

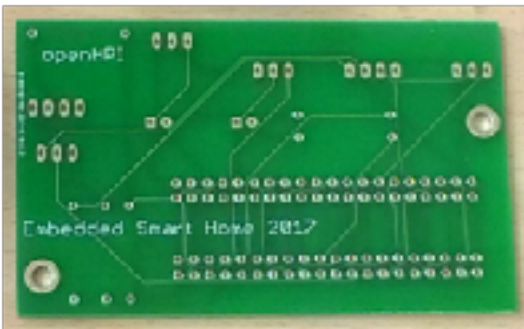
openHPI Kurs Embedded Smart Home 2017

Die Entwicklungskit bestehen aus:



7" HDMI-Multi-Touch-Display 800x480

[http://www.waveshare.com/wiki/7inch_HDMI_LCD_\(B\)](http://www.waveshare.com/wiki/7inch_HDMI_LCD_(B))



Platine für sofortigen Einsatz vorbereitet

Links:



Kamera (1080p)

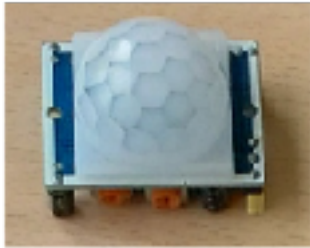
<https://www.raspberrypi.org/learning/getting-started-with-picamera/>

<https://tutorials-raspberrypi.de/aufnahmen-mit-dem-offiziellen-kamera-modul-des-raspberrypi/>



rote und grüne LED (Zusammen mit den Widerständen und einigen Kleinteilen in der Displayverpackung)

Sensoren (für den Kurs relevant)



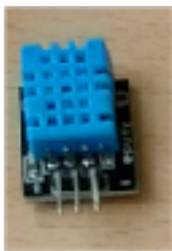
Bewegungs-Sensor

<https://tutorials-raspberrypi.de/raspberry-pi-bewegungsmelder-sensor-pir/>
<http://henrysbench.capnfatz.com/henrysbench/arduino-sensors-and-input/arduino-hc-sr501-motion-sensor-tutorial/>



Gas-Sensor MQ-2

<https://tutorials-raspberrypi.de/raspberry-pi-gas-sensor-mq2-konfigurieren-und-auslesen/>
<http://www.learningaboutelectronics.com/Articles/MQ-2-smoke-sensor-circuit-with-raspberry-pi.php>
<http://playground.arduino.cc/Main/MQGasSensors>



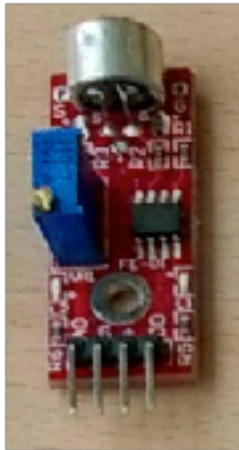
Temperatur-/Feuchtigkeits-Sensor DHT11

<https://tutorials-raspberrypi.de/raspberry-pi-luftfeuchtigkeit-temperatur-messen-dht11-dht22/>
www.oddwires.com/content/DHT11.pdf
[arduino-info - DHT11-Humidity-TempSensor](#)
[Arduino Playground - DHT11Lib](#)
(updated 27.06.2017)



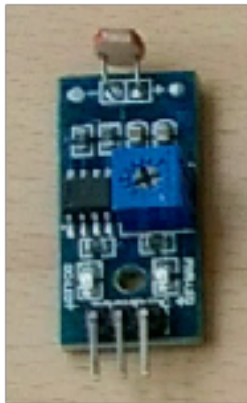
Flammen-Sensor

<http://androegg.de/?product=ir-flammen-flame-detektion-sensor>
<http://henrysbench.capnfatz.com/henrysbench/arduino-sensors-and-input/logo-sensor-1-3-flame-detector-arduino-user-manual-and-tutorial/>



Geräusch-Sensor

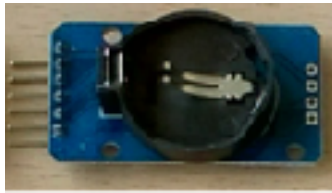
<http://www.arduino.org/learning/tutorials/boards-tutorials/sound-sensor-example>
<http://henrysbench.capnfatz.com/henrysbench/arduino-sensors-and-input/arduino-sound-detection-sensor-tutorial-and-user-manual/>



Licht-Sensor

<http://www.notenoughtech.com/raspberry-pi/rpi-sensors/light-sensor-lm393-ky018/>
<https://tutorials-raspberrypi.de/raspberry-pi-helligkeitssensor-fotowiderstand/>

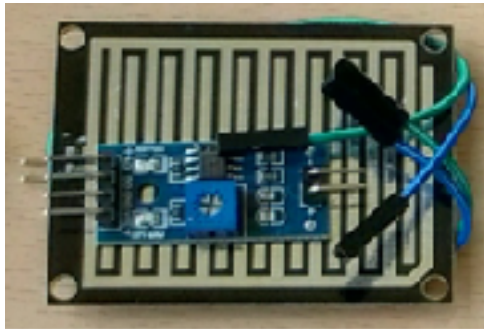
Sensoren (für den Kurs nicht)



DS1302 RTC - Zeit-Sensor (Real Time Clock?)

