#include "AS726X.h"

#include <ESP32Servo.h>

AS726X sensor;

Servo servo1;

Servo servo2;

void setup() {

Wire.begin(21, 22);

Serial.begin(115200);

if (!sensor.begin()) {

Serial.println("Sensor not found.");

while (1);

}

// You must attach with min/max pulse widths for ESP32

servo1.setPeriodHertz(50); // standard 50 Hz servo

servo2.setPeriodHertz(50);

servo1.attach(13, 500, 2400); // GPIO 13 with pulse width range

servo2.attach(12, 500, 2400); // GPIO 12

servo1.write(90);

servo2.write(90);

}

void loop() {

sensor.takeMeasurements();

float R = sensor.getCalibratedR();

float W = sensor.getCalibratedW();

Serial.print("R: "); Serial.print(R);

Serial.print(" W: "); Serial.println(W);

if (R > 20 && W > 10) {

Serial.println("🌞 Ambient / No object");

servo1.write(0);

servo2.write(0);

} else if (R > 4.5 || W > 7.0) {

Serial.println("♻️ Plastic detected");

servo1.write(180);

servo2.write(180);

delay(1000);

servo1.write(00);

servo2.write(0);

} else if (R >= 1.0 && R <= 3.6 && W < 6.5) {

Serial.println("🌲 Wood detected");

servo1.write(0);

servo2.write(0);

} else {

Serial.println("❓ Unknown material");

servo1.write(180);

servo2.write(180);

delay(1000);

servo1.write(0);

servo2.write(0);

}

delay(1000);

}