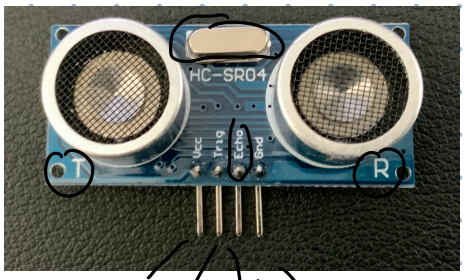
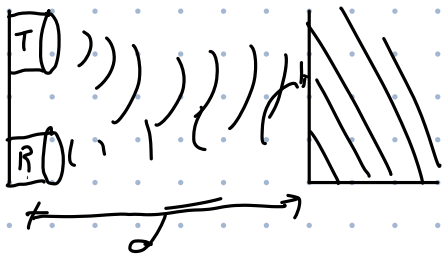
Testing/Playing with HC-SR04 Ultrasound Sensor (Arduino)





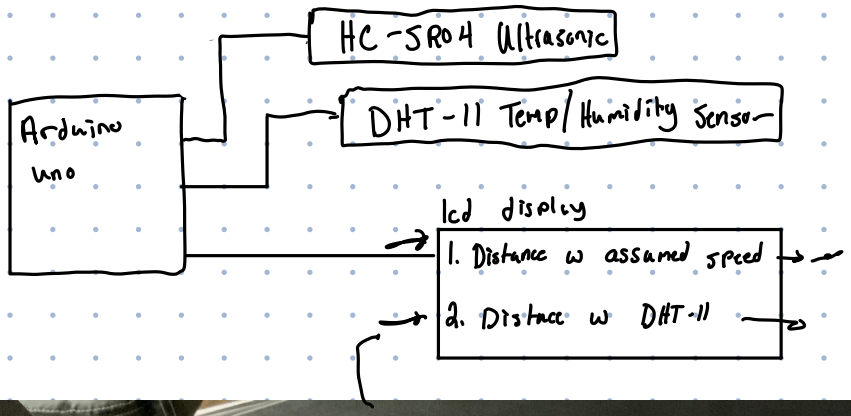
Distance Calculation

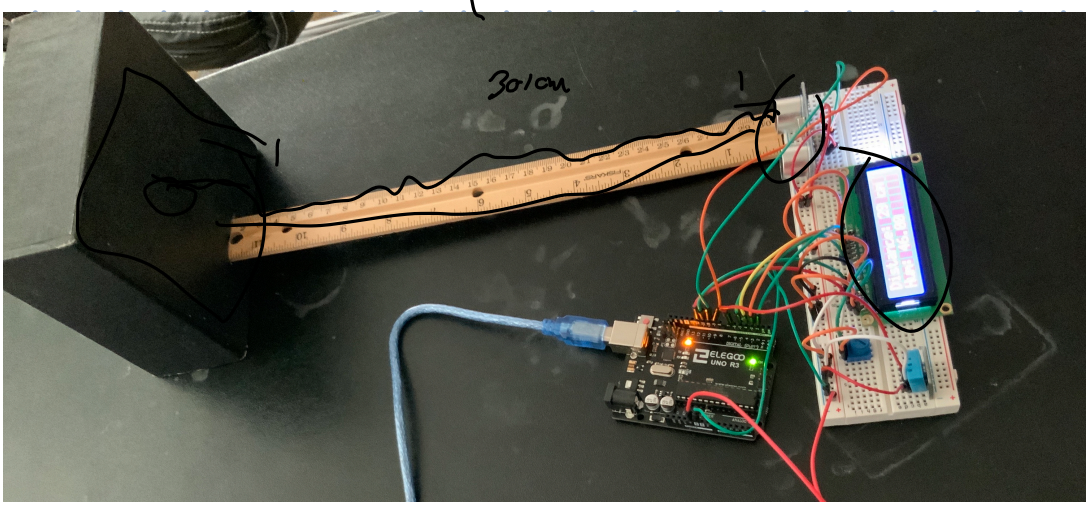
from Echo pin

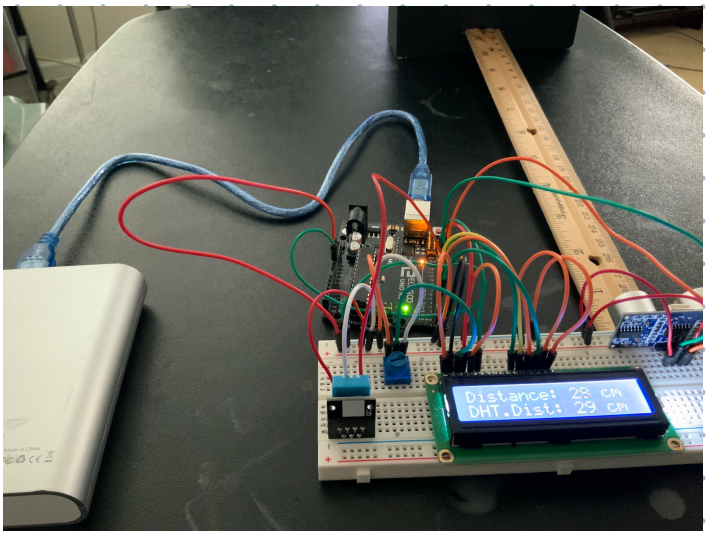
$$\text{Distance} = 1/(\text{Speed})(\text{Time})/2$$

