UNIVERSITATEA TEHNICĂ
DIN CLUJ-NAPOCA

Arduino Local Weather Station

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1. Problem statement.

The project aims to create a comprehensive environmental monitoring system that measures temperature, humidity, and air quality. The specific problem is to provide real-time data on these environmental parameters and to alert users in case of high gas concentrations.

2. The solution.

The solution involves integrating a DHT11 sensor for temperature and humidity monitoring and an MQ gas sensor for air quality measurement. The Arduino-based system displays the data on an I2C-enabled LCD screen and triggers visual alerts in case of high gas concentrations. The system is designed to reset daily to provide accurate min and max temperature values.

3. Circuit diagram/schematics.

The circuit involves connecting the DHT11 sensor and MQ gas sensor to specific pins on the Arduino. Ensure appropriate power supply and ground connections. The LCD screen is connected through I2C.

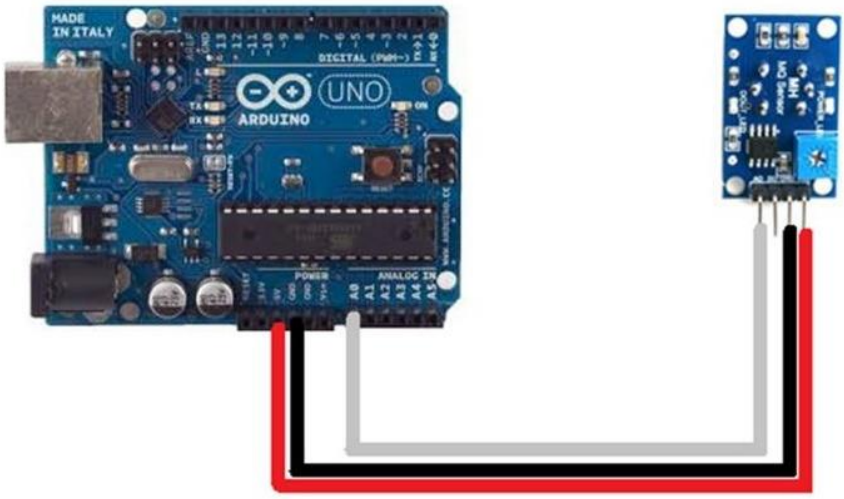
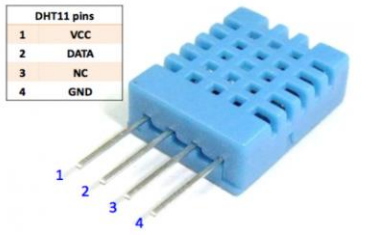


Fig. 1. Arduino And MQ 135 Gas Sensor.

DIAGRAMA



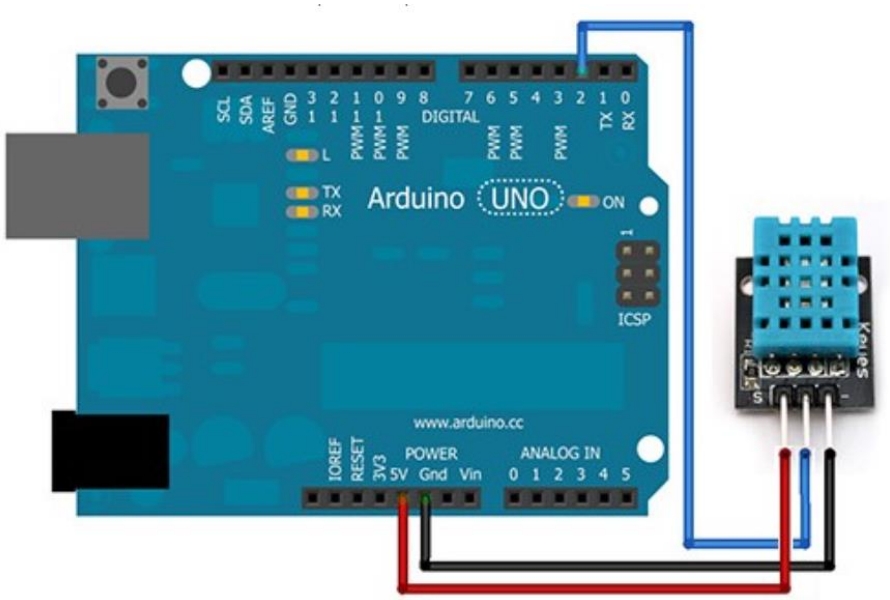


Fig.2. Modul Senzor de Temperatura și Umiditate DHT11.

