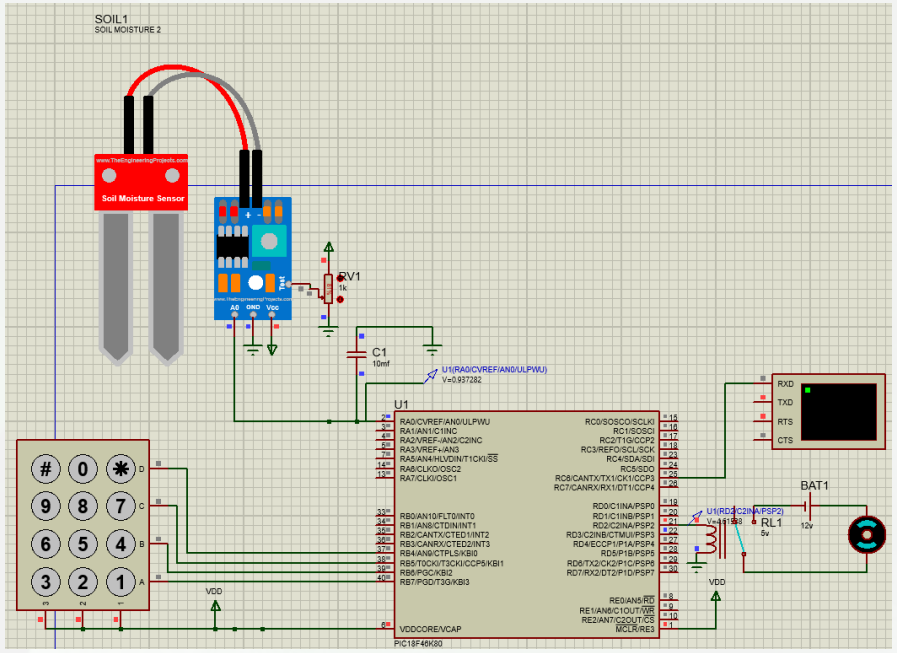
```
}else{
    if(adc_value > thresholdM){
        // send email with dryness level
        UART_Write(30);
        thresholdM += 10;
    }else if(adc_value < threshold || reset){
        thresholdM = threshold;
    }
}
```

Simulation Pictures (Proteus 8)

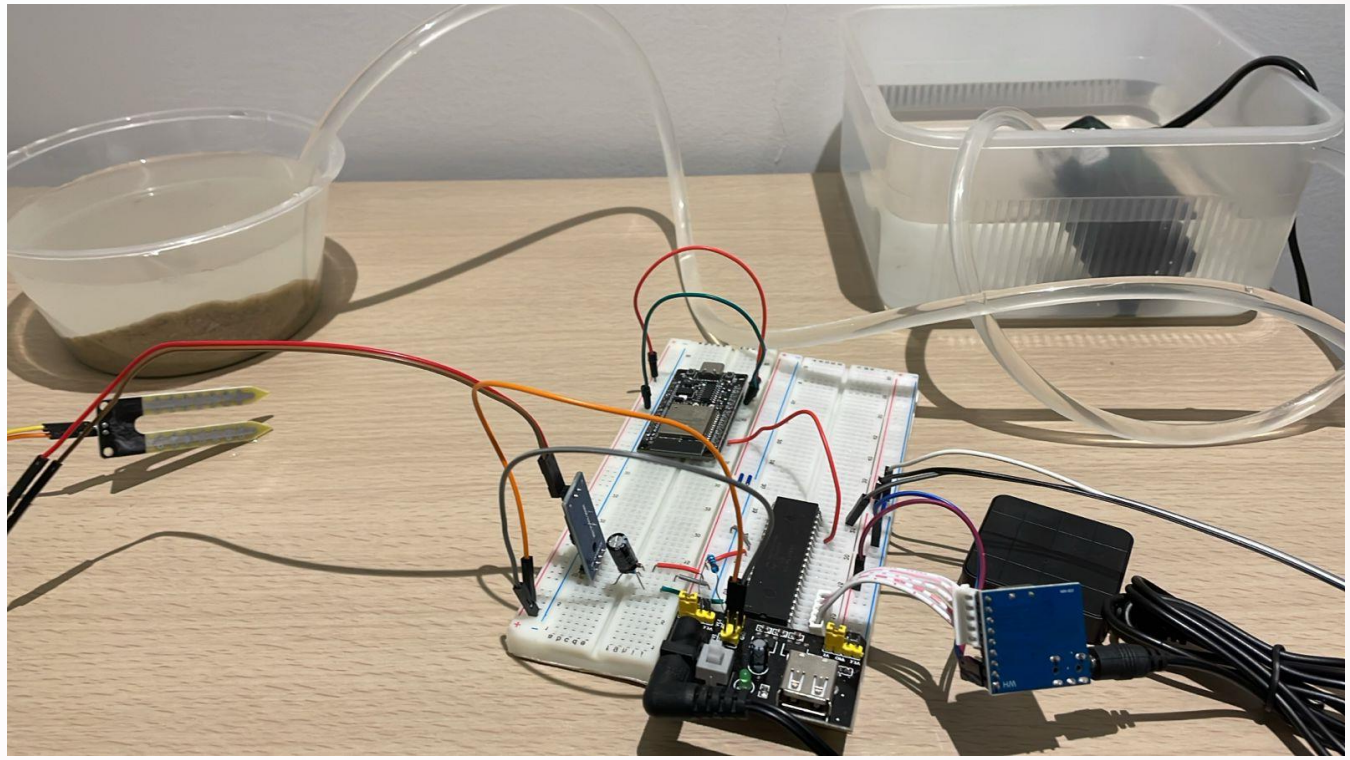
Low Humidity (Water Pump = ON)

