

Smart Cane

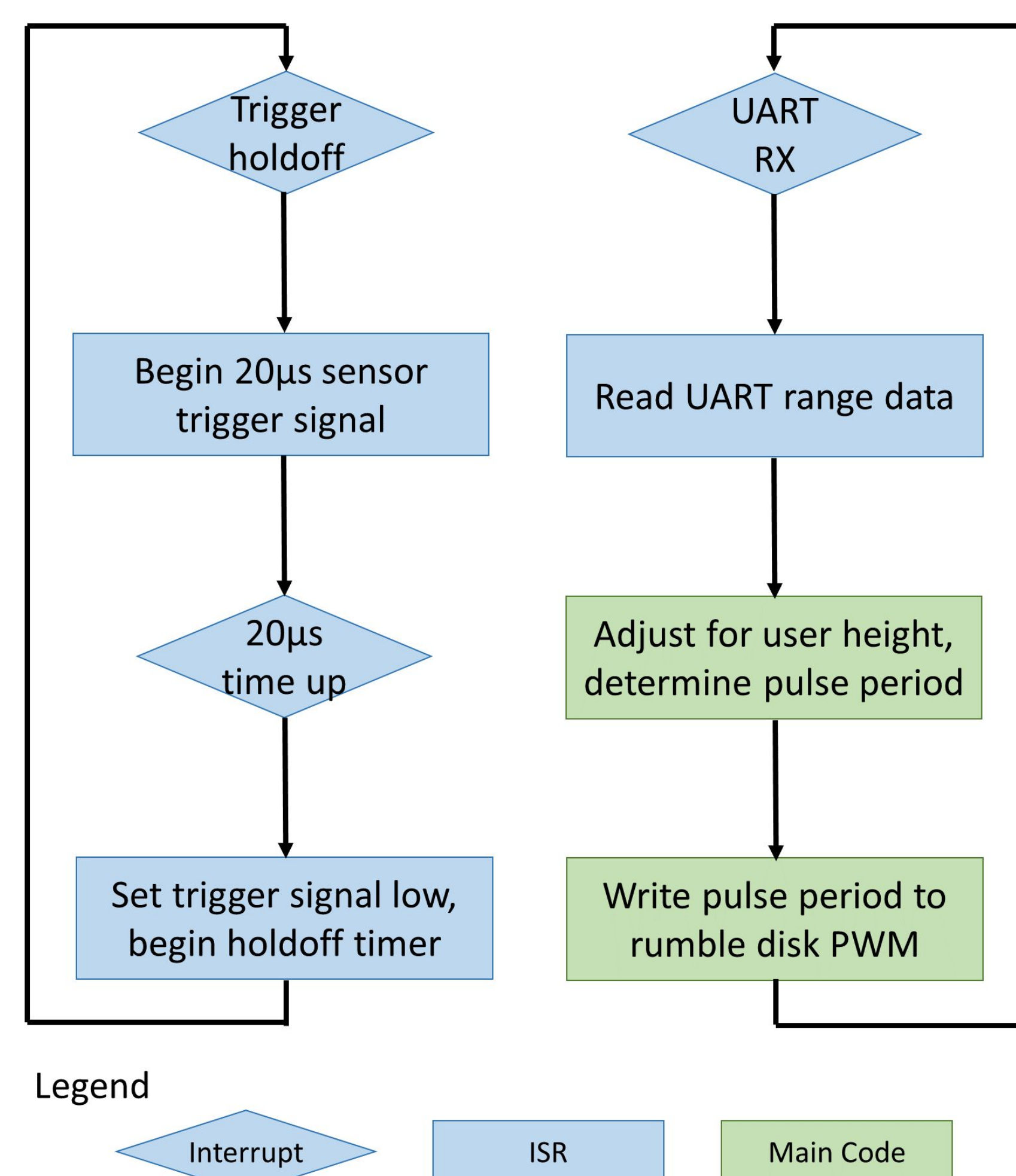
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Our Goal

