

Ali Rahmati
Parsa Aghaei
Erfan Gudarzi
Ali Ghasemi

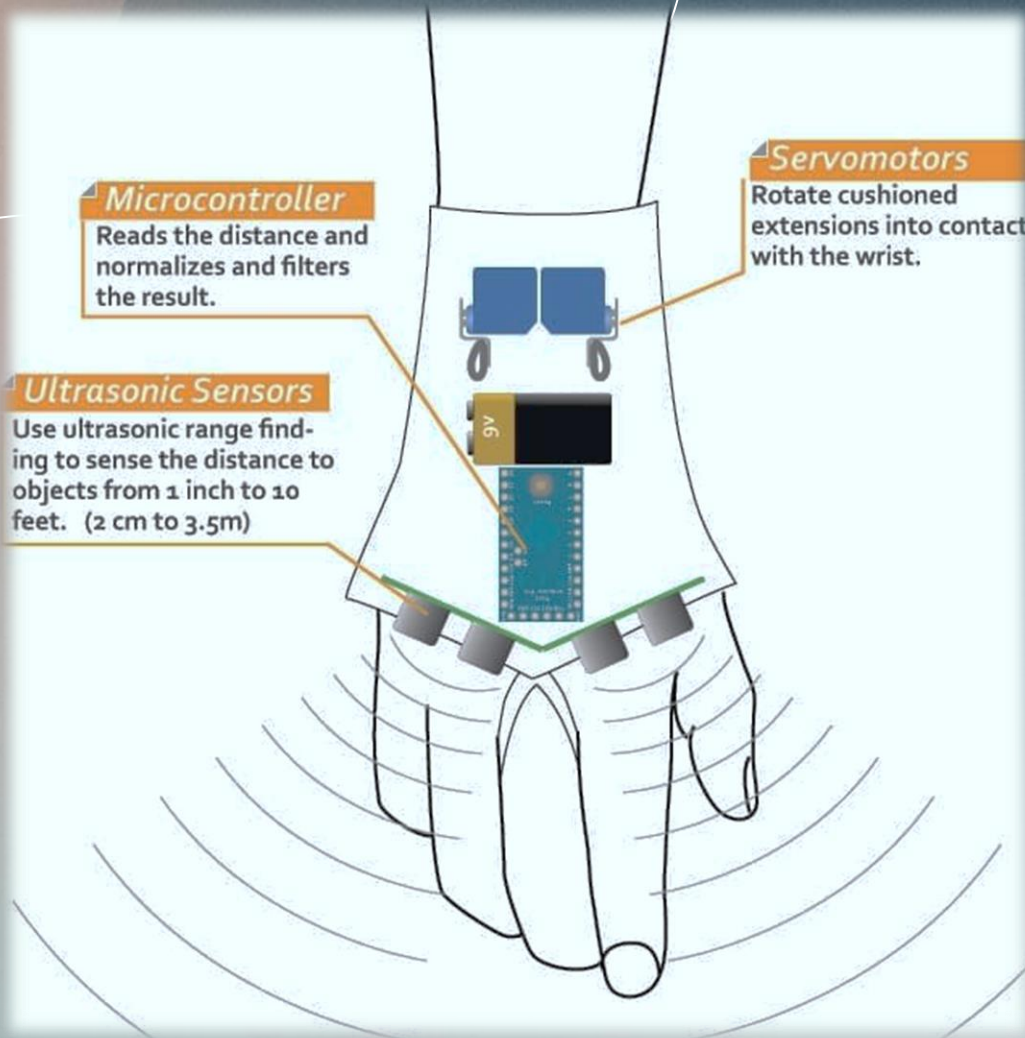


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Sonar For The Blind



Mounted to the back of the hand. It measures the distance to things and translates that into pressure on the wrist.