[Speed of Sound in cm/μs]

Arduino Hardware Setup







From DHT : Humidity : 46.00%

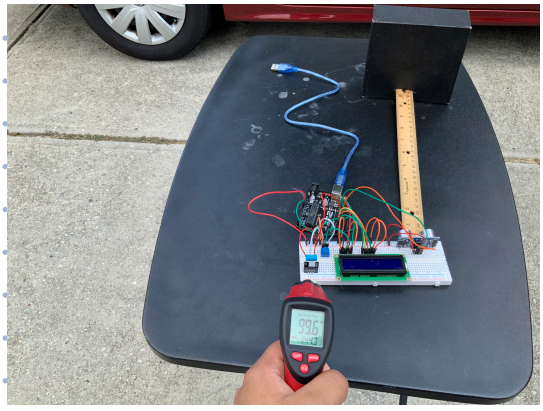
Temp: 26.20 C

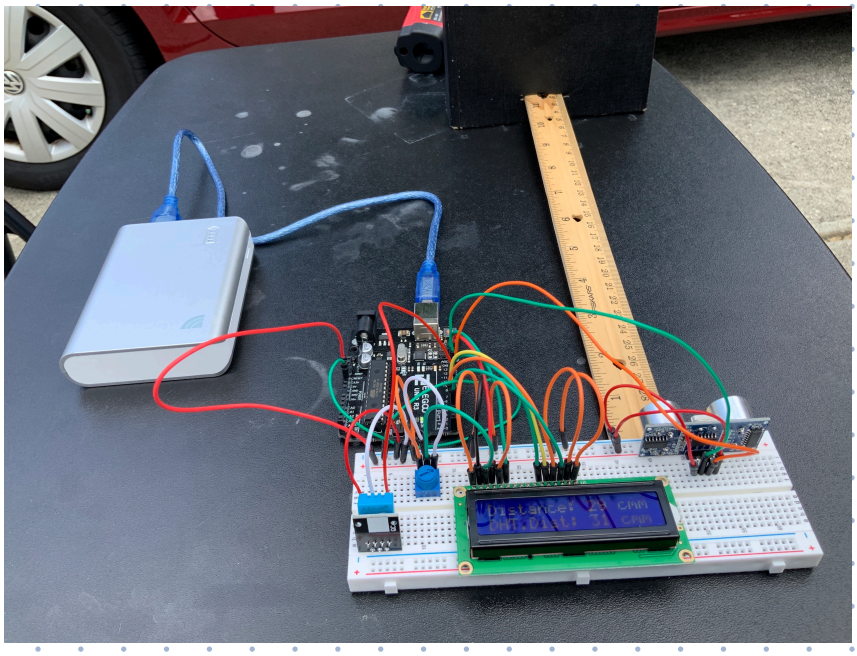
↓

79.16 F

→ Assumed distance 28 cm

→ DHt distance 29 cm





From DHT : Humidity : 42.00%

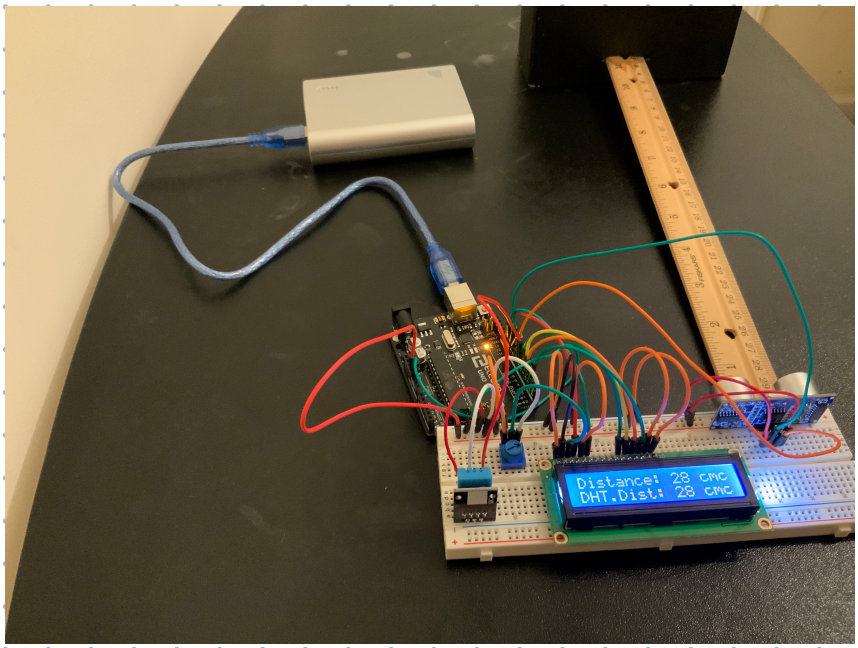
Temp: 35.50 C

↓

95.9 F

Assumed distance: 29 cm

DHt distance: 31 cm



From DHT : Humidity : 93.00 %.

Temp: 26.10 C

↓

78.98 F

Assumed distance: 28 cm

DHt distance: 28 cm

$$V_{sound}(m/s) = 331.4 + (0.606 * Temp) + (0.0124 * Humidity)$$

References

1. https://lastminuteengineers.com/arduino-sr04-ultrasonic-sensor-tutorial/

2. https://github.com/pshroff14/UltrasoundDemo