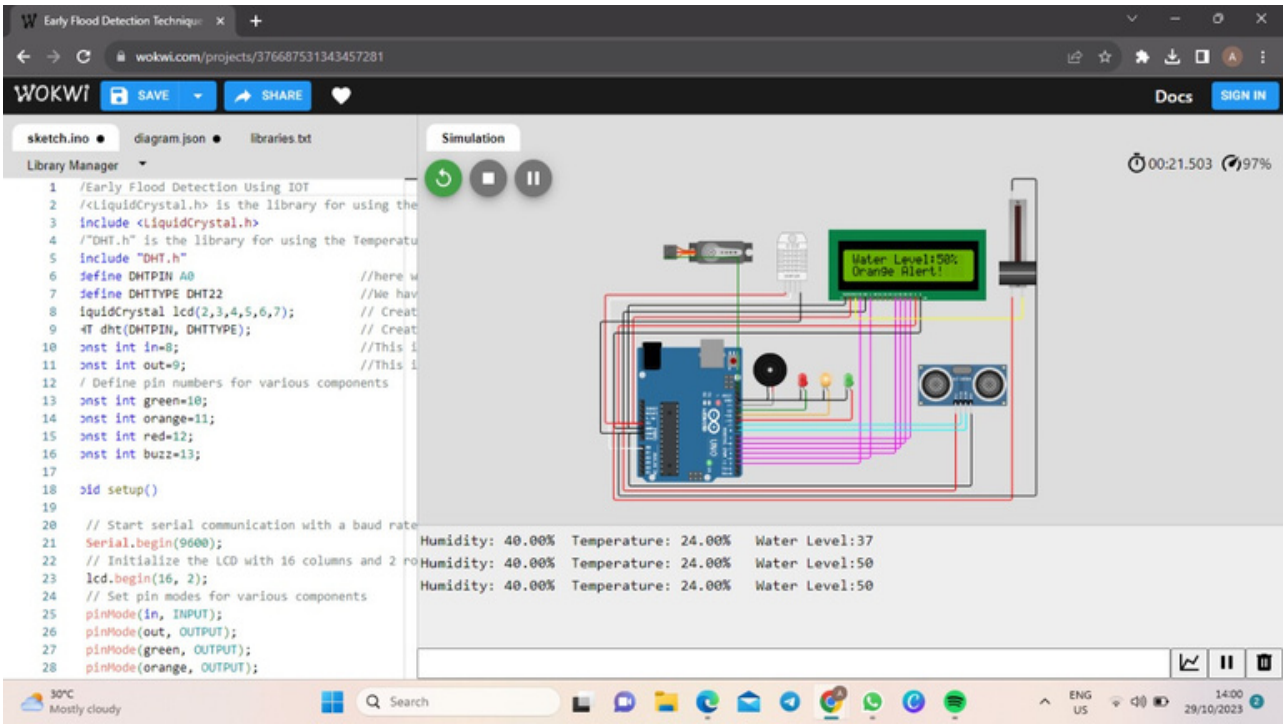
FLOOD MONITORING AND EARLY WARNING SYSTEM

```
#define BLYNK_TEMPLATE_ID "TMPL3tobBFjj-"
#define BLYNK_TEMPLATE_NAME "IOT FLOOD MONITORING"
#define BLYNK_AUTH_TOKEN "gy2bzR-i-RbPW3oWOpAiDgr6sSVzIHVZ"

char auth[] = BLYNK_AUTH_TOKEN;
char ssid[] = "Wokwi-GUEST";
char pass[] = "";

#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include <ESP32Servo.h>
Servo gate;
const int trigPin=2;//d2
const int echoPin=4;//d4
const int servoPin = 18;//d18
long duration;
int distance;
```

```
void setup() {
  Serial.begin(9600);
  Blynk.begin(auth, ssid, pass);
   pinMode(trigPin, OUTPUT);
   pinMode(echoPin, INPUT);
   gate.attach(servoPin, 500, 2400);
}

void loop()
{
 digitalWrite(trigPin, LOW);
 delay(2);
 digitalWrite(trigPin,HIGH);
 delay(10);
 digitalWrite(trigPin, LOW);


 duration=pulseIn(echoPin,HIGH);
 distance=duration*0.034/2;
 Serial.println(distance);
 Blynk.virtualWrite(V0,distance);
```

```
if(distance<250)
{
  gate.write(90);
 Blynk.virtualWrite(V1,"FLOOD DETECTED GATES OPENED");
}
else
{
  gate.write(0);
Blynk.virtualWrite(V1,"SAFE CONDITIONS GATES CLOSED");
}
}
```



Mobile Application:

This project harnesses the Blynk IoT platform to create a mobile app for monitoring floods.

It gathers real-time data from water sensors via Arduino or Raspberry Pi, sending it to the Blynk app for easy user access.

The app displays water levels visually and sends alerts if critical levels are detected, empowering users to take timely precautions in flood-prone areas, aiming to enhance safety and disaster preparedness.

Future improvements are considered for better real-world application.