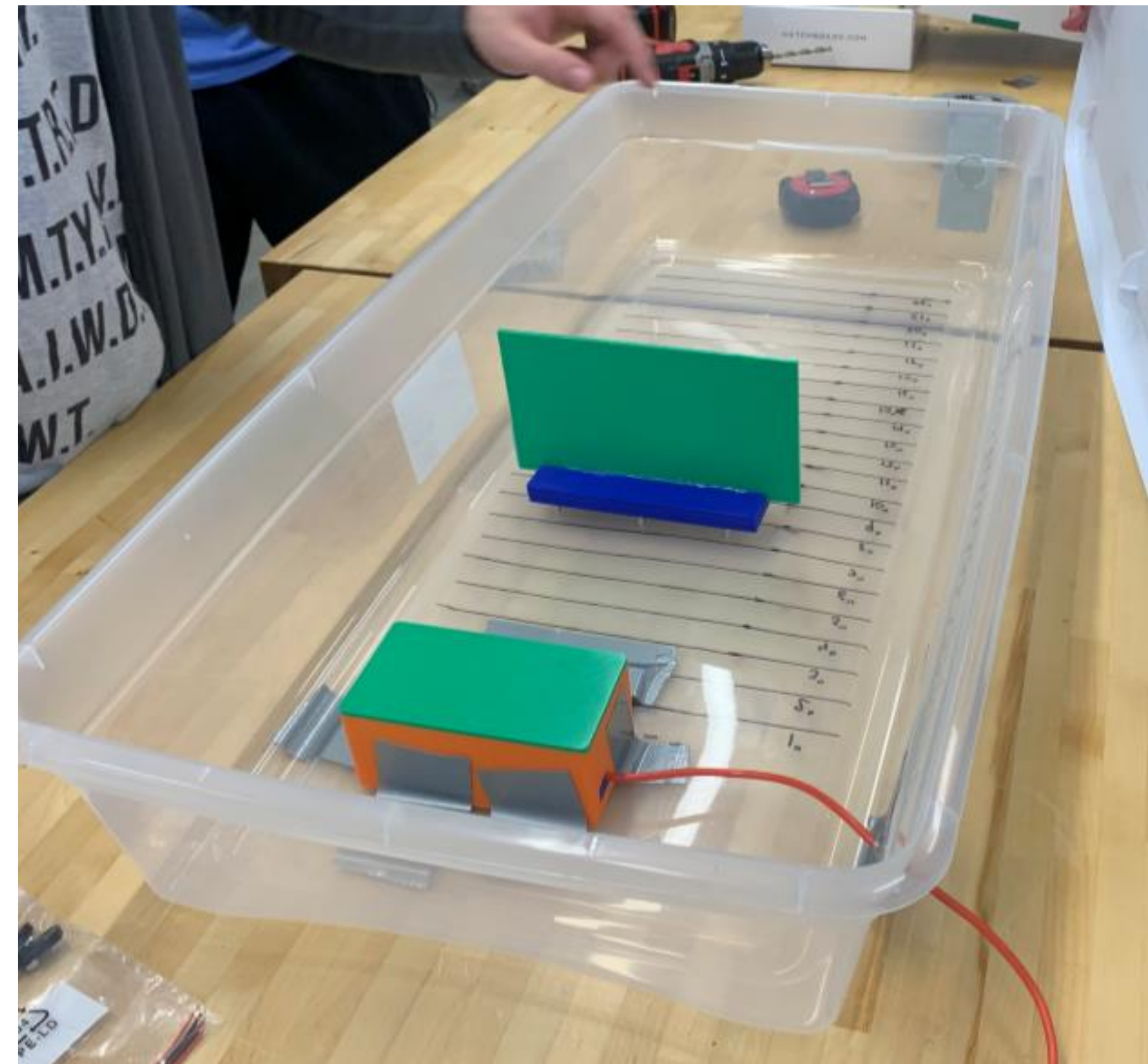


EULER: Testing



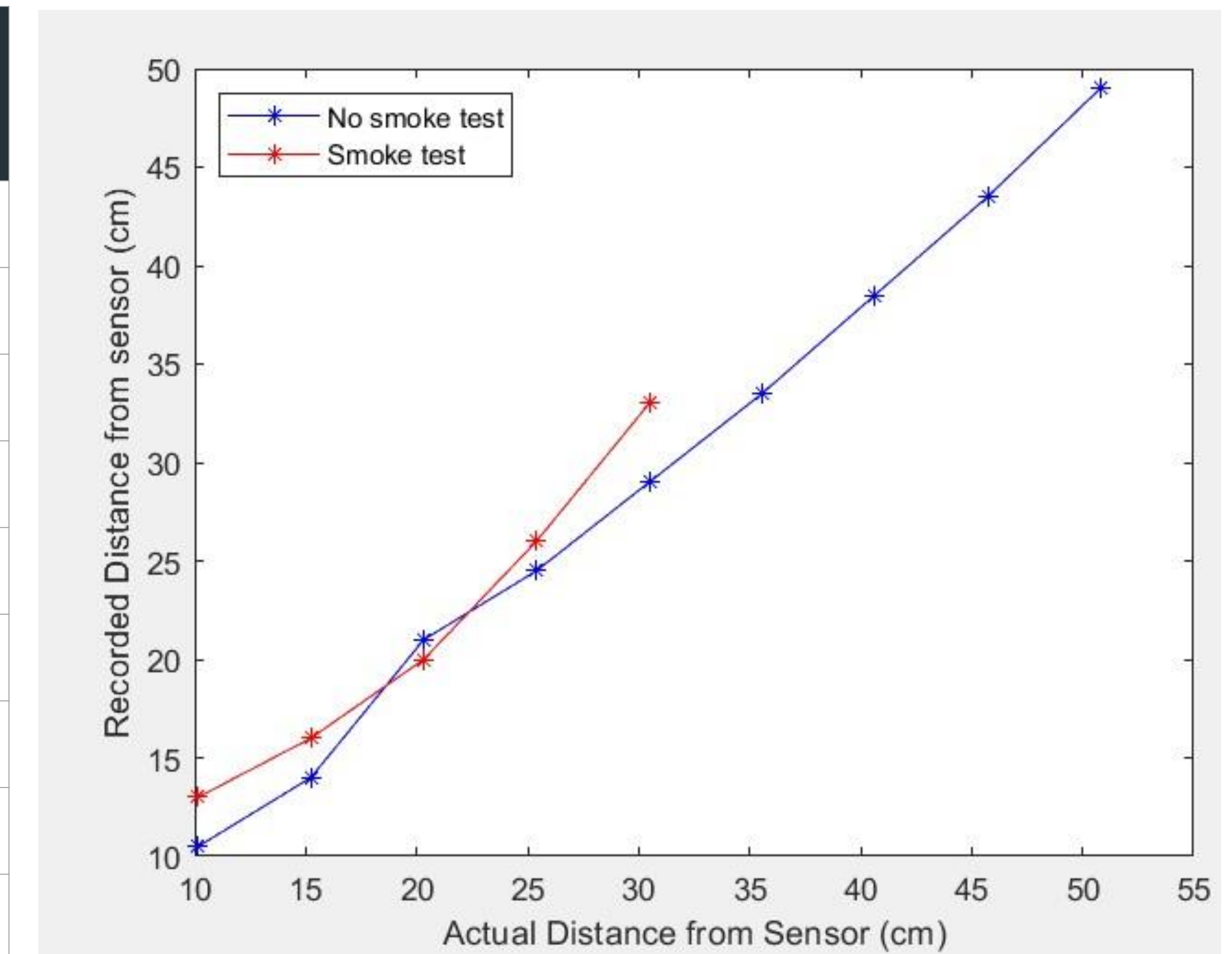
Alpha Prototype Procedure:

1. Test material was placed on green movable wall
2. Moved material and wall 2 inches at a time, collecting distance reading from sensor
3. Sealed box and filled with smoke until nothing was visible,
4. Moved material and wall 2 inches at a time, collecting distance reading from sensor again
5. Empty box of smoke
6. Switch test material on green wall and repeat steps 2-5.



