



TempGirl



by rabbitcreek

My brother makes bronze sculptures as an avocation. You have to carve the small effigy in a heat sensitive wax and then cast it through a compulsive series of transitions from neg to pos molds and then finally surface treatments and welding. When I get one of these in the mail from him its represents a fair amount of his concentration and dedication. I return the favor with one of my electronic gizmos that you can literally tear off in minutes -- a totally unfair exchange. But, in an attempt to satisfy his interest in the temperature monitoring abilities of **The Connected Mezuzah** and

his penchant for tiny naked people that fill up his house I built him this temp reporting playa themed statue. It uses the same Blynk app on your smartphone to report the temp inside your house but relies on continuous power to run the small LED display. If you missed burning man this year this may be your build. Thanks to Thingiverse contributor: Torso by dandvan Published on November 10, 2017 www.thingiverse.com/thing:2637753 for designing this wonderful figure. Even my brother liked it...





Step 1: Gather Your Materials

In this case you again need a 3D printer. The two STL files are made available and both print in PLA without support.

1. ESP8266 -- Wemos D1 Mini -- these have become very generic now \$5.00
2. DS18B20 Digital temperature sensor + extras \$4.00
3. Neopixel -- 3 attached together -- \$ 0.50

Not much cost in this project--less then ten dollars. Cost for a Bronze sculpture same size \$300....



