Smart water management

Irrigation system

In this project we have used for the stimulation purpose. In this development part we are connect to ESP32 with the LCD1602 in wokwi.

In the wokwi application we have use the soil sensor breakout for the testing the soil type and the range of the moisture presence in soil.

The sensor will detect the range which we have set it through the program it will give the notifications in the LCD display.

We can consider the condition of the soil moisture level at right time by use of IOT and make the irrigation for the land to give protection and boost for the growth for the plant.

Here is the code for the stimulation

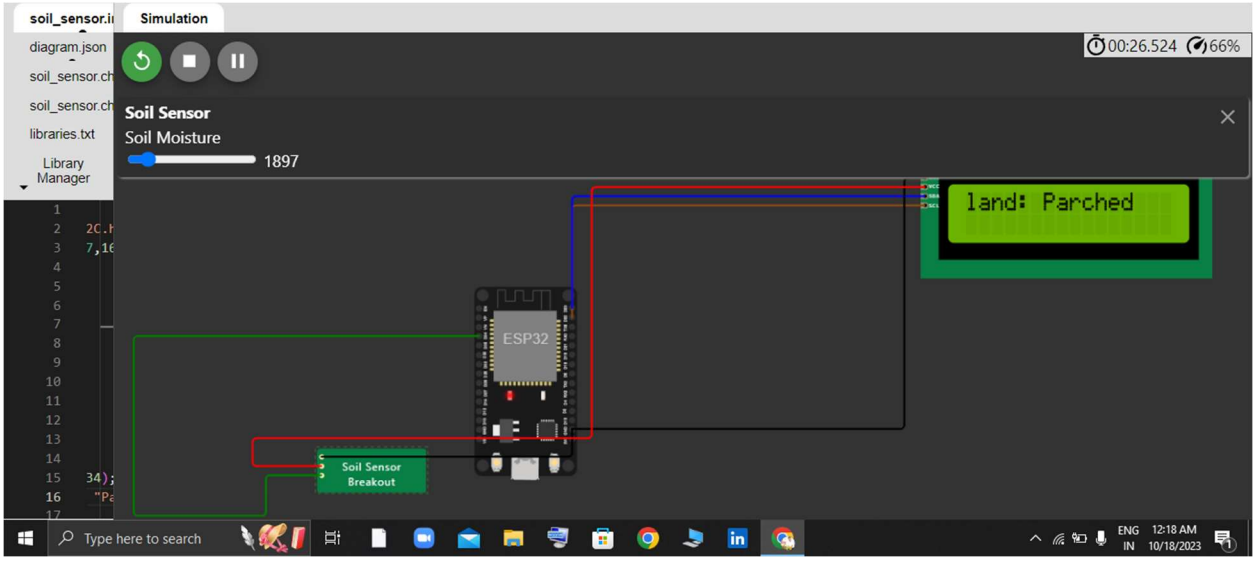
```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27,16,2);

void setup()
{
  Wire.begin(23, 22);
  Serial.begin(3300);
  lcd.init();
  lcd.backlight();
}

void loop()
{
  int16_t i = analogRead(34);
  String msg = i < 2165 ? "Parched" : i > 3165 ? "Drenched" : "Good form";
  lcd.clear();
  lcd.print("land: ");
  lcd.print(msg);
  delay(500);
}
```

