

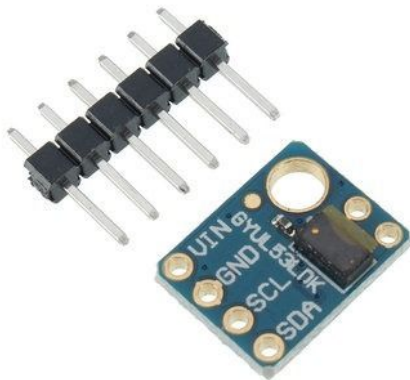


Prática com sensores I

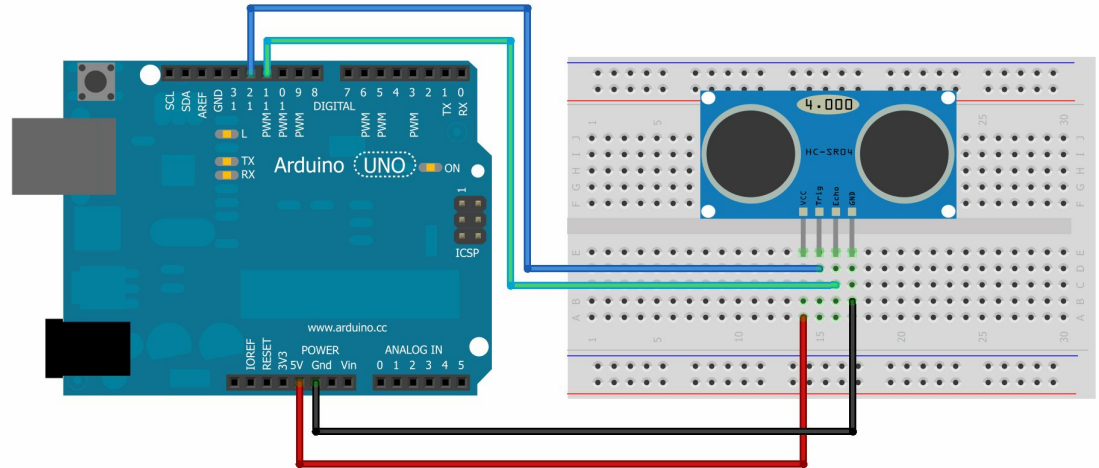
Sensor Ultrasônico

Hardware Livre
USP

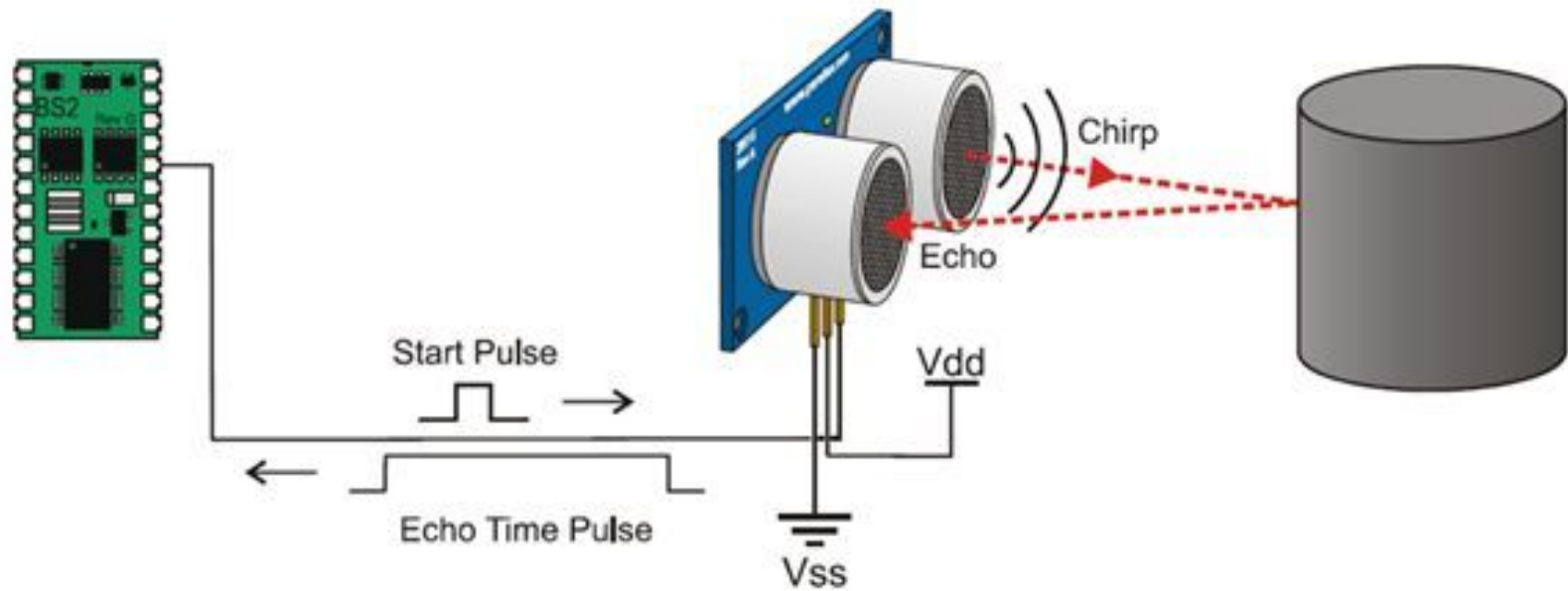
Sensores de distância



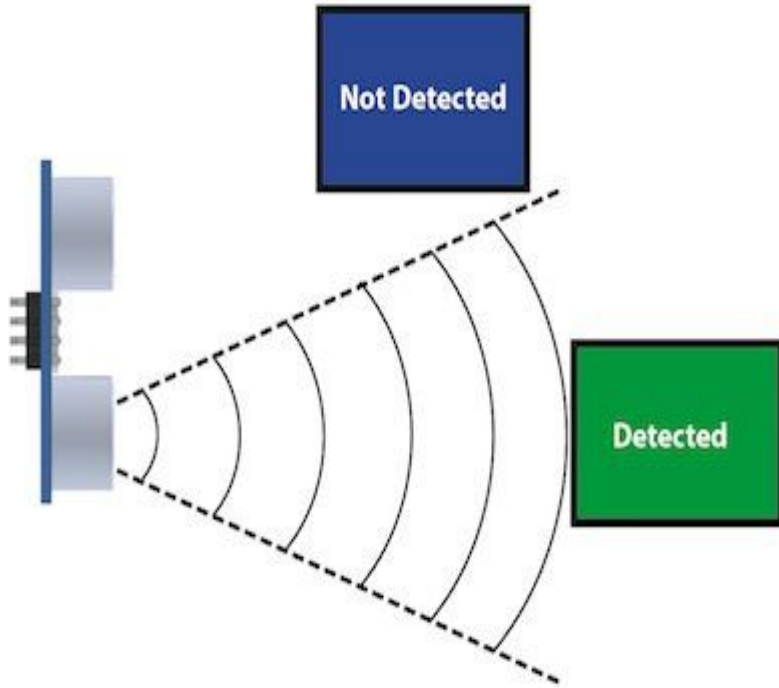
HC-SR04



Sonar



Desvantagens Vs Vantagens



