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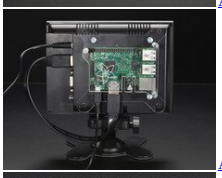
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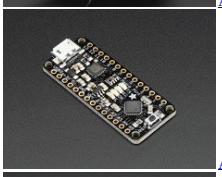
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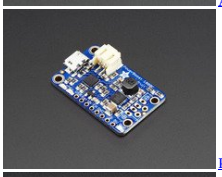
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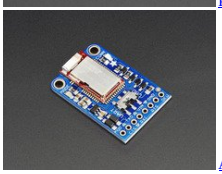
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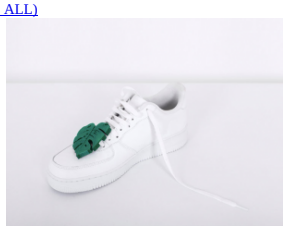
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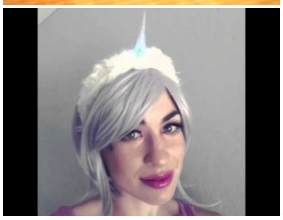
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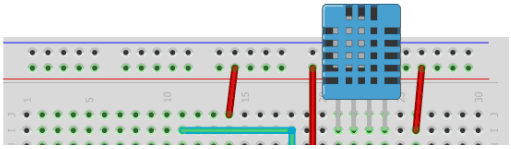
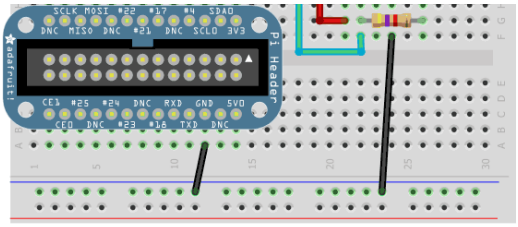




DHT Humidity Sensing on Raspberry Pi or Beaglebone Black with GDocs Logging

Humidity and Temperature Logging From Your Pi or Beaglebone Black to the Cloud!

Contributors

lady ada
Feedback? Corrections?

Connecting to Googles Docs (Updated)

LADY ADA

Google sometimes will update their API and cause issues with the gspread library. Consult this thread for information on converting a spreadsheet to an old-style spreadsheet if you have problems accessing your sheet:

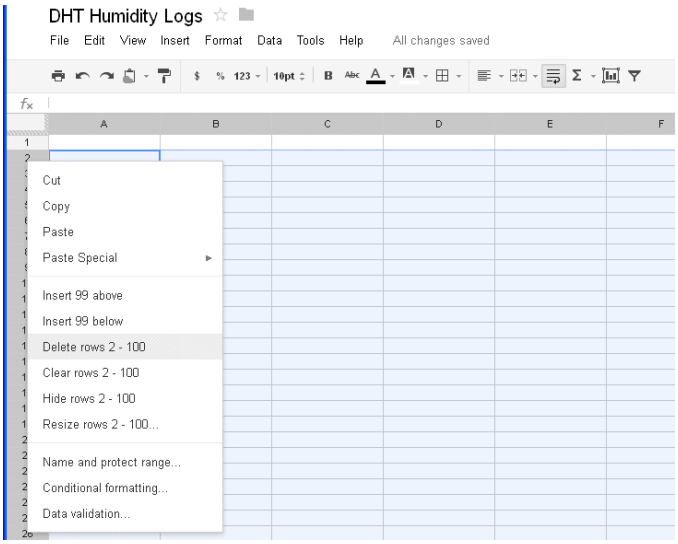
RE: DHT 22 Temperature and Humidity sensor with adafruit code

As of April 2015 Google has deprecated an old authentication interface for updating Google Sheets. You must carefully read the new steps below to make your Google Sheets work with the new OAuth2 authentication scheme.

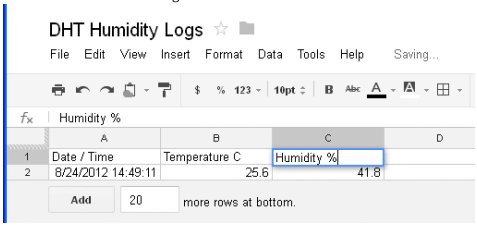
Create and prepare spreadsheet

First up you will need to sign up for Google Docs and create a spreadsheet. We're going to call ours DHT Humidity Logs.