<https://www.instructabl...>

View in 3D

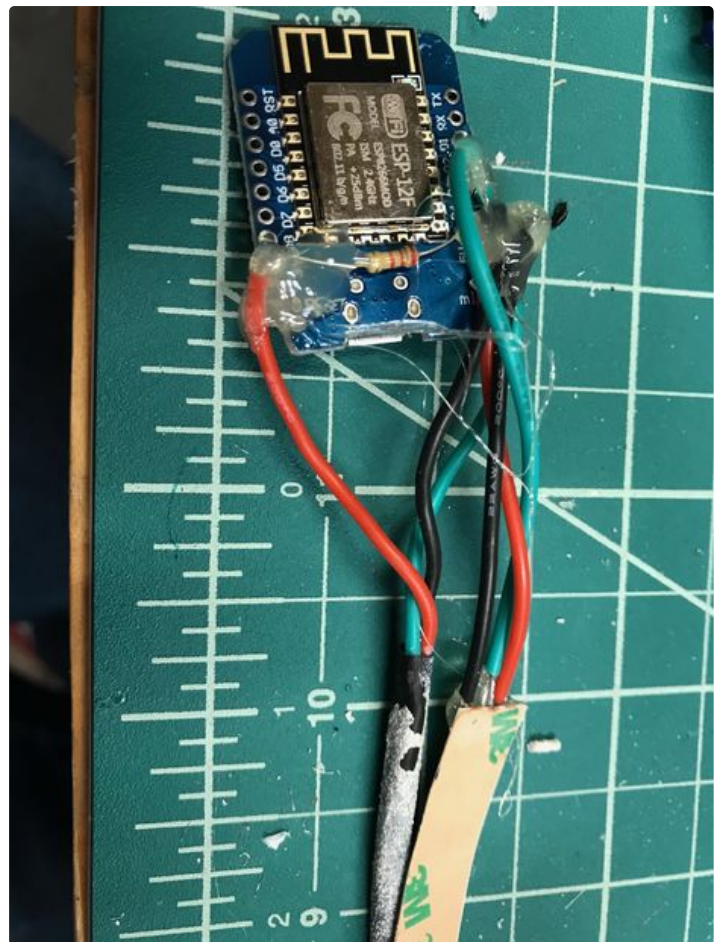
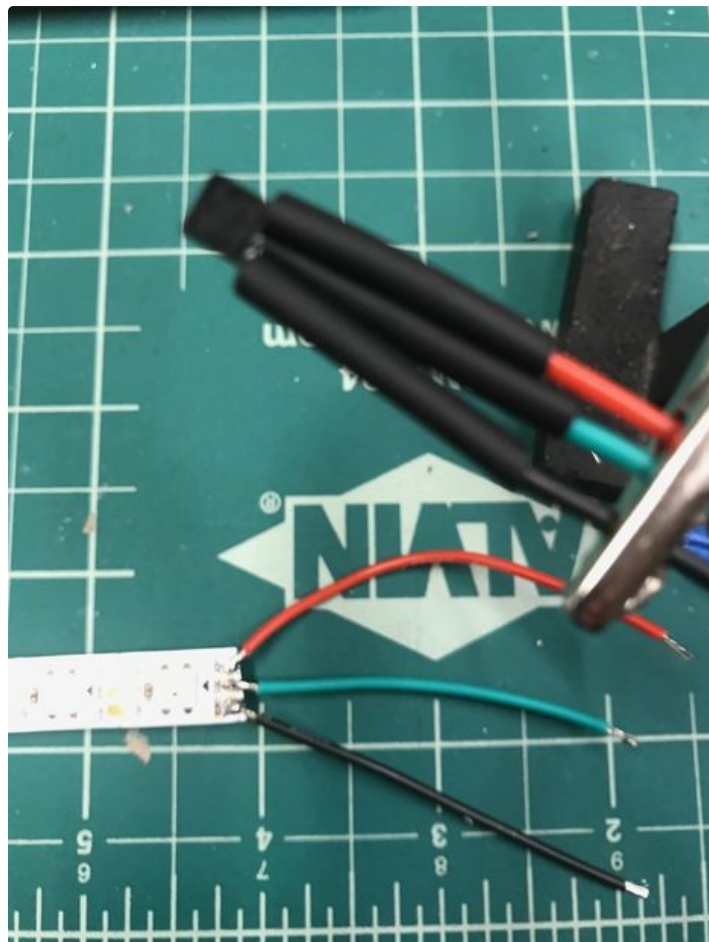
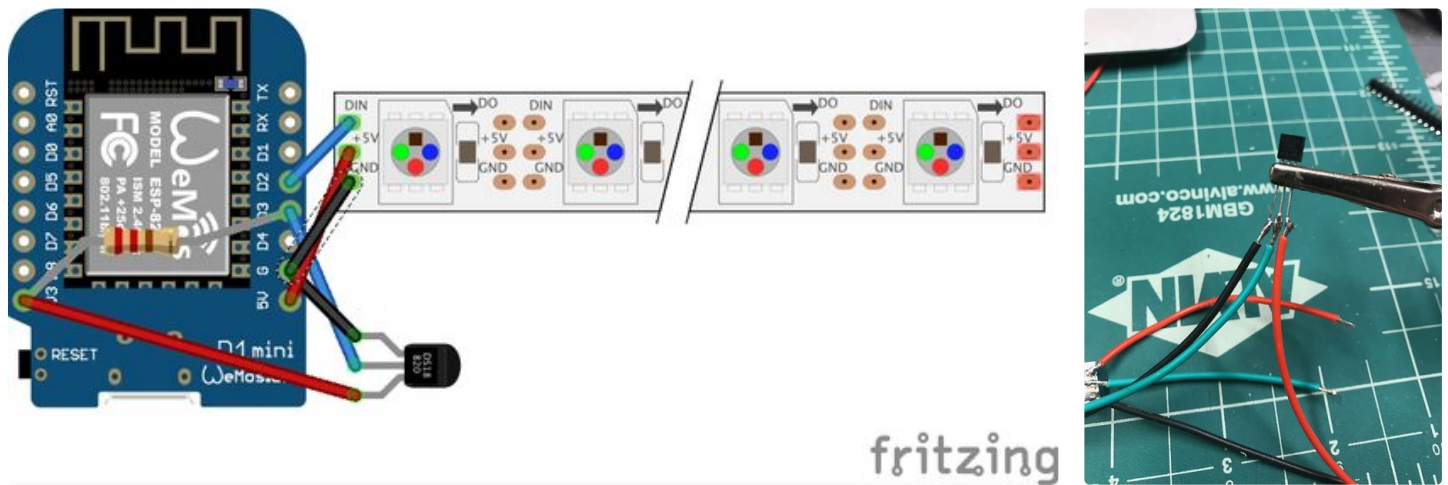
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Step 2: Wire It