Códigos úteis

```
#include <Ultrasonic.h>
```

- Inicialização:

```
Ultrasonic ultra_sonic (Porta_Trigger,Porta_Echo);
```

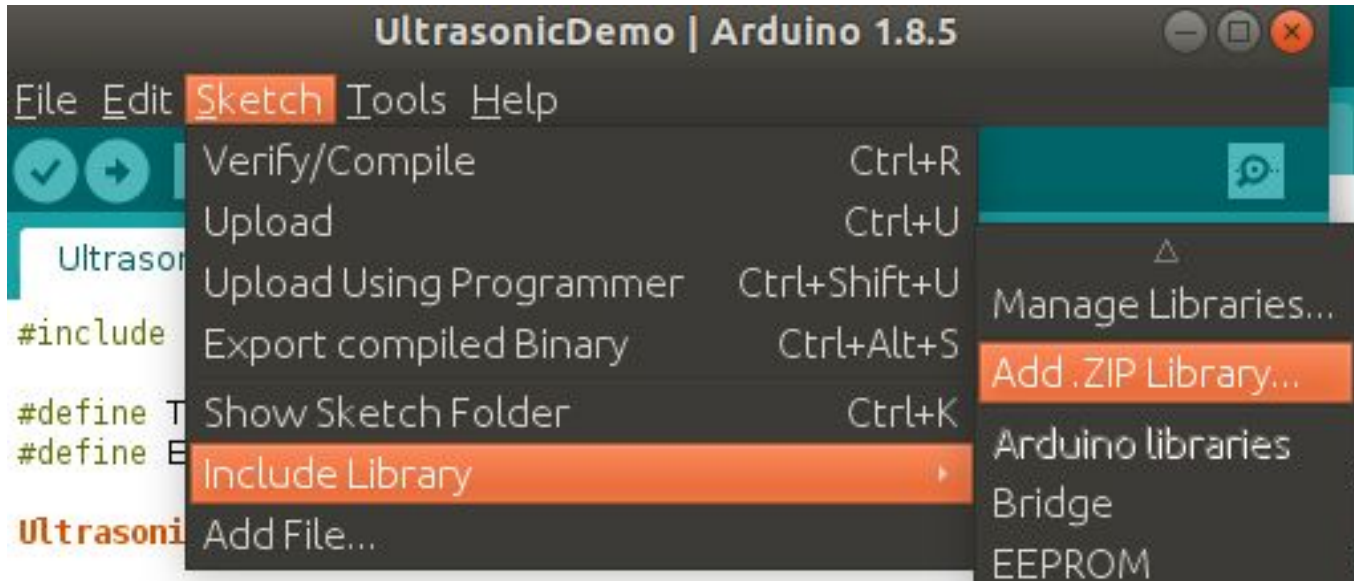
- Uso:

```
long microsec = ultra_sonic.timing();  
cmMsec = ultrasonic.convert(microsec, Ultrasonic::CM);
```

