**Temperature & Humidity Sensor**

Hey there, been a while!!! Welcome to another awesome tutorial from InventTech. Today we’d be designing a temperature and humidity sensor, it’s pretty easy and straight forward let’s get into it.

**Components**

1. DHTxx sensor
2. LCD 16x2 display with I2C serial adapter
3. 10k resistor
4. Jumper wires
5. Bread board

You can get most of your electronic components here

also order for your inventone board.

Wondering what an inventone board is? Check out this article.

**Hardware**

The DHTxx sensor is a temperature and humidity sensor which could be interfaced with any micro-controller to give accurate readings of temperature and humidity of any environment. The schematic below gives a complete wiring of the DHT22 sensor and the inventone board. For more info about the DHTxx check out this tutorial by Adafruit or the datasheet provided by Aosong industries. If you don’t know much about the inventone board please check out this tutorial from our inventone blog.

We’d be using a 16x2 LCD display which has an I2C serial adapter. This reduces the stress of connecting about 14pins directly from the LCD to the inventone dev board – as you already know the job of every engineer is to make life easy LOL!!. A larger LCD display will work fine, just make sure you adjust the code provided to suit your LCD display.

The 10k resistor is a pull up resistor which ensures proper communication from the DHT22 sensor to the inventone board, its not necessary but its good engineering practice.

**Software**

So we’d be programming the inventone board with the Arduino IDE – if you haven’t used the IDE with the inventone board before please visit this tutorial. Also, we’d be using open source library which can be downloaded for free from these git repos. If you don’t know how to include a new library to your IDE just search it on google and am sure you’d get a chunk of videos teaching you how to add a new library to your Arduino IDE.

Upon downloading you could run the simple test codes with each component i.e the DHT22 and LCD separately to ascertain the functionality of the boards. I do this often just to make sure I know that my components are in sync with the libraries I’ve downloaded.

If you’ve successfully carried out the above step am sure you can do almost anything with the sensor, DHT and LCD.

Based on the libraries we used for this tutorial we encountered some problems with the pin mappings so the SDA and SCL pins are D3 and D4 instead of the normal SDA and SCL pins provided by the standard pin map txt. Hopefully our engineers at InvenTech would fix this problem soon.

Asides that everything else works just fine.