The wiring in this setup is quite simple. Power will come from a permanent micro USB connection to the Wemos Mini board. The Dallas One-Wire is connected to pin D3 and the Neopixel data line is connected to D2. The power for the Neopixel chain is

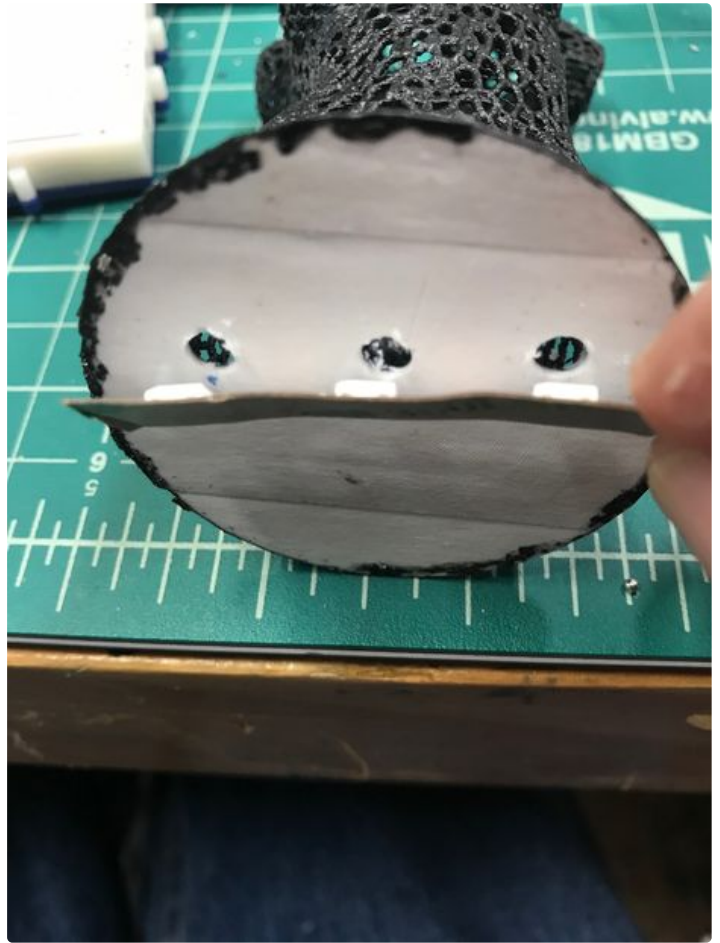
driven through 5V and the temp probe is powered off the board with 3.3V. All of the connections are drawn on the Fritzing diagram. The data pin on the Temp sensor is held high by the included 4.7k ohm resistor.