Instalar biblioteca

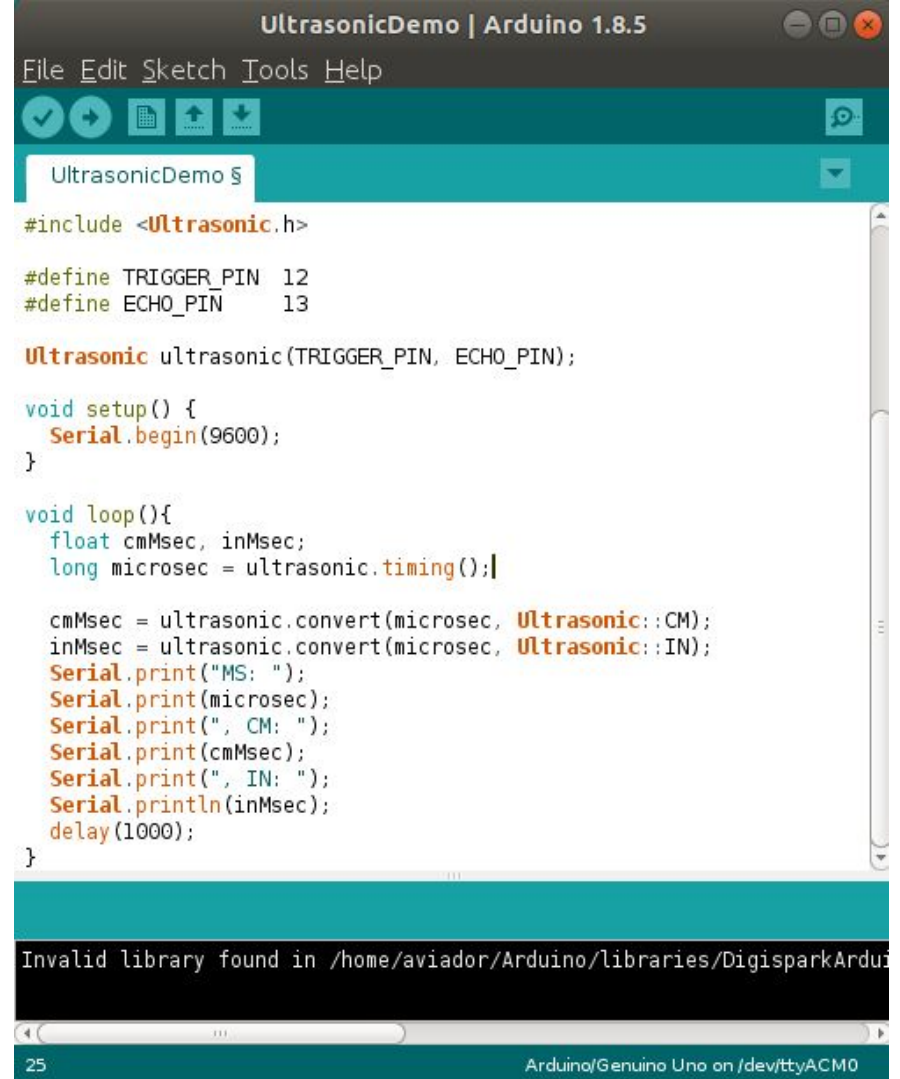
- Baixar a biblioteca do git:

https://github.com/HardwareLivreUSP/FastTalks/blob/master/_05-Sensor_Ultrasonico/Ultrasonic.zip



O código

- 1- Acessar:
- 2- Clicar em “File”;
- 3- Selecionar “Example”;
- 4- Selecionar “Ultrasonic”
- 5- Clicar em “Ultrasonic_Demo”;



```
UltrasonicDemo | Arduino 1.8.5
File Edit Sketch Tools Help
[Icons]
UltrasonicDemo §

#include <Ultrasonic.h>

#define TRIGGER_PIN 12
#define ECHO_PIN 13

Ultrasonic ultrasonic(TRIGGER_PIN, ECHO_PIN);

void setup() {
  Serial.begin(9600);
}

void loop(){
  float cmMsec, inMsec;
  long microsec = ultrasonic.timing();

  cmMsec = ultrasonic.convert(microsec, Ultrasonic::CM);
  inMsec = ultrasonic.convert(microsec, Ultrasonic::IN);
  Serial.print("MS: ");
  Serial.print(microsec);
  Serial.print(", CM: ");
  Serial.print(cmMsec);
  Serial.print(", IN: ");
  Serial.println(inMsec);
  delay(1000);
}

Invalid library found in /home/aviador/Arduino/libraries/DigisparkArdu
25 Arduino/Genuino Uno on /dev/ttyACM0
```


Desafio



Fazer um Sensor de Ré

CHALLENGE ACCEPTED



Desafio Boss

Fazer um theremin usando ultrassônico