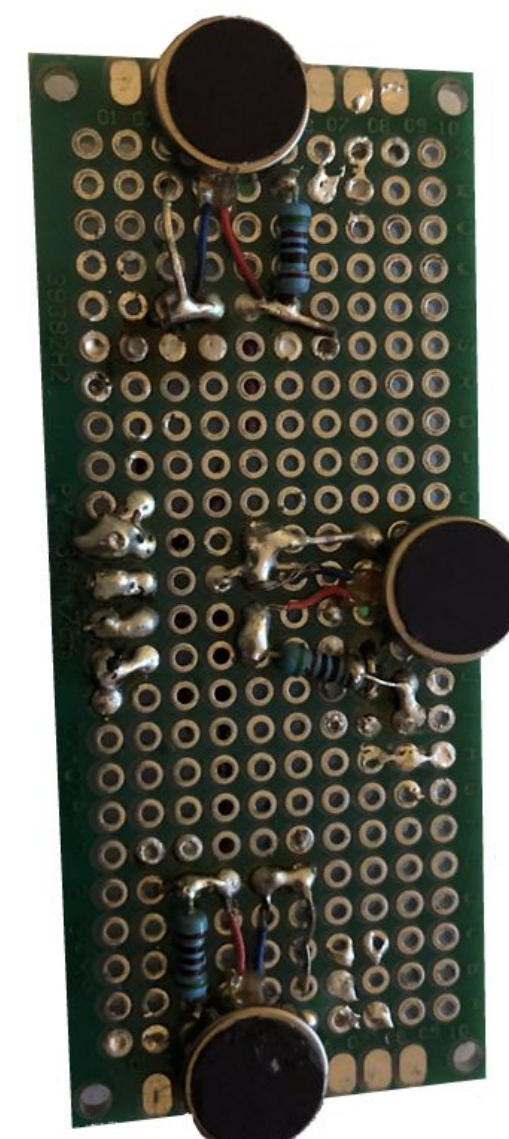
Create an alternative to the cane used by the blind that has a larger detection range to help a visually impaired person navigate the world and live an independent life.