Once you've created it, delete all but one line (since we don't want 1000 empty rows):



Then make the one remaining line a header with row names:



Get OAuth2 credentials

As of April 2015 Google has deprecated the older simple authentication interface for accessing Google spreadsheet data. You must carefully follow the steps below to enable OAuth2 access to your Google spreadsheet. Unfortunately these steps are somewhat complex, so go through them very carefully to make sure you don't miss a step. If you run into problems try consulting the gspread python library that this script uses.

To get your OAuth2 credentials follow the steps on this page:

- gspread - Using OAuth2 for Authorization

After you follow the steps in the document above you should have downloaded a .json file, like SpreadsheetData-(gibberish).json. **Place this .json file in the same directory as the google_spreadsheet.py example.** If you don't place this file in the same directory then authentication will fail and you will not be able to update your spreadsheet!

One last step that **must be completed** is to share your Google spreadsheet to the email address associated with the OAuth2 credentials. Open the .json file and search for the **"client_email":** line that looks like this (but with a different email address):

Copy Code

```
"client_email": "149345334675-md0qff5f0kib41meu20f7d1habos3qcu@developer.gserviceaccount.com",
```

Take note of that email address value and go to your Google spreadsheet in a web browser. Using the **File -> Share...** menu item share the spreadsheet with **read and write access** to the email address found above. **Make sure to share your spreadsheet or you will not be able to update it with the script!**

Run Python Code

First up we will have to install the **gspread** python library, which will do the heavy lifting of connecting to google docs and updating the spreadsheet! With your board connected and online, run the following:

Copy Code

```
sudo apt-get update
sudo apt-get install python-pip
sudo pip install gspread oauth2client
```

Next, in the **examples** directory again, edit **google_spreadsheet.py** and adjust the configuration values towards the top of the file:

Copy Code

```
# Type of sensor, can be Adafruit_DHT.DHT11, Adafruit_DHT.DHT22, or Adafruit_DHT.AM2302.
DHT_TYPE = Adafruit_DHT.DHT22

# Example of sensor connected to Raspberry Pi pin 23
DHT_PIN  = 23
# Example of sensor connected to Beaglebone Black pin P8_11
#DHT_PIN  = 'P8_11'

# Google Docs OAuth credential JSON file.  Note that the process for authenticating
# ...
GDOCS_OAUTH_JSON       = 'your SpreadsheetData-*.json file name'

# Google Docs spreadsheet name.
GDOCS_SPREADSHEET_NAME = 'your google docs spreadsheet name'
```

Make sure **DHT_TYPE** is set to the type of sensor you are using (either **Adafruit_DHT.DHT11**, **Adafruit_DHT.DHT22**, or **Adafruit_DHT.AM2302**), and **DHT_PIN** is set to the GPIO pin number which is connected to your DHT sensor.

In the example above a Raspberry Pi GPIO pin #23 is shown, however commented below it is an example of a Beaglebone Black using GPIO pin P8_11.

Next make sure to set the **GDOCS_OAUTH_JSON** to the name of the SpreadsheetData-*.json file in the same directory as the google_spreadsheet.py file. If you don't have a SpreadsheetData-*.json file then you accidentally missed the steps above. **Go back and carefully follow the OAuth2 credential steps to get an OAuth2 credential .json file before continuing!**

Finally set **GDOCS_SPREADSHEET_NAME** to the name of your spreadsheet, like 'DHT Humidity Logs'.