<http://playground.arduino.cc/Main/DS1302RTC>

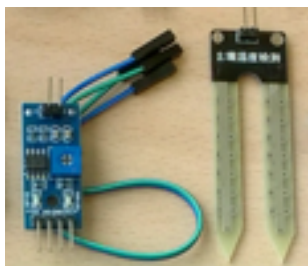
<http://www.hobbytronics.co.uk/raspberry-pi-real-time-clock>



Regentropfen-Sensor

<http://ecksteinimg.de/Datasheet/SE08003.zip>

<http://henrysbench.capnfatz.com/henrysbench/arduino-sensors-and-input/arduino-rain-sensor-module-guide-and-tutorial/>



Bodenfeuchtigkeits-Sensor

<https://tutorials-raspberrypi.de/bodenfeuchtigkeit-mit-dem-raspberry-pi-messen/>

<http://ecksteinimg.de/Datasheet/SE06001.zip>

<http://ecksteinimg.de/Datasheet/SE06001.zip>



Ultraschall-Sensor

http://elecfreaks.com/estore/download/EF03085-HC-SR04_Ultrasonic_Module_User_Guide.pdf

<http://www.datasheet4u.com/download.php?id=779948>

<http://www.elecfreaks.com/244.html>

<https://tutorials-raspberrypi.de/entfernung-messen-mit-ultraschallsensor-hc-sr04/>

<https://electrosome.com/pir-motion-sensor-hc-sr501-raspberry-pi/>



Laser (in Verbindung mit Lichtsensor als Lichtschranke einsetzbar)

<http://blog.christianperone.com/2012/08/raspberry-pi-arduino-a-laser-pointer-communication-and-a-ldr-voltage-sigmoid/>

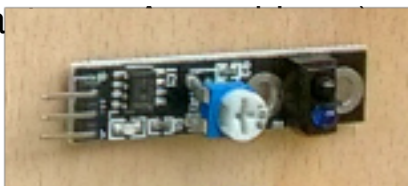
<http://blog.christianperone.com/2012/08/raspberry-pi-arduino-a-laser-pointer-communication-and-a-ldr-voltage-sigmoid/>



315MHz Empfänger und Sender

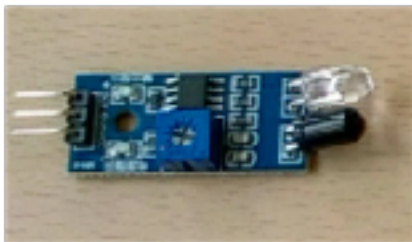
<https://tutorials-raspberrypi.de/raspberry-pi-mit-433mhz-funksender-fernsteuern/>
<https://raspberrypi.tips/hausautomatisierung/raspberry-pi-pilight-mit-433mhz-modulen-zur-hausautomatisierung/>

releva



Infrarot-Grenzlinien-Sensor

<http://www.onsemi.com/pub/Collateral/LM393-D.PDF>



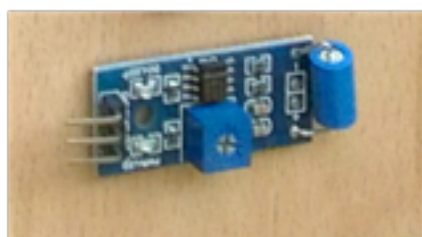
Infrarot-Hindernis-Sensor

<http://www.electrodragon.com/product/infraredir-obstacle-avoidance-sensor-moduleadjust-distance/>



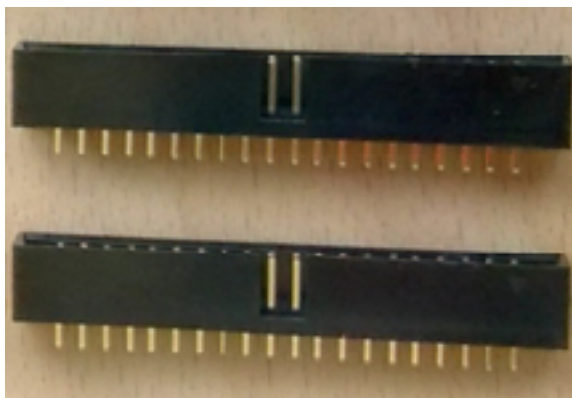
Kipp-Sensor (Tilt)

<https://www.sunfounder.com/learn/Sensor-Kit-v1-0-for-Raspberry-Pi/lesson-14-tilt-switch-sensor-kit-v1-0-for-pi.html>
<http://www.instructables.com/id/Tilt-Sensor-Tutorial/>



Vibrations-Sensor

<http://www.himix.lt/arduino/arduino-and-sw-420-vibration-sensor/>
<https://raspberrypi.stackexchange.com/questions/46357/python-code-for-sw-420-vibration-sensor#46360>
<https://www.elecrow.com/vibration-sensor-module-sw420-p-525.html>
<http://www.electrodragon.com/analog-and-digital-sense-of-sensors-lm393-the-voltage-comparator/>



2x 40 Pin Wannen-Connector



Flachkabel inkl. Stecker (nicht in der abgebildeten Länge geliefert!)

