**Temperature & Humidity Monitoring System**

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The Humidity and Temperature Monitoring System is designed using an Arduino, a DHT11 sensor, and an I2C LCD display to provide real-time readings of environmental conditions. This project focuses on building an efficient, low-cost solution for monitoring temperature and humidity in indoor environments. The system is capable of continuously sensing the surrounding air conditions and displaying the data on a liquid crystal display (LCD) screen, making it easy to monitor and record changes over time.

The DHT11 sensor is used to measure both temperature and humidity levels. This sensor is chosen for its simplicity and affordability, providing accurate readings suitable for basic monitoring applications. The Arduino Uno is employed as the microcontroller to interface with the sensor and the I2C LCD display. The Arduino continuously reads data from the DHT11 sensor and processes it before displaying the current temperature in degrees Celsius and humidity percentage on the I2C LCD. The I2C communication protocol reduces the number of wires needed, simplifying the circuit design and minimizing space requirements.

This system is particularly useful in applications such as home automation, greenhouse monitoring, or industrial settings where controlling environmental conditions is crucial.

Materials Required:

Arduino UNO

DHT11 Sensor

Jumper wires

LCD with I2C Module

Battery and Connector