Software Flow

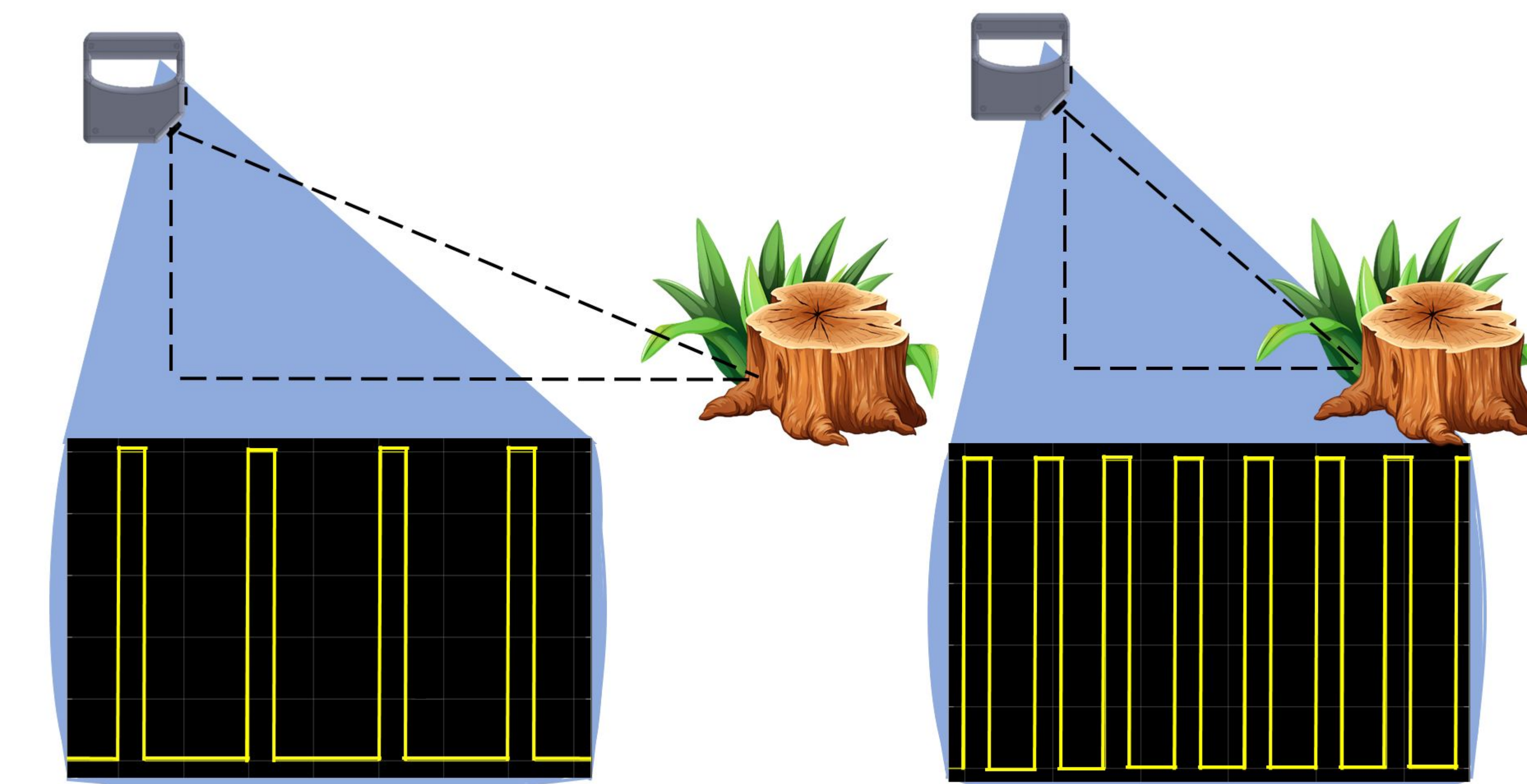
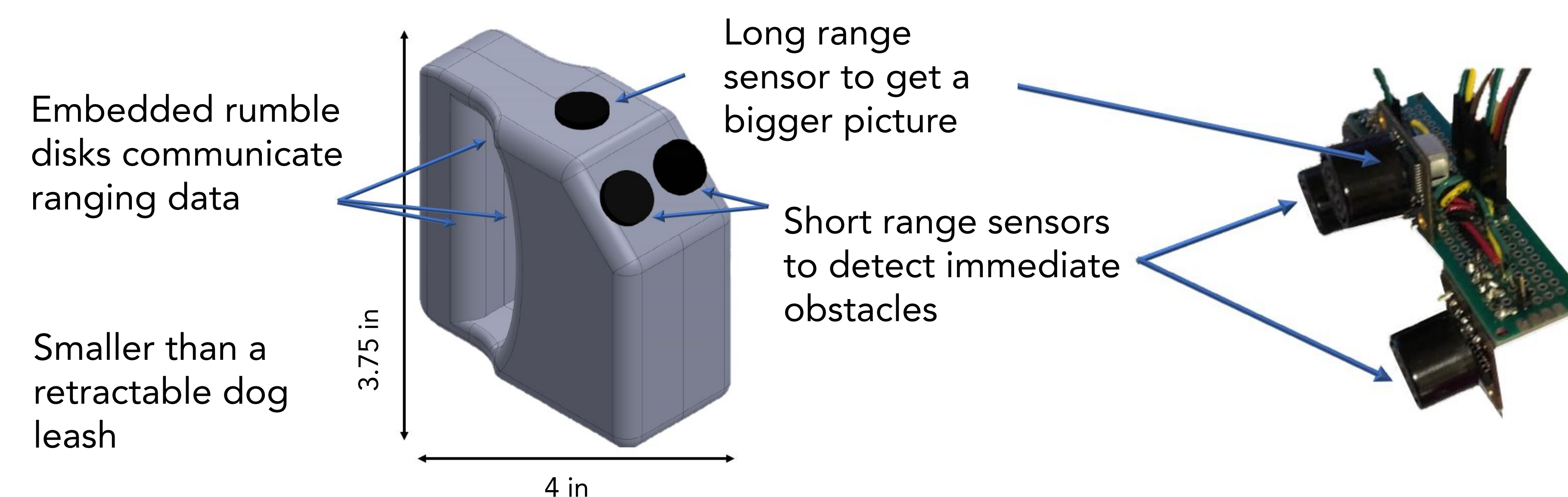