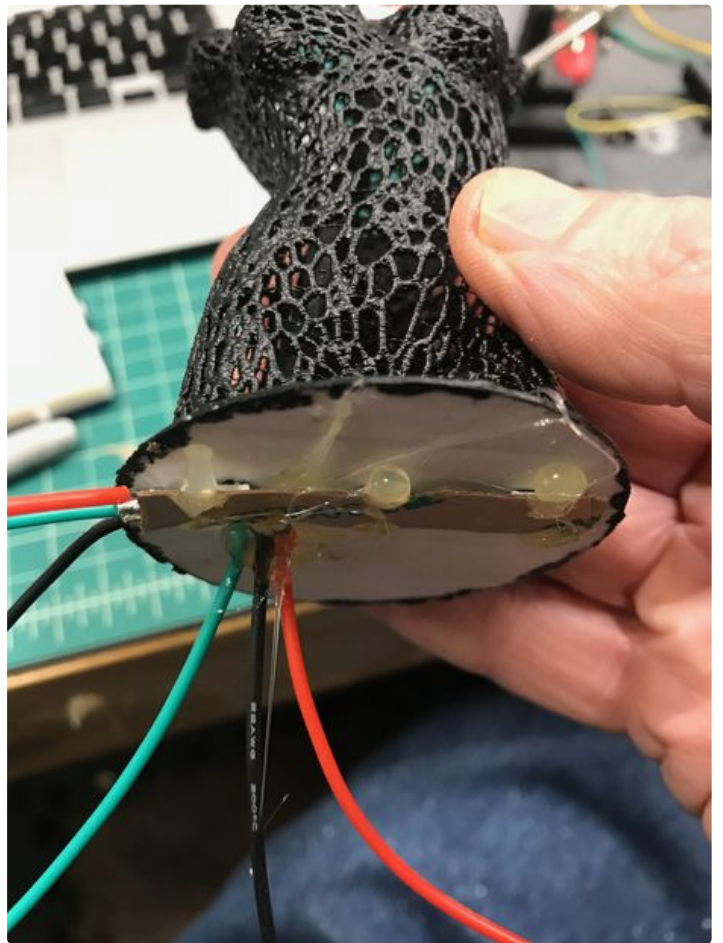


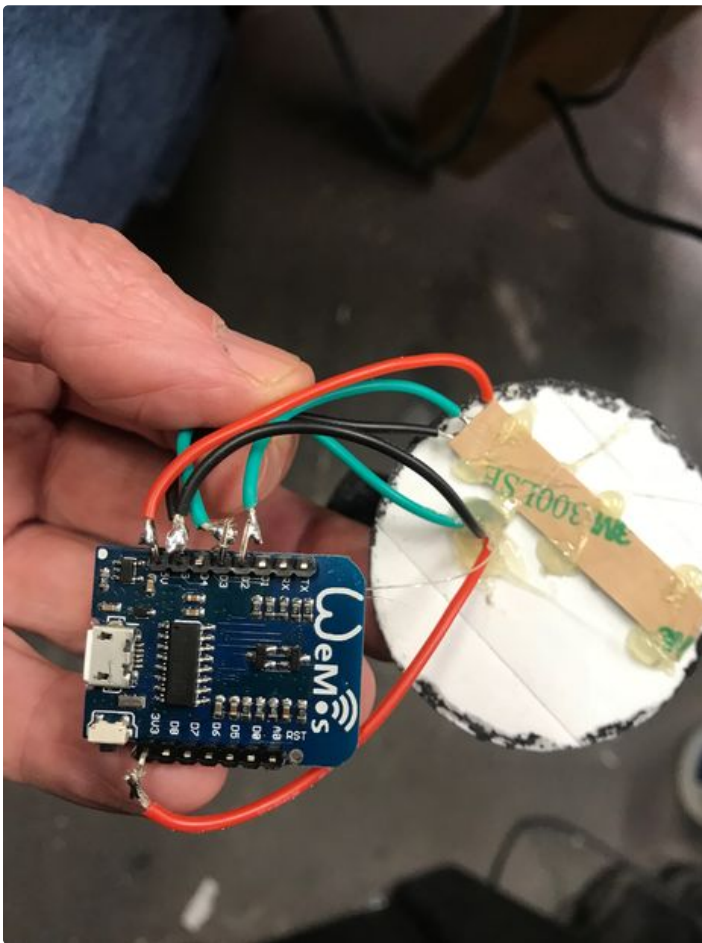
Step 3: Build It

The build too is totally simple. After the wiring is done line up the neopixel chain on the base of the printed figure and mark the holes where the light will come through. Also mark the location where the thermal probe will rise to the head of the sculpture and drill the appropriate size holes. Hot glue the neopixels and the temp probe into position. Two large washers are

hot glued into the bottom to add a bit of bronze sculpture weight to the build. Drill a hole in the back of the base to enable the Wemos Mini D1 to mate with a power cord. Hot glue the Wemos into position and finally seal top and bottom together with a rim of superglue--no user serviceable parts inside.





