Automatic Plant Watering System

Makers Fair 2021

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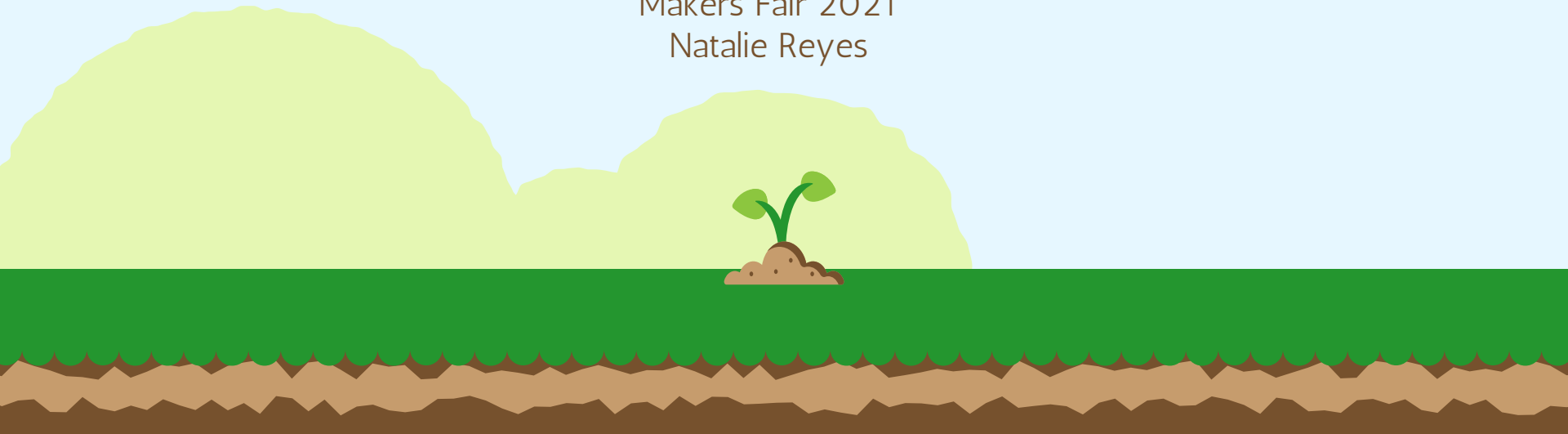
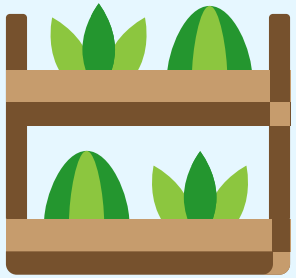


Summary

This project is a soil moisture monitoring system. It detects when the soil's moisture content is above or below a certain level. When the moisture content drops below the set level, the water pump is activated and pumps water from a mason jar into the plant until the moisture content reaches the set threshold. Thus keeping your plants well watered and healthy!

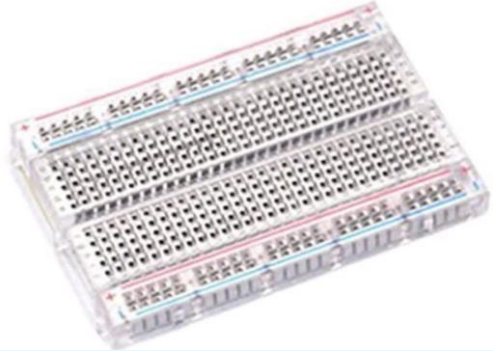


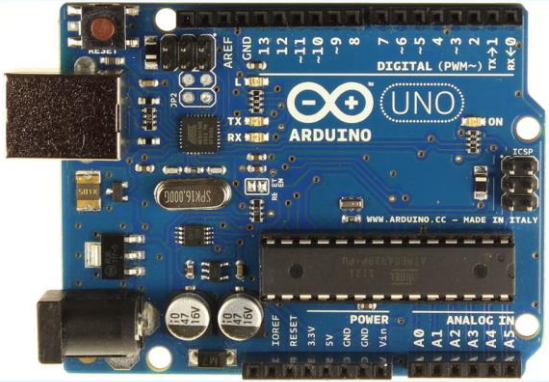
Why I chose this project?

I chose to do this automatic plant watering system because I really enjoy gardening and having fresh herbs to cook with. Unfortunately, I always seem to end up overwatering or underwatering all plants that I take under my wing. I hope that with this project I will finally find my green thumb.

Parts Used

- Arduino Uno
- Capacitive Soil Moisture Sensor
- 4 Channel 5V Relay Module
- Mini Water Pump
- Vinyl Tubing
- Jumper Wires
- BreadBoard





System Code

```
int IN1=3;
int Pin1=A0;
float value1=0;

void setup() {
  Serial.begin(9600);
  pinMode(IN1, OUTPUT);
  pinMode(Pin1, INPUT);
  digitalWrite(IN1, HIGH);  }

void loop() {
  Serial.print("BASIL - MOISTURE LEVEL: ");
  value1=analogRead(Pin1);
  Serial.println(value1);
  if (value1>550)
  {digitalWrite(IN1, LOW); }
  else
  {digitalWrite(IN1, HIGH);}

  delay(5000);                    }
```

```
BASIL - MOISTURE LEVEL: 583.00
BASIL - MOISTURE LEVEL: 583.00
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```
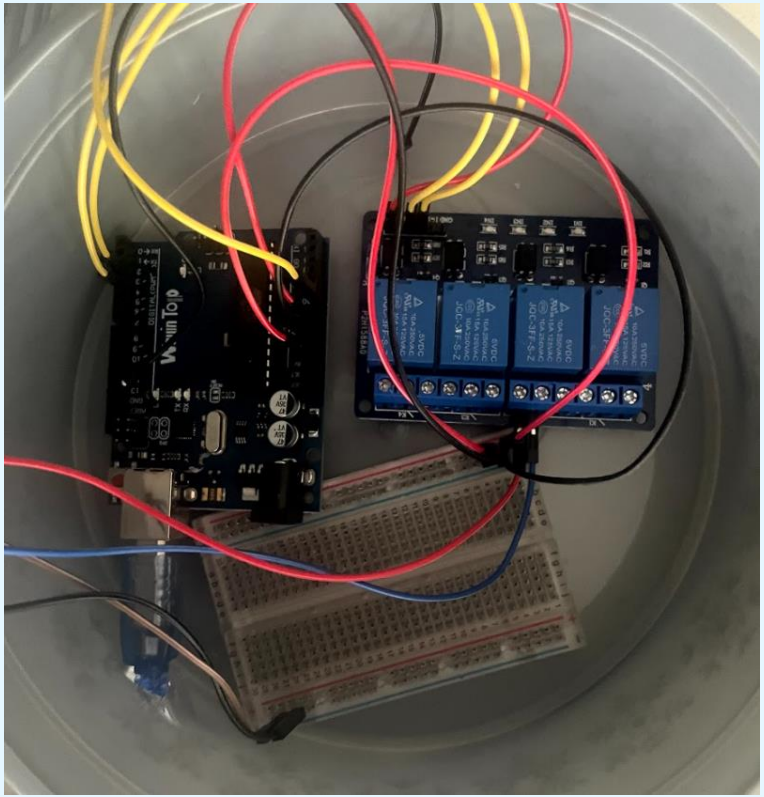

Hardware Image



Videos