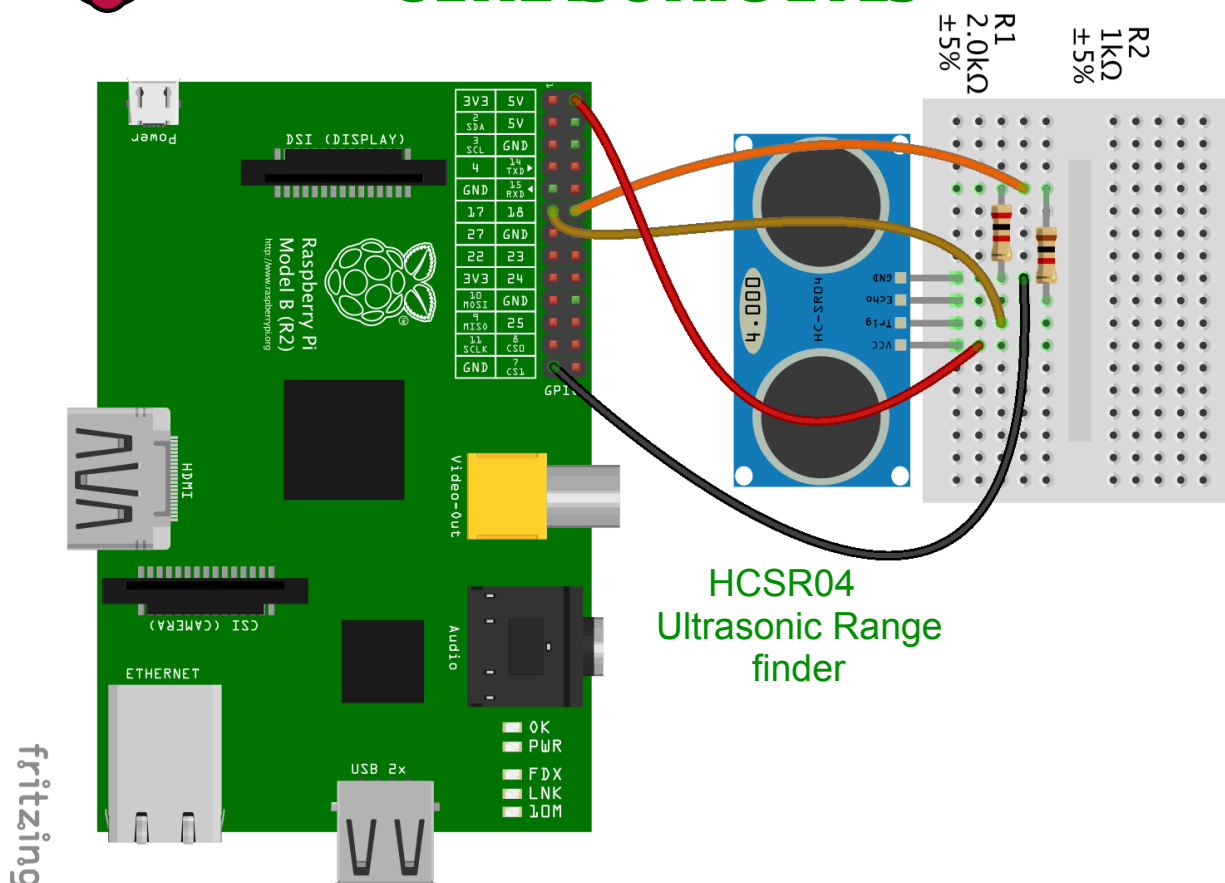


ULTRASONIC EYES

HCSR04
Ultrasonic Range
finder

We power the 'eyes' with 5V, and use the Pi's GPIO to send an signal to TRIG, which tells the sensor to emit an ultrasonic pulse from one 'eye'. The pulse bounces off nearby objects and some of it is reflected back to the sensor which detects it with the other 'eye' (ECHO). The sensor measures the time between transmission and detection and uses this to calculate the distance. The speed of sound in air varies with temperature so we can specify that to make the calculation more accurate. We can repeat this process several times to get a more accurate (mean) result, but this will take more time an mean our bot will have slower reactions.

```
from hcsr04sensor import sensor
```

```
TRIG = 17 # GPIO Pin connected to trigger
```

```
ECHO = 18 # GPIO Pin connected to echo
```

```
TEMP_f = 70 # Temperature in Fahrenheit
```

```
SAM = 1 # Number of measurements |(more = better accuracy but slower)
```

```
m = sensor.Measurement(TRIG,ECHO,TEMP_f,'metric') # Connect to sensor
```

```
dist = m.raw_distance(sample_size=SAM) # take a distance measurement
```

```
print(dist)
```