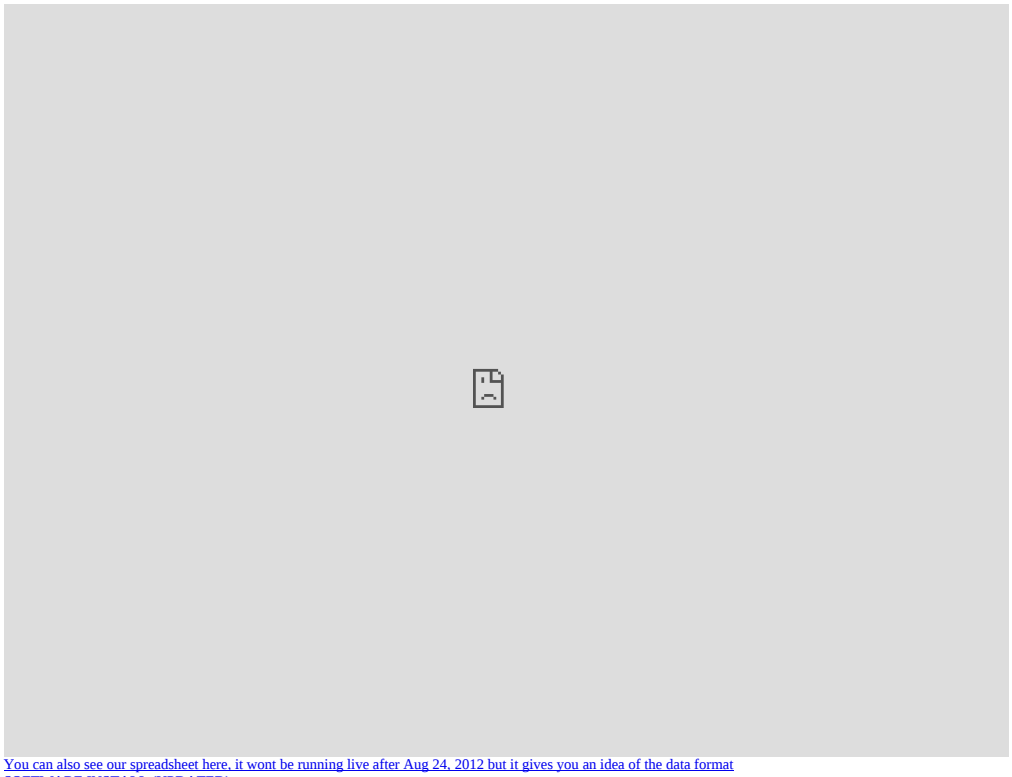
Save the file and execute the Python script by running:

sudo ./google_spreadsheet.py

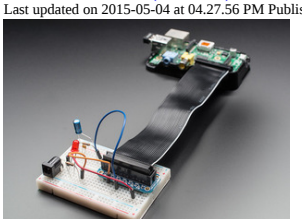
You should see the program run and after about 30 seconds a humidity and temperature measurement is displayed and written to the spreadsheet. The program will continue to run and log a measurement every 30 seconds until you force it to quit by pressing **Ctrl-C**.

The measurement frequency can be adjusted by changing the **FREQUENCY_SECONDS** configuration in the python code.

Open the spreadsheet on Google's site and you should see measurements added in real time!



You can also see our spreadsheet here, it wont be running live after Aug 24, 2012 but it gives you an idea of the data format
SOFTWARE INSTALL (UPDATED)
Last updated on 2015-05-04 at 04.27.56 PM Published on 2012-08-24 at 03.19.06 PM



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Miniature WiFi (802.11b/g/n) Module: For Raspberry Pi and more
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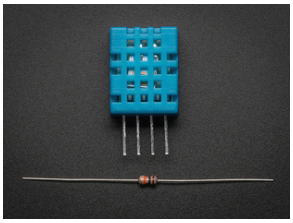

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DHT22 temperature-humidity sensor + extras
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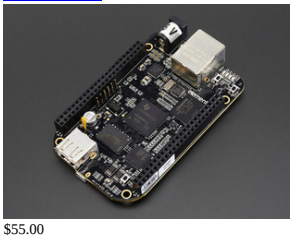

$55.00
Element 14 BeagleBone Black Rev C - 4GB - Pre-installed Debian
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Use an ILI9341 TFT display with a Raspberry Pi or BeagleBone Black!
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TONY DICOLA

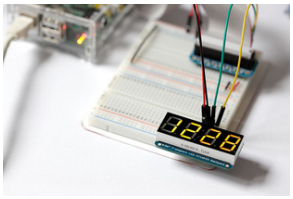
- MICROCOMPUTERS

Chumby Hacker Board

All the joy of Chumby, with extra chewy breakouts!
A collection of mini-tutorials on doing stuff with the Chumby Hacker Board. The CHB is a cool single board Linux computer that has much of the same hardware as the famous Chumby One. It's great for people who are experienced with Linux and want to have the power of a microcomputer with audio and video output while at the same time getting all the peripherals of a microcontroller such as analog-to-digital conversion, PWM outputs, sensors, bit twiddling, and broken-out GPIOs!

LADY ADA

- RASPBERRY PI



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Getting started with 7-segment and 8x8 LED arrays using our easy LED Backpack

KEVIN TOWNSEND

- RASPBERRY PI

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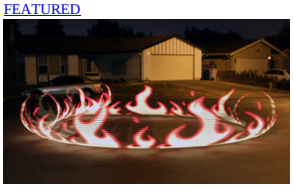

Light Painting with Raspberry Pi

Awesome photographic effects!
Light painting — a technique mixing photography with electronics — becomes astoundingly simple when Raspberry Pi is involved.

PHILLIP BURGESS

×

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