

Cooling System

1. Problem Statement

The increase in temperature and humidity in certain environments can damage equipment or affect comfort/safety. Manual monitoring is inefficient and error-prone.

There is a need for an automatic system that monitors temperature and humidity, displays the values locally, and triggers actuators (motors, buzzer) when conditions exceed thresholds. Additionally, the system should transmit data to a remote dashboard (Blynk IoT) for visualization and remote monitoring.

2. Ideas and Concept

Use a **DHT sensor** to measure temperature and humidity.

If Temperature is :

Normal : Motor OFF

High : Motor at half speed

Very High → Motor full speed + buzzer ON

If humidity is :

high → second motor moves.

Display real-time **temperature and humidity** on an **LCD display**.

Use **MQTT protocol** to send sensor data to the **Blynk IoT platform** for remote visualization.

3. Application (Solution)

Hardware Components:

DHT11 sensor (temperature & humidity)

2 DC motors (one for temp, one for humidity)

Buzzer

LCD 16x2 display

Internet connection for MQTT/Blynk

Working:

DHT reads temperature & humidity.

Python logic checks thresholds.

Depending on values:

Adjust motor speed

Turn buzzer ON/OFF.

Update LCD with current readings.

Publish data via MQTT to a broker

Blynk dashboard visualizes data

4. Teamwork (Roles):

Mazen: python code

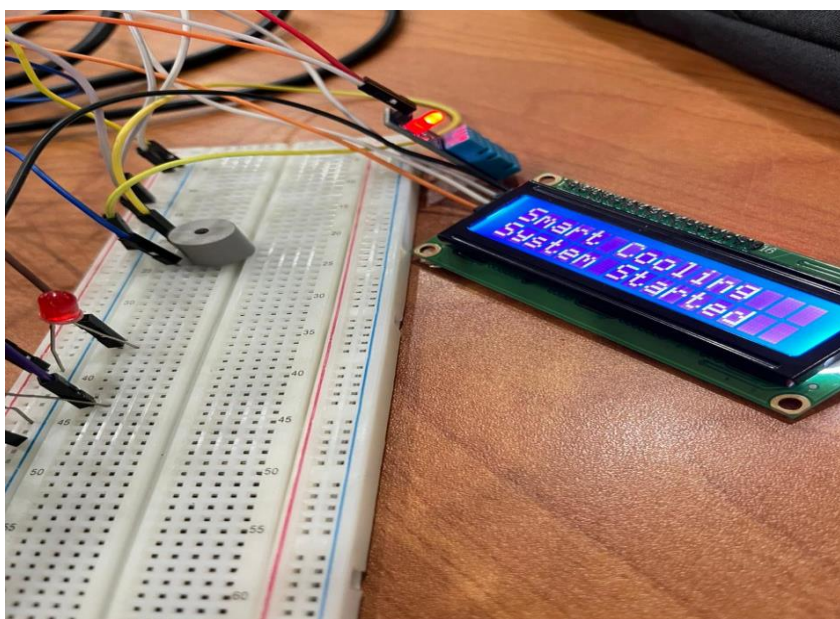
Mohamed Bassem: code, protocol

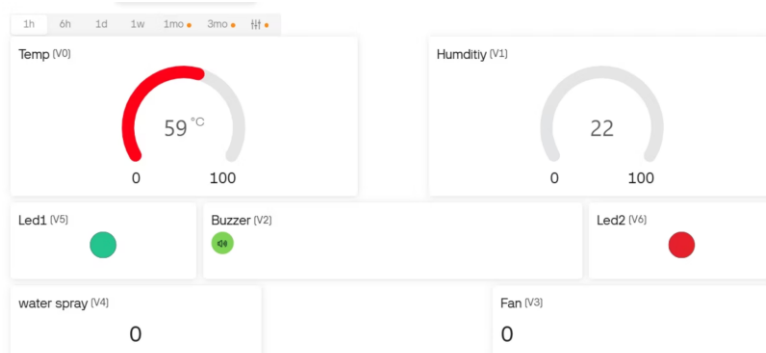
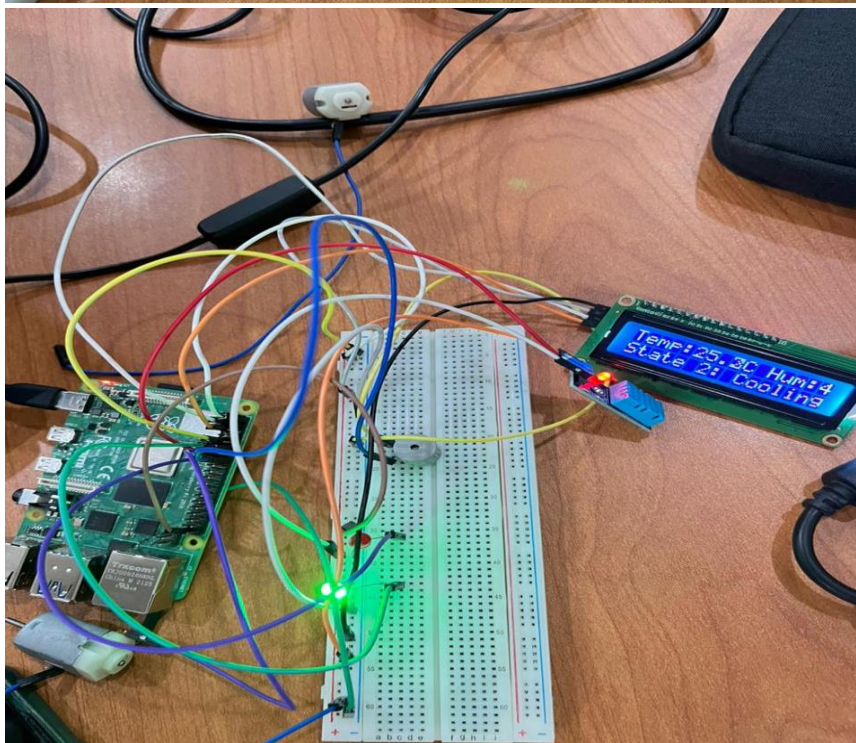
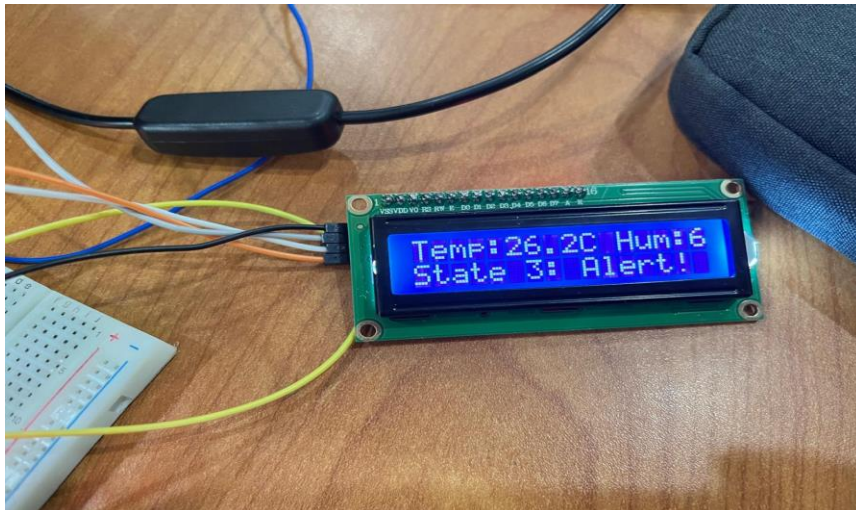
Noor Gaffar: hardware wiring, Blynk

5. GitHub Repository Link:

[Noor186/Temp_SIC](https://github.com/Noor186/Temp_SIC).

6. Media:





Videos :

[cooling system](#)