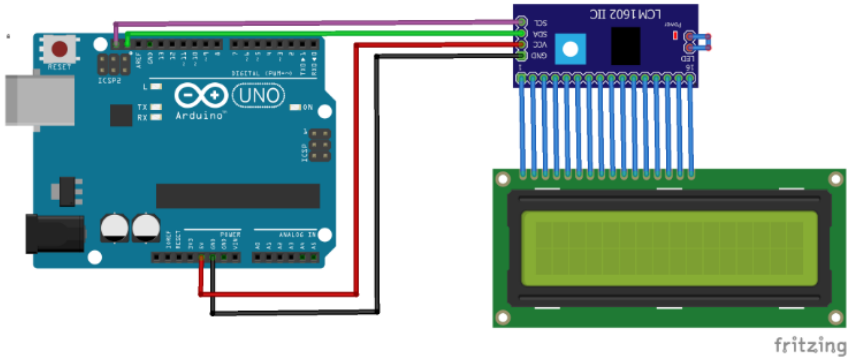
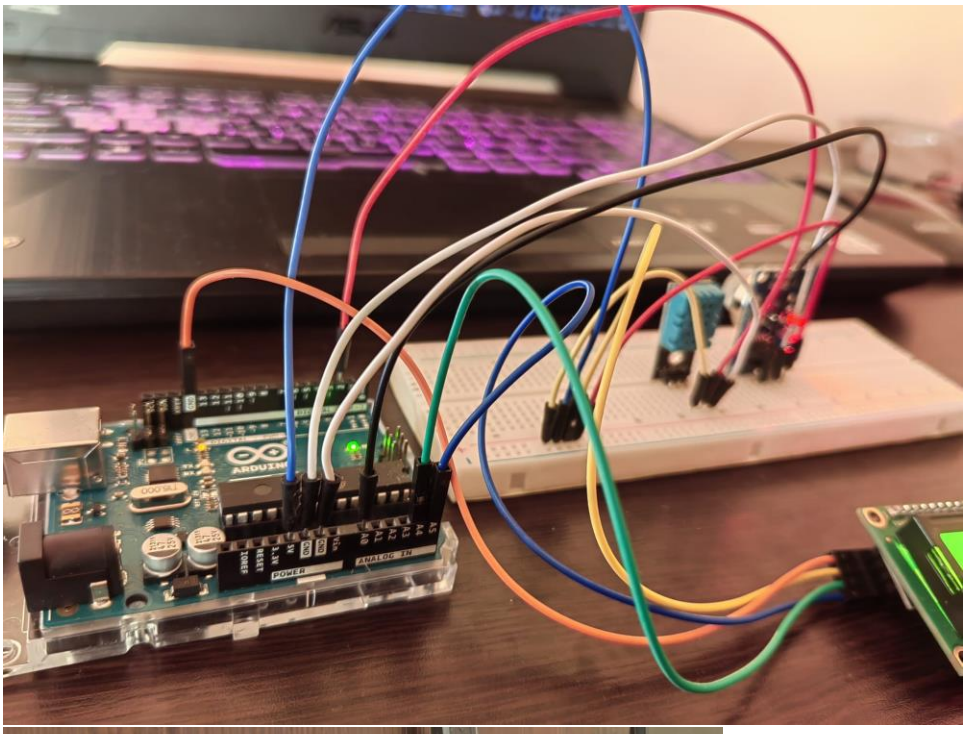
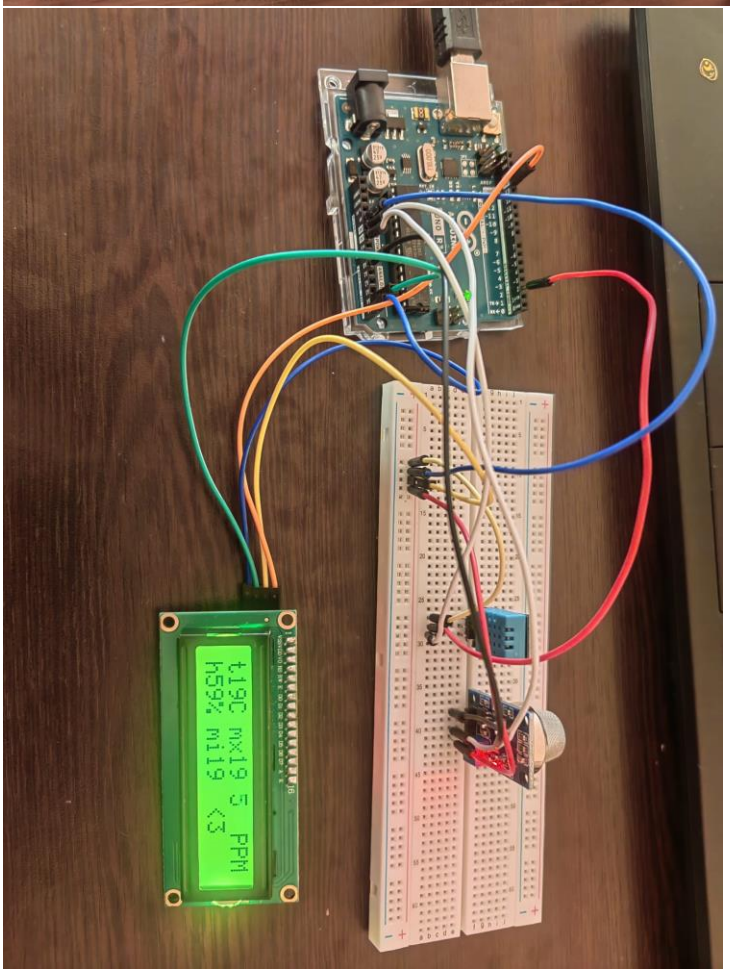


Fig.3. LCD 1602 verde + IIC connection.

4. Pictures of the project.




t19C mx19 5 PPM
H59% Mi19 <3

5. Bibliography.

Arduino And MQ 135 Gas Sensor:
https://www.hackster.io/m_karim02/arduino-and-mq-135-gas-sensor-with-arduino-code-a8c1c6

Modul Senzor de Temperatura și Umiditate DHT11:

https://www.optimusdigital.ro/ro/senzori-senzori-de-temperatura/99-senzor-de-temperatura-si-si-umiditate-dht11.html

DHT11 Library:
https://www.arduino.cc/reference/en/libraries/dht-sensor-library/

MQ135 Sensor:
https://www.arduino.cc/reference/en/libraries/mq135/

LiquidCrystal I2C:
https://www.arduinolibraries.info/libraries/liquid-crystal-i2-c