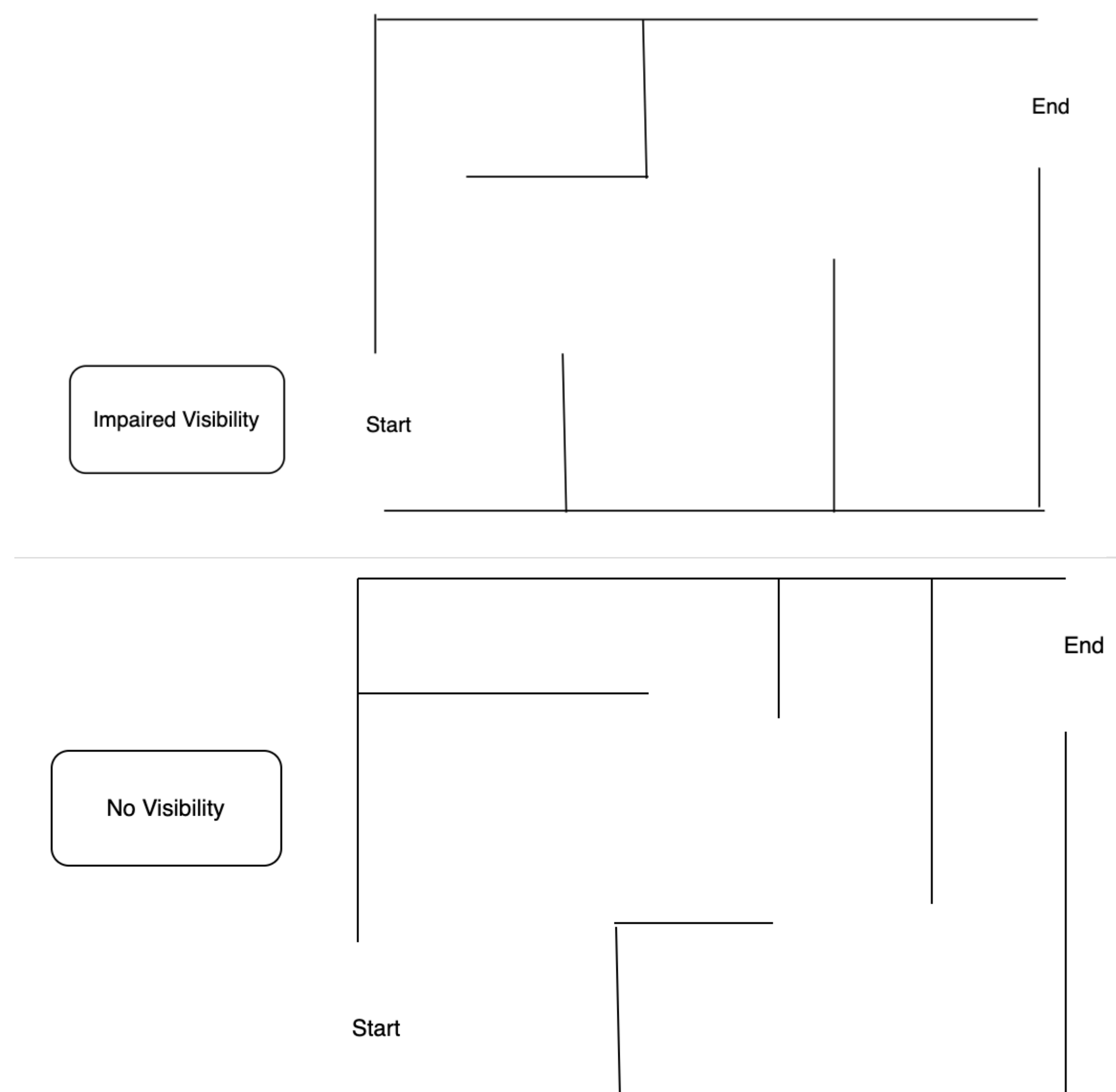
Alpha Prototype Results:

Actual Distance (cm)	Measured With Smoke (cm)	Measured Without Smoke (cm)
10.16	13	10.5
15.24	16	14
20.32	20	21
25.4	26	24.5
30.48	33	29
35.56	Undetected	33.5
40.64	Undetected	38.5
45.72	Undetected	43.5
50.8	Undetected	49



