#include <Servo.h>

Servo gateServo;

const int trigPin = 7;

const int echoPin = 6;

const int ledPin = 5; // LED connected to pin 5

long duration;

int distance;

void setup() {

gateServo.attach(9);

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

pinMode(ledPin, OUTPUT); // LED initialized

Serial.begin(9600);

}

void loop() {

// Simulate feeding time every 10 seconds

delay(10000);

dispenseFood();

checkFoodLevel();

}

void dispenseFood() {

Serial.println("Dispensing food...");

digitalWrite(ledPin, HIGH); // Turn ON LED

gateServo.write(0); // Open gate

delay(2000);

gateServo.write(90); // Close gate

digitalWrite(ledPin, LOW); // Turn OFF LED

delay(500);

}

void checkFoodLevel() {

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);

distance = duration \* 0.034 / 2;

Serial.print("Food Level Distance: ");

Serial.print(distance);

Serial.println(" cm");

if (distance > 10) {

Serial.println("⚠️ Warning: Food container may be empty!");

} else {

Serial.println("✅ Sufficient food available.");

}

}