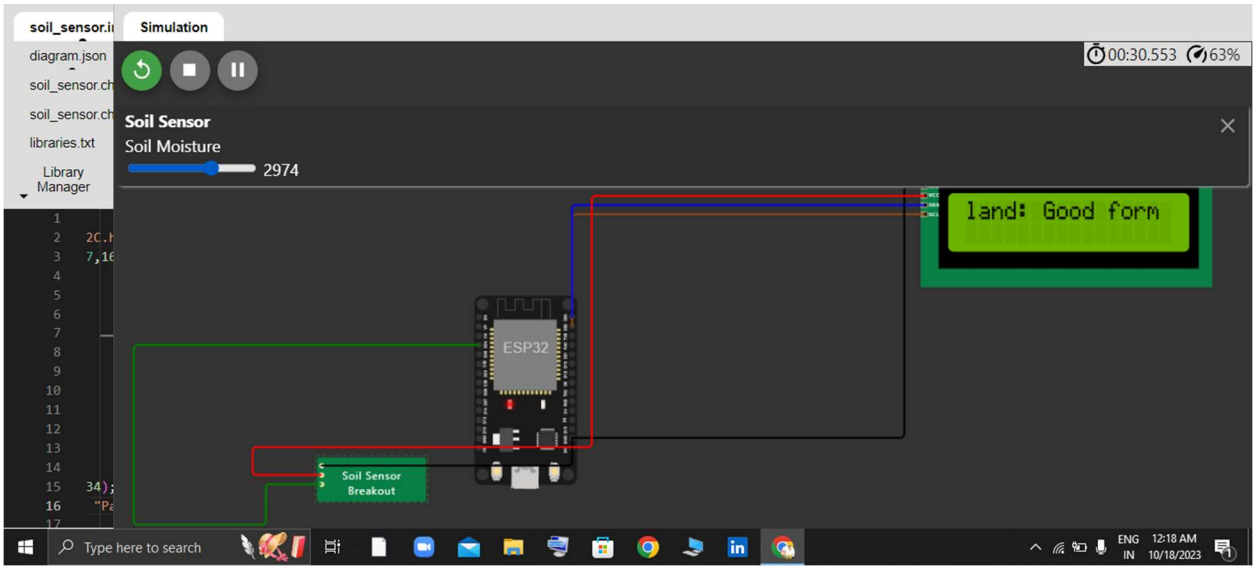
Here we can saw the stimulation of the system

This is the stimulation for the parched (dry) level of land condition



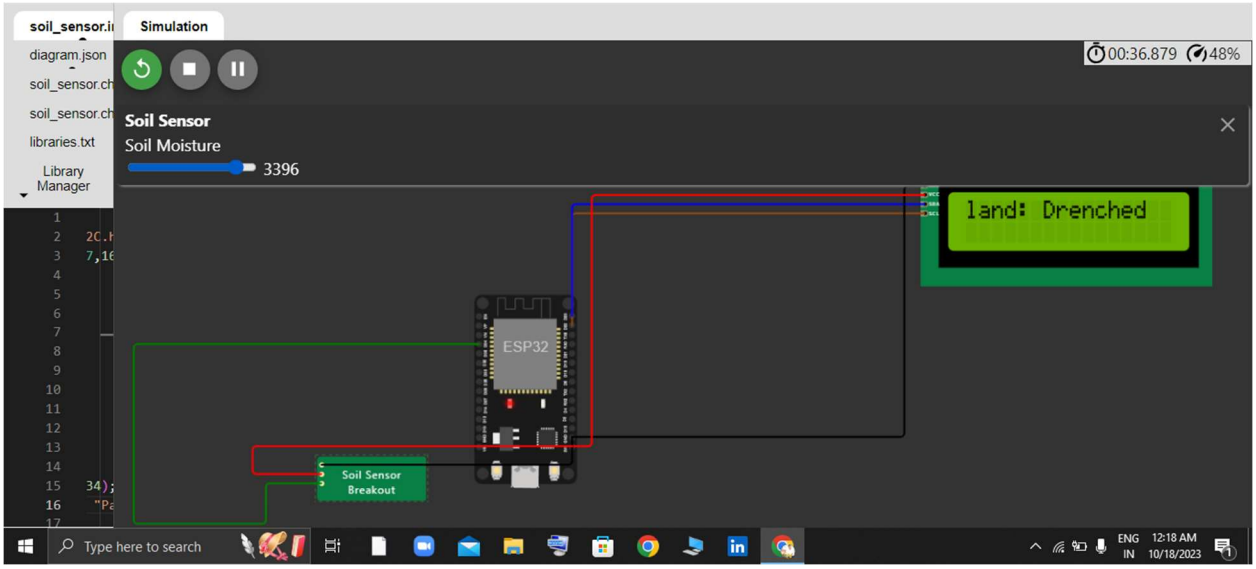
In this stage water are needed for the land and it will give by automatically from the water pump

And next is the stimulation for the good condition of the land



From here there is a good water level in land. All plants in good moisture condition.

Here is the stimulation for the drenched (wet) level of condition



Here no need to supply the water because of excess of water are in the soil detected by the sensor break threw.