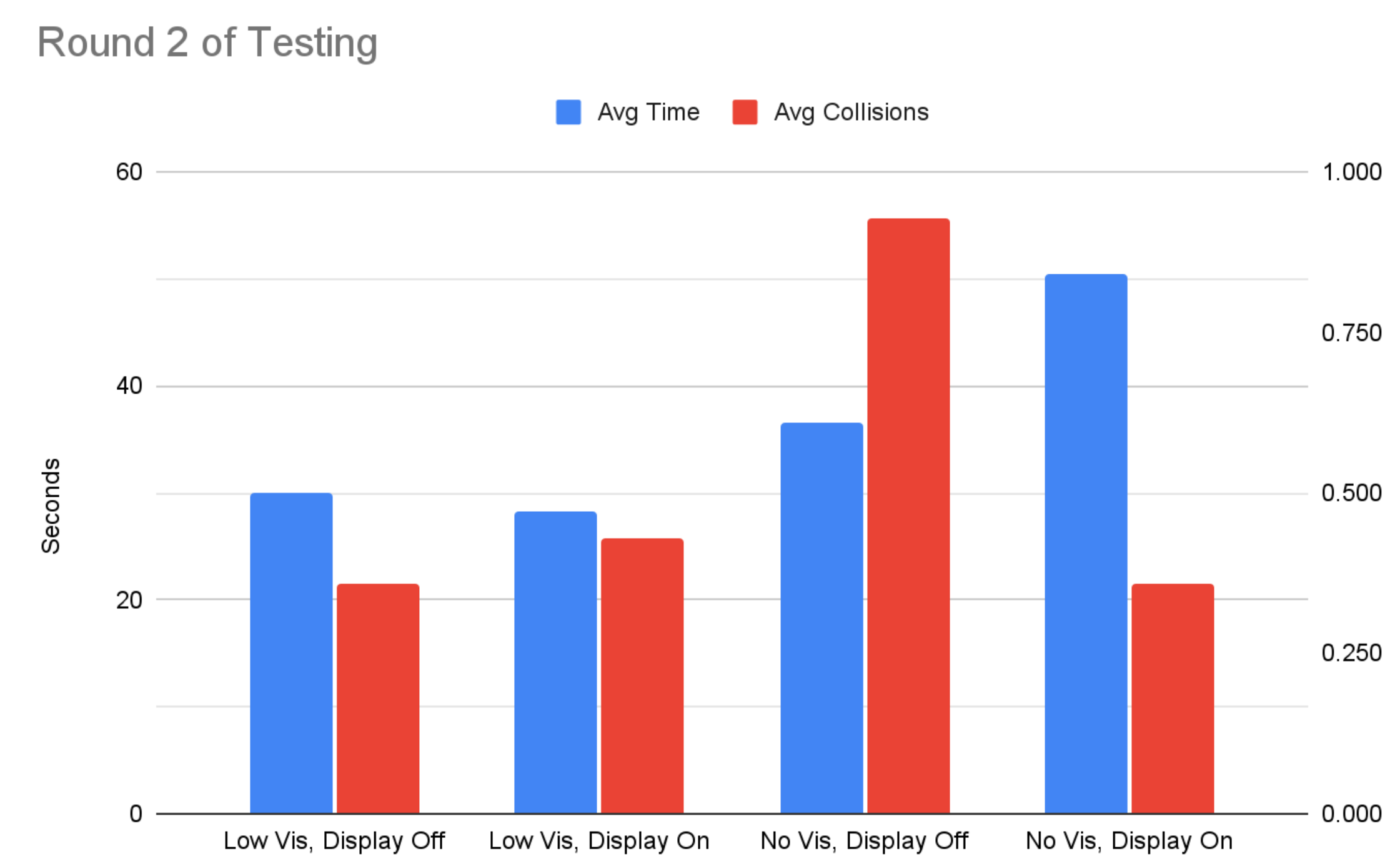
Beta Prototype Procedure:

1. Volunteers put the beta prototype on and got acquainted with the sensors
2. Explained the test and the rules for each test
3. Volunteers were blindfolded with the display turned off and led to the starting point
4. Volunteers tried to get to a sound at the end of a maze only using their hands
5. Once through the maze, volunteers were told that the maze would be changed and the sound was moved to the opposite end
6. The display was turned on for the volunteers
7. Volunteers tried to get to the sound again going through the maze with the sensor data
8. Recorded collisions and time on each trial through the maze



Beta Prototype Results:

	Low Vis, Display Off	Low Vis, Display On	No Vis, Display Off	No Vis, Display On
Avg Time	30	28.35	36.57	50.42
Avg Collision	0.357	0.429	0.929	0.357



Impact Testing:

Total weight: 4.5 lbs

- Mask: 1.4 lbs
 - Dropped from 64 in off the ground
 - Works after drop
- Pack: 3.105 lbs
 - Dropped from 51 in off the ground
 - Works after drop

Next Steps:

- Waterproofing
- Cable Management
- Housing made from material that won't melt in a fire
- Housing component organization