Testing/Simulation

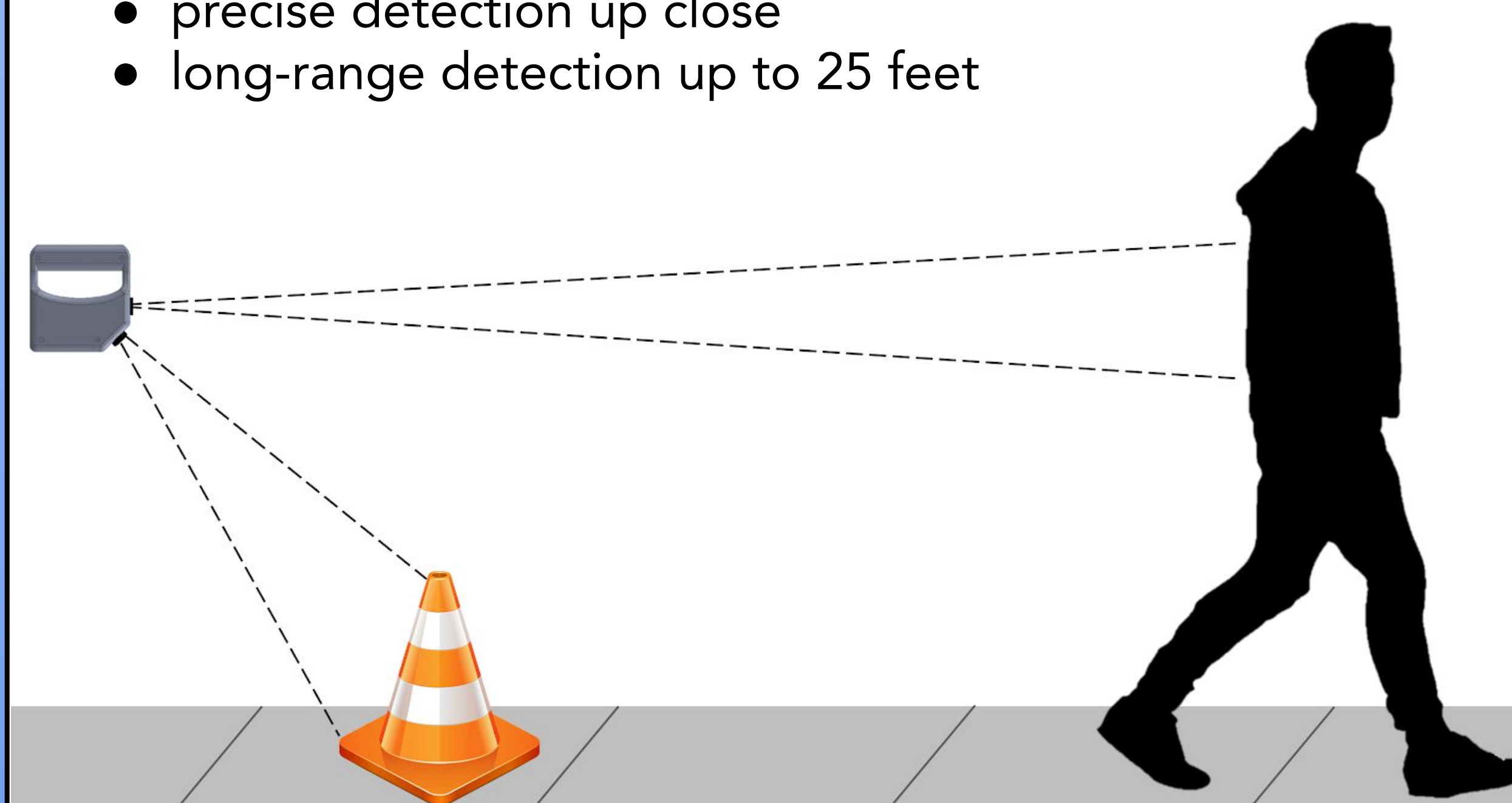
- Physical: 3 LED/Vibration Disc breakout board
- MATLAB: simulated static and dynamic situations



