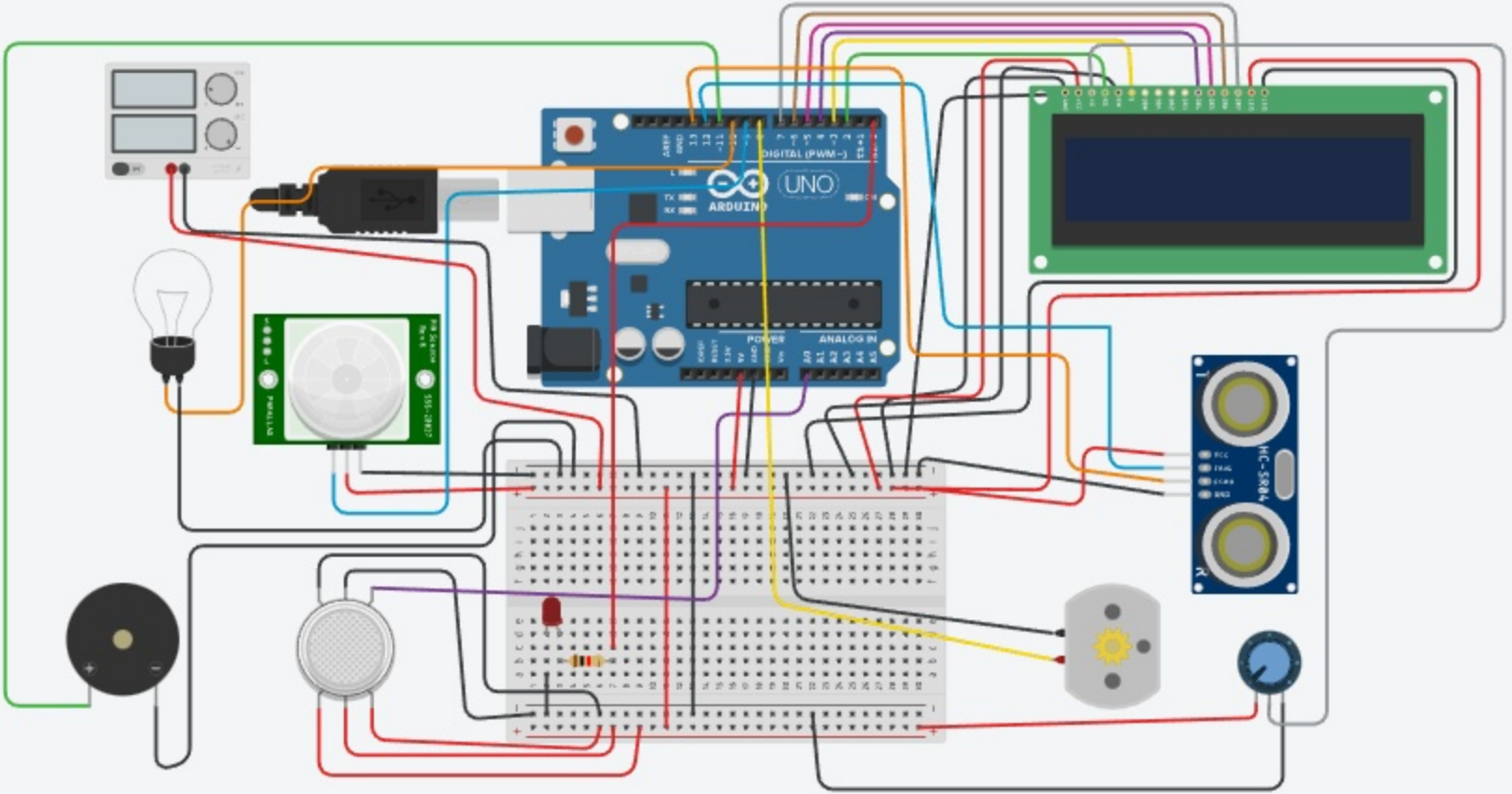
```
#include<LiquidCrystal.h>
LiquidCrystal lcd(2,3,4,5,6,7);

int trigPin = 12;
int echoPin = 13;
float travelTime;
float level;
float speed;

float readStatusofContainer(int trigPin,int echoPin)
{
  digitalWrite(trigPin,LOW);
  delayMicroseconds(100);
  digitalWrite(trigPin,HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin,LOW);
  return pulseIn(echoPin,HIGH);
}


int motorPin = 8;


int pirPin = 9;


int lightPin = 10;


int gasPin = A0;
int threshold = 400;


int buzzPin = 11;


int ledPin = 0;

void setup()
{
  Serial.begin(9600);


  lcd.begin(16,2);


  pinMode(trigPin,OUTPUT);
  pinMode(echoPin,INPUT);

  pinMode(motorPin,OUTPUT);


  pinMode(pirPin,INPUT);


  pinMode(lightPin,OUTPUT);
```

```
  pinMode(gasPin,INPUT);


  pinMode(buzzPin, OUTPUT);

  pinMode(ledPin,OUTPUT);
}

void loop()
{
  travelTime = readStatusofContainer(trigPin,echoPin);
  travelTime = travelTime/1000000;
  travelTime = travelTime/3600;
  speed = 60.0;
  level = speed * travelTime;
  level = level/2;
  level = level * 63360;
  if(level <= 4.5)
  {
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("Trash Level:");
    lcd.setCursor(0,1);
    lcd.print(level);
      lcd.print(" inches");
      delay(100);
  }
  else
  {
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("Trash is full");
    lcd.setCursor(0,1);
    lcd.print(level);
      lcd.print(" inches away");
      delay(100);
  }

  travelTime = readStatusofContainer(trigPin,echoPin);
  travelTime = travelTime/1000000;
  travelTime = travelTime/3600;
  speed = 240.1;
  level = speed * travelTime;
  level = level/2;
  level = level * 63360;
  if(level <= 19.0)
  {
      digitalWrite(motorPin,HIGH);
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("Level:    Motor");
    lcd.setCursor(0,1);
    lcd.print(level);
      lcd.print(" in   On");
      delay(100);
  }
  else
```

```
  {
    digitalWrite(motorPin,0);
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("Level:    Motor");
    lcd.setCursor(0,1);
    lcd.print(level);
      lcd.print(" in   Off");
      delay(100);
  }


  if(digitalRead(pirPin)==HIGH)
      digitalWrite(lightPin, HIGH);
  else
    digitalWrite(lightPin, LOW);
  delay(100);

  if(analogRead(gasPin) >= threshold)
  {
    digitalWrite(ledPin,HIGH);
      digitalWrite(buzzPin,HIGH);
  }
  else
  {
    digitalWrite(ledPin,LOW);
    digitalWrite(buzzPin,LOW);
  }
  delay(100);
}
```


UNO
ARDUINO
DIGITAL (PWM~)
POWER
ANALOG IN
HC-SR04