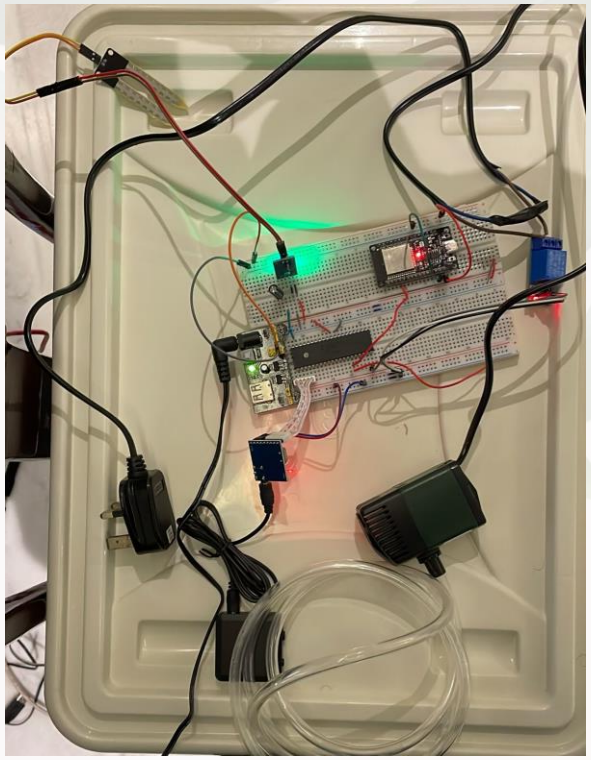


High Humidity (Water Pump = OFF)



Project Pictures





Project Pictures (Apps Script Server)

```
function doGet(e){
      return sendEmail("Low moisture levels","Soil moisure levels are currently down to 30%; Kindly refill using the home button icons.")
      }
function sendEmail(sub,type) {
  MailApp.sendEmail({
    to: "mbathallath@stu.kau.edu.sa",
    subject: sub,
    body: "\n" + type + " Indicent was detected on " + getDate()
  });
}

function getDate(){
  var currentDate = new Date();
  var formattedDate = Utilities.formatDate(currentDate, Session.getScriptTimeZone(), "yyyy-MM-dd HH:mm:ss");
  return formattedDate;
}
```

Thank you