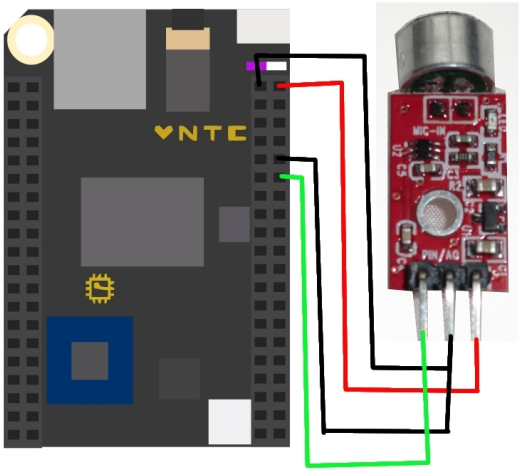
Voice recognition/command on a C.H.I.P

Plug in a MAX9812 to 5V, GND, Micm (pin10 Mic GND), Out to (pin 12 Mic signal) Mic.



```
alsamixer
```

Set mic volume to fill only green area so it's at 0db gain. Tab moves between options. Esc to quit.

Make a test recording:

```
arecord -D plughw:0,0 -f S16_LE -r 16k test.wav
```

CTRL-C to quit.

```
aplay test.wav
```

Sign up to Google cloud platform for free at https://console.cloud.google.com/start

Google Cloud Speech API → go to Credenitials tab → Create Credentials → API Key → cut and paste your API key for use in speechAnalyser.py later.

```
sudo apt-get install mplayer
sudo apt-get install sox
sudo apt-get install flac
sudo apt-get install python-pycurl
sudo apt-get install python-pip
sudo pip install feedparser
sudo pip install yahoo-finance
```

While in home folder pull ZIP file from our server with :

```
wget www.securipi.co.uk/vrchip.zip
unzip vrchip.zip
chmod a+x *.sh
```

Edit speechAnalyser.py so it contains your Google Cloud Speech API key

```
nano speechAnalyser.py
```

Save it and exit . Run it while connected to the internet

```
sudo python speechAnalyser.py
```

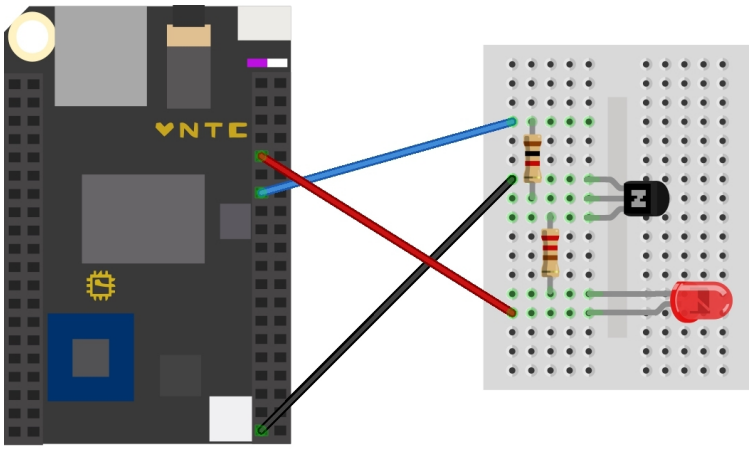
Say the trigger word "oscar", wait for a beep, and then say either "news, weather, shares, time, light on, light off, or flatter me".

Search for stock/share symbols at https://uk.finance.yahoo.com/lookup/ and edit getShares.py

Wiring up an LED to the C.H.I.P

If you've used a Raspberry Pi before or have read the help section on the CHIP website, you might think you can just connect an LED and resistor to the GPIO pin & GND on the CHIP & turn it on and off from the command line. Unfortunately the CHIP board doesn't provide enough current to drive the LED from the GPIO pin. The answer is to use a small transistor as a switch, so that the GPIO pin switches on the 3.3v power pin to the LED.

You'll need a 2N3904 transistor, a 1K resistor (brown, black, red) and a 220 ohm resistor (red, red, brown).



```
#/bin/sh
LABEL_FILE=`grep -l pcf8574a /sys/class/gpio/*/*label` BASE_FILE=`dirname
$LABEL_FILE`/base
BASE=`cat $BASE_FILE`

echo $BASE > /sys/class/gpio/unexport
echo $BASE > /sys/class/gpio/export
echo out > /sys/class/gpio/gpio$BASE/direction
echo 1 > /sys/class/gpio/gpio$BASE/value
exit 0
```

When run as sudo, this script turns the LED on with the echo 1 line. Change it to echo 0 to turn the LED off.

You can buy a £9.99 kit of the Mic, breadboard, cables and components athttp://www.ebay.co.uk/itm/Voice-Recognition-kit-for-Google-Cloud-Speech-API-AIY-on-Pocket-Chip-C-H-I-P-/162594971425? (we ship worldwide)

and lots of other useful electronic components in our eBay and Amazon shops
http://stores.ebay.co.uk/ConvertStuffUK

https://www.amazon.co.uk/s?merchant=A3FJQLQ9748AAR&fallThrough=1