Objectives and Problems

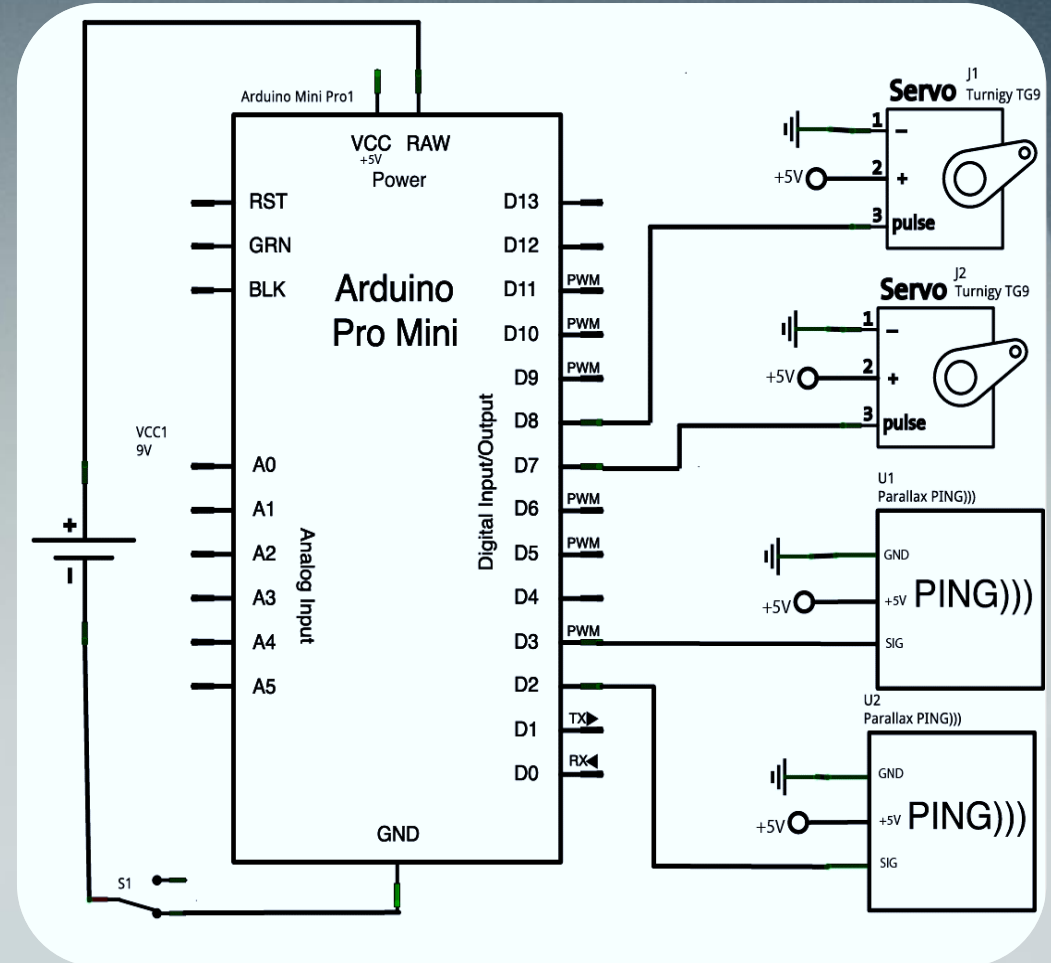
- Wrist mounted due to the importance of touch to the visually impaired.
- Flat low learning curve.
- Range and delay determined by sensor (sonar, infrared, radar, lidar,...).
- Expense and fashion friendly. “Accessible”
- Vibration motors can be problematic, vibrations, if they’re constant, can cause nerve damage.
- Other feedback systems must be vocal.



