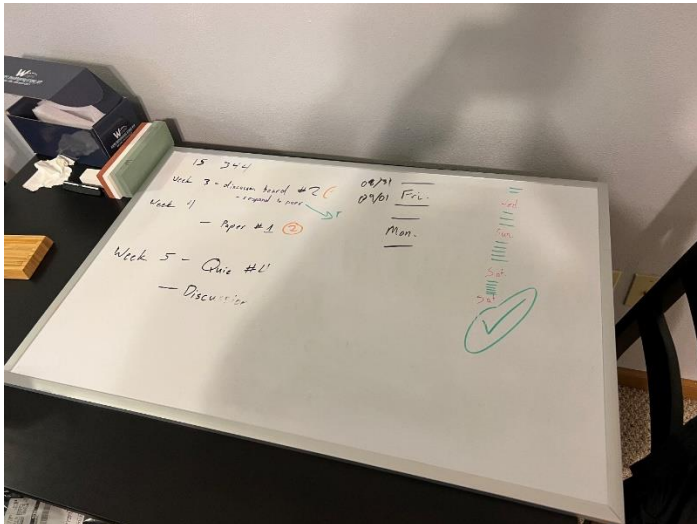


HCSR04

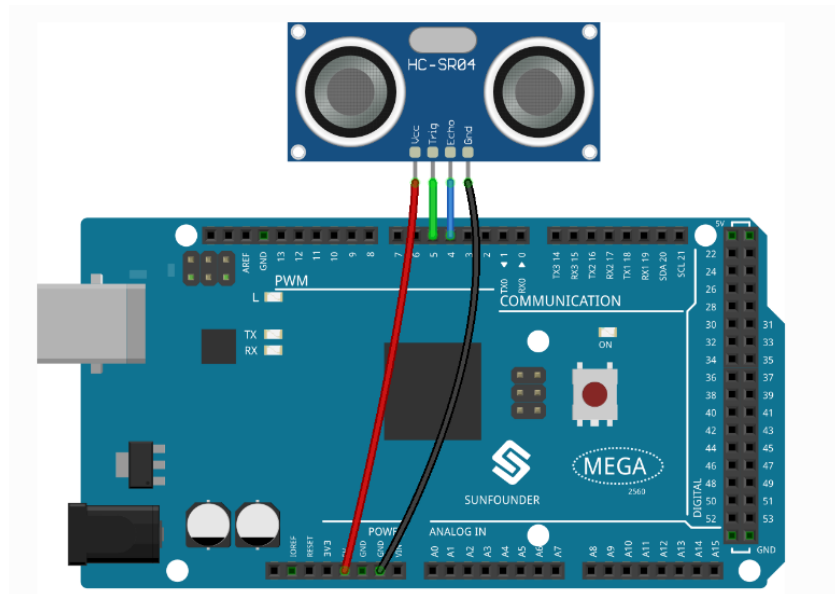
DISCLAIMER: some images and diagrams used from Sunfounder <https://docs.sunfounder.com/projects/vincent-kit/en/latest/>



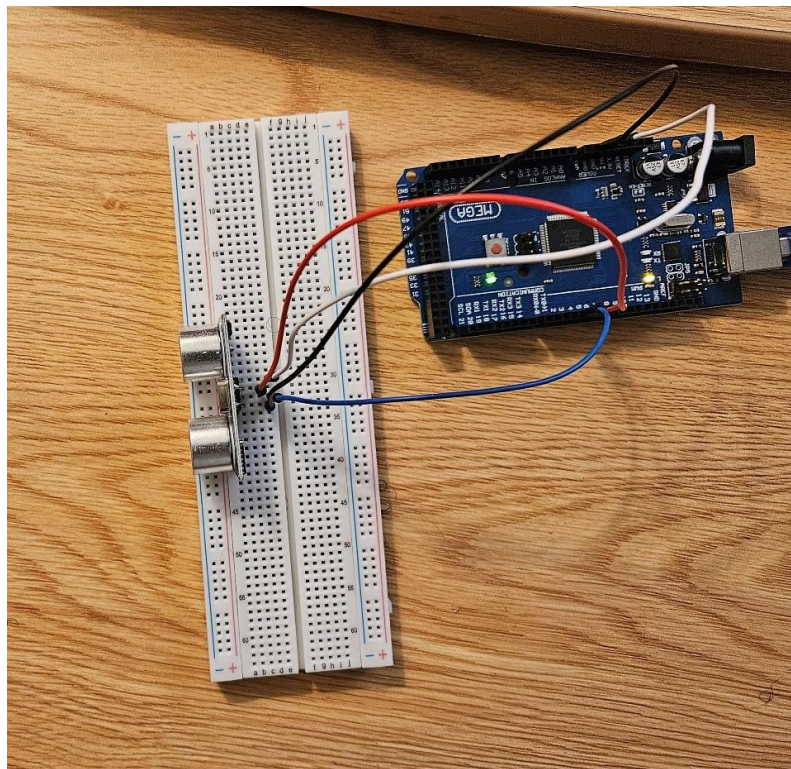
Lamp used for repeatability data. The lamp was on a pivoting base which allowed the group to maintain a very similar location when moved up and down to enter the ultrasonic sensor's field of view and exit.



Schematic



Actual wiring



Data

REPEATABILITY

Sensor Reading (cm)
59.97
59.43
59.55
59.97
59.84

ACCURACY DATA

Ground Truth (cm)	Sensor Reading (cm)
0.3175	5.76
0.635	2.43
1.27	5.67
2.54	2.43
5.08	5.36
7.62	9.9
10.16	10.62
12.7	13.4
15.24	16.48
17.78	19.05
20.32	22.86
22.86	24.6
25.4	25.76
30.48	30.74
45.72	45.1
60.96	59.69
76.2	67.76
91.44	84.86
106.68	105.43
121.92	107.02
152.4	139.45
182.88	182.48
213.36	212.22
243.84	243.07
274.32	274.84
304.8	304.53
335.28	338.31
365.76	365.66
396.24	396.4

DRIFT DATA

Sensor Reading (cm)
59.98
59.98
59.98
59.98
59.98
59.98
59.98
59.98
59.98
60.09
59.95
59.84
60.09
59.97
59.97
59.84
59.95
59.84
59.95
59.98
59.95
59.95
59.83
59.98
59.98
59.98
59.98
59.98

Reading as a Function of Ground Truth