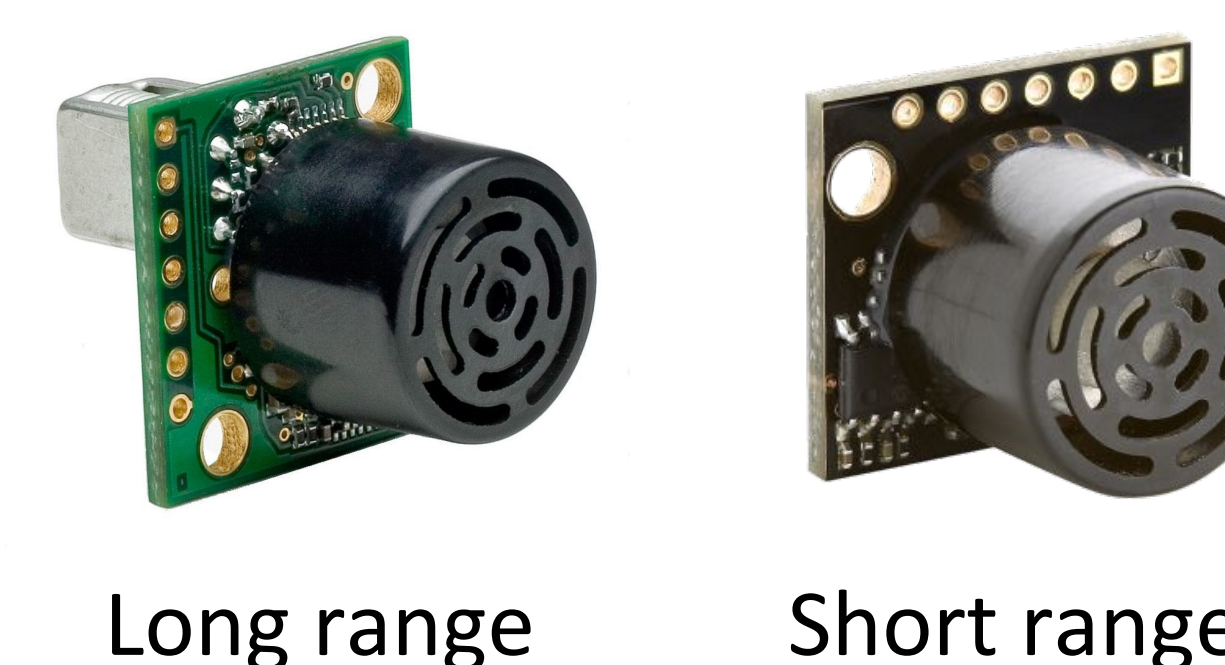
Product



- 2 types of sensors:
- precise detection up close
 - long-range detection up to 25 feet