Parts

(not final, subject to change)

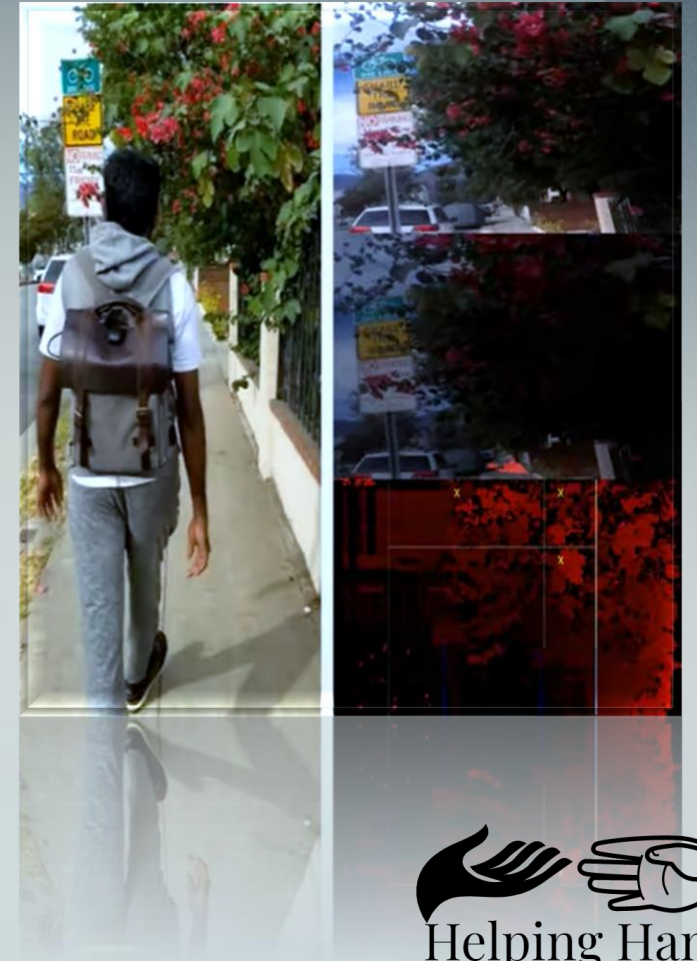
- (1) Arduino Mini Pro 5v / other suitable boards
- (2) Ultra sonic sensors
- (2) small hobby servo
- (1) 9v battery connector
- (1) slide switch.
- Suitable plastic or wearables for glove
- Tape/ hook/ fasteners to attach parts to glove
- Electric speaker/microphone module
- Bluetooth module and push button for emergencies



Features and Future proofing

- The ultrasonic sensor should be replaced by better ones as they become cheaper.
- The device can ignore itself and other desired objects through software.
- A microphone/speaker module can be added to enhance the feedback UX.
- A Bluetooth module and push button can be added for emergencies like falling.
- Simple to wear, use and maintain.

Similar Products



Cost Estimates

<i>Part</i>	<i>Min</i>	<i>Max</i>
<i>Arduino uno</i>	280	360
<i>Bluetooth</i>	85	180
<i>Ultra sonic (2)</i>	60	120
<i>Speaker/microphone</i>	20	200
<i>Servo motor (2)</i>	100	400
<i>Slide switch /Push button/ Battery connector/ other</i>	100	300
<i>Wearable</i>	100	300
<i>All</i>	745	1,860

Business model

COST STRUCTURE	REVENUE STREAMS
Production Marketing R&D	Direct sales Sales as a service

VALUE PROPOSITIONS	CUSTOMER RELATIONSHIPS	CUSTOMER SEGMENTS
The Device Support and repair service Promise of better iterations	Retailers Online shop Phone lines	Vision impaired people Companies and governments as part of their healthcare, social security and insurance policies
	CHANNELS Visual impaired communities ophthalmology hospitals, clinics,... dealers	

KEY PARTNERS
Manufacturers Retailers

References

Tacit Project : <https://gist.github.com/Grathio/1175994>

Third Eye for the Blind : <https://www.hackster.io/muhammedazhar/third-eye-for-the-blind-8c246d>

Arduino Project Hub : <https://create.arduino.cc/projecthub>

Arduino Documentation : <https://www.arduino.cc/reference/en/>

Communities on YouTube : <https://www.youtube.com/watch?v=NollB4CxhJw>

Retailers for prices