**FOOD ADULTRATION CODE**

#define BLYNK\_TEMPLATE\_ID "TMPL3IdQBno1h"

#define BLYNK\_TEMPLATE\_NAME "Food Adultration"

#define BLYNK\_AUTH\_TOKEN "wPCULEXrGhkTnBguB6ofdk-TELTFZibQ"

#define BLYNK\_PRINT Serial

#include <ESP8266WiFi.h>

#include <BlynkSimpleEsp8266.h>

#include <Wire.h> // Include the Wire library for I2C communication

#include <DHT.h>

#include <LiquidCrystal\_I2C.h> // Include the LiquidCrystal I2C library

char auth[] = BLYNK\_AUTH\_TOKEN;

char ssid[] = "project"; // Enter your wifi name

char pass[] = "12345678"; // Enter your wifi password

int spoilageA0 = A0; // Analog pin connected to MQ3 sensor

int sensorThres = 300; // Spoilage detection threshold

int data = 0;

const int ledPinSpoilage = D6; // LED pin for spoilage detection

const int ledPinNormal = D7; // LED pin for normal condition

BlynkTimer timer;

#define DHTPIN D4 // Pin which is connected to the DHT sensor

#define DHTTYPE DHT11 // DHT 11

DHT dht(DHTPIN, DHTTYPE); // Initialize DHT sensor

LiquidCrystal\_I2C lcd(0x27, 16, 2); // Address 0x27 for an I2C 16x2 display

void sendSensor() {

data = analogRead(spoilageA0);

Blynk.virtualWrite(V0, data); // Sending sensor data to virtual pin V0

Serial.print("Analog Reading: ");

Serial.println(data);

float humidity = dht.readHumidity();

float temperature = dht.readTemperature();

if (isnan(humidity) || isnan(temperature)) {

Serial.println("Failed to read from DHT sensor!");

return;

}

Blynk.virtualWrite(V2, humidity); // Sending humidity data to virtual pin V2

Blynk.virtualWrite(V3, temperature); // Sending temperature data to virtual pin V3

lcd.clear(); // Clear the LCD screen

lcd.setCursor(0, 0); // Set cursor to the beginning of the first line

lcd.print("Food Adultration"); // Display "Food Adultration" on the first line

lcd.setCursor(0, 1); // Set cursor to the beginning of the second line

if (data > sensorThres) {

lcd.print("Result: Bad"); // Display "Bad" if spoilage detected

digitalWrite(ledPinSpoilage, HIGH); // Turn on LED for spoilage detection

digitalWrite(ledPinNormal, LOW); // Turn off LED for normal condition

Blynk.logEvent("spoilage\_detection","WARNNG! Spoilage Detected!");

Serial.println("Spoilage detected!");

} else {

lcd.print("Result: Good"); // Display "Good" if no spoilage detected

digitalWrite(ledPinSpoilage, LOW); // Turn off LED for spoilage detection

digitalWrite(ledPinNormal, HIGH); // Turn on LED for normal condition

Serial.println("No spoilage detected.");

}

}

void setup() {

pinMode(spoilageA0, INPUT);

pinMode(ledPinSpoilage, OUTPUT);

pinMode(ledPinNormal, OUTPUT);

Serial.begin(115200);

Blynk.begin(auth, ssid, pass);

timer.setInterval(2500L, sendSensor);

Wire.begin(); // Initialize I2C communication

lcd.init(); // Initialize the LCD display

lcd.backlight(); // Turn on the backlight

dht.begin(); // Initialize DHT sensor

}

void loop() {

Blynk.run();

timer.run();

}