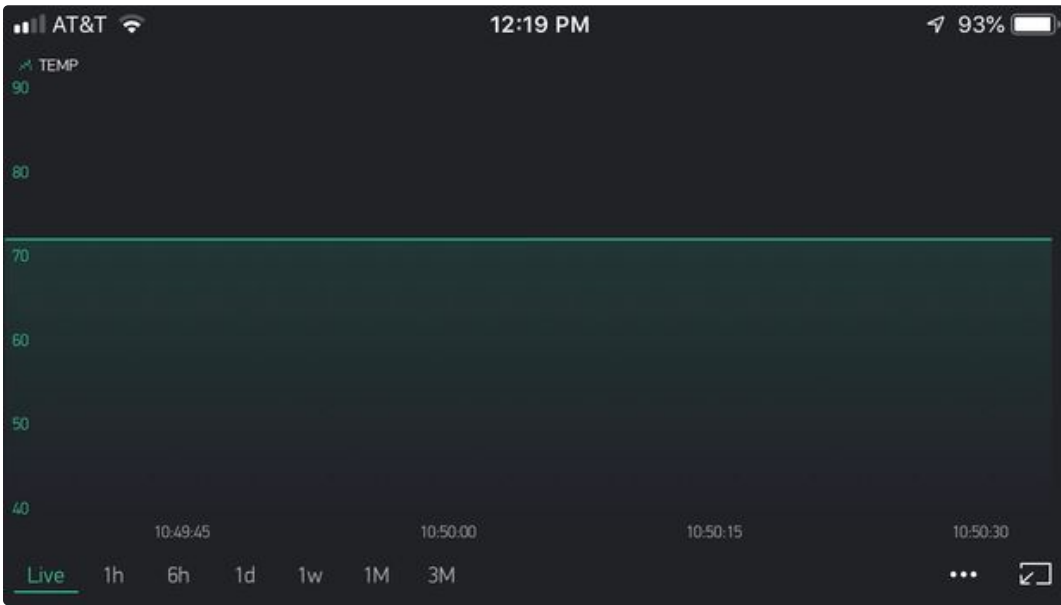


Step 4: Program It

The program is again taken from Blynk. Download the App to your phone and develop a new account. Download the key for using a ESP8266 for your Arduino environment. This is used in the software along with your Wifi credentials. The software is designed to use a Blynk timer placed in your void setup function. It has a regulated time interrupt that you can set--in the software this is set for about 10 seconds--a lot of readings! This is to prevent you from placing some upload function in your loop which would overload the server and cause nothing good. The remainder of the program utilizes the FastLed function and a great colorizing program from Adafruit

learning center for their turtle sculpture: <https://learn.adafruit.com/neopixel-led-magnetic-...> You can nicely vary the color palette from Ocean to Rainbows to continue your out-of-the-box Burning Man buzz.

The Blynk app project is then personalized. I used a output super graph screen that provides various output graphs for Live, 1 hour, 6 hour and 24 hour output. You have to set the input for this graph for virtual pin 6 as this is the one used in the software. I have found the Blynk software to be very easy to use and personalize.



SuperChart OK

Graph

FONT SIZE ALIGNMENT

DATASTREAMS

Temp

+ Add DataStream

← Temp

DESIGN

STYLE: LINE COLOR

INPUT

V6

Y-AXIS SCALING

AUTO MIN/MAX HEIGHT DELTA

Set fixed Min and Max Y-axis values

MIN MAX

40 90

SUFFIX

Step 5: Using It

Finish off your build with couple layers of paint. For the bases I used Krylon Make It Stone Spray. For the tops I used the spray on Dip-It colors that gave it a nice rubbery feel. Certainly not as involved as the complicated patinas involved in the bronze. To start recording temps on your phone just customize your Blynk app with a chart that gets data from Virtual Pin 6 and set it to go. The sculpture just has to be

plugged into the wall and it will begin to flash a pattern of LED's as soon as it makes connection with the Wifi signal. The Blynk app should report the inside temp every 10 seconds for as long as the power is connected. You can even trigger email alerts when your Nest thermostat can't reboot and your house freezes solid.

