WEATHER MONITORING SYSTEM

PROJECT DESCRIPTION

This project is a **Weather and Gas Monitoring System** using **Arduino UNO**. It measures **temperature**, **humidity**, and **gas concentration** in the surrounding environment. A **DHT11 sensor** is used to detect temperature and humidity, while a **gas sensor (MQ-2 / MQ-135)** monitors harmful gases in the air. The collected data is processed by the Arduino and displayed in real time on a **16×2 I2C LCD**.This system is useful for **indoor air quality monitoring**, **weather observation**, and **safety applications** in homes, labs, and industries.

PIN CONNECTIONS

DHT11 Sensor

Pin	Arduino
VCC	5V
GND	GND
DATA	D2

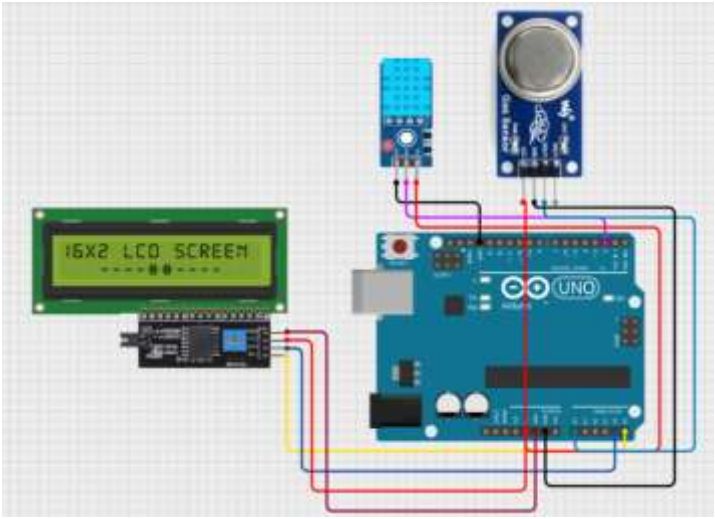
Gas Sensor (MQ-2 / MQ-135)

Pin	Arduino
VCC	5V
GND	GND
AO	A0

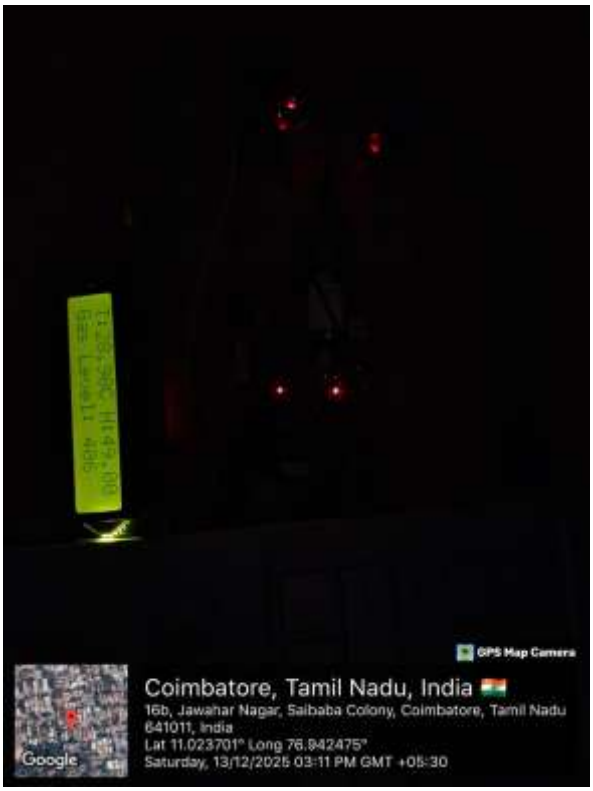
LCD (I2C – 0x27)

Pin	Arduino
VCC	5V
GND	GND
SDA	A4
SCL	A5

CIRCUIT DIAGRAM



PROJECT PHOTOS



CODE

```
#include <Wire.h>

#include <LiquidCrystal_I2C.h>
#include <DHT.h>
#define DHTPIN 2
#define DHTTYPE DHT11
#define GAS_PIN A0

DHT dht(DHTPIN, DHTTYPE);
LiquidCrystal_I2C lcd(0x27, 16, 2);

void setup() {
  lcd.init();
  lcd.backlight();
  dht.begin();
}

void loop() {
  float humidity = dht.readHumidity();
  float temperature = dht.readTemperature();
  int gasValue = analogRead(GAS_PIN);
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("T:");
  lcd.print(temperature);
```

```
  lcd.print("C H:");
  lcd.print(humidity);
  lcd.print("%");
  lcd.setCursor(0, 1);
  lcd.print("Gas Level: ");
  lcd.print(gasValue);
  delay(2000);
}
```