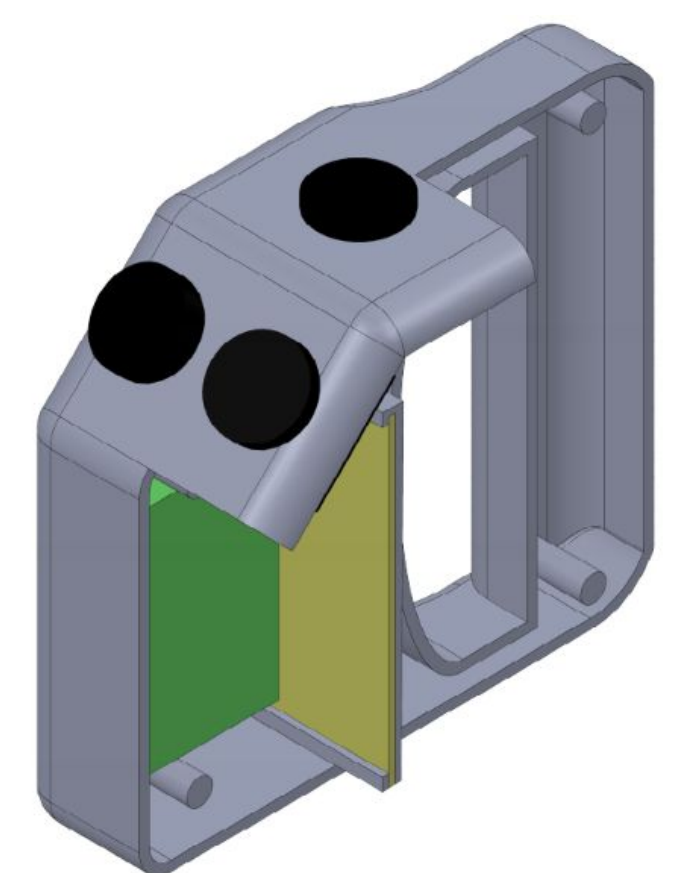


Ultrasonic Ranging Sensors



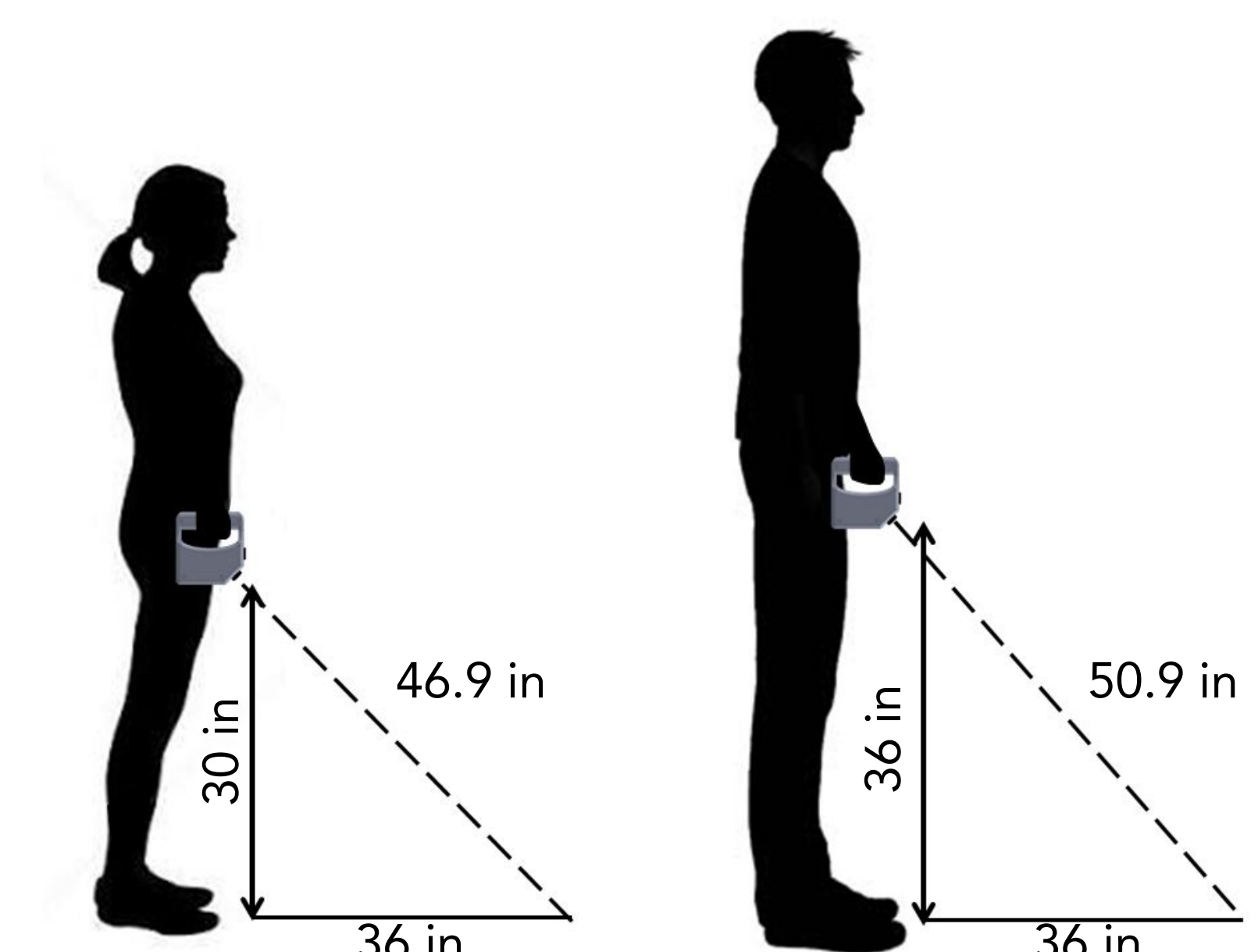
Manufacture and maintenance

- Lightweight aluminium body-great weight:price ratio
- 5000mA battery for multi day battery life



2 Stage Calibration:

- Factory Level: each sensor must go through a rigorous controlled testing environment
- User Level: one time adjustment for user's height



- Ensures absolute safety

Sources

https://www.maxbotix.com/Ultrasonic_Sensors/MB1200.htm
https://www.maxbotix.com/Ultrasonic_Sensors/MB1043.htm