

# Make the Blind See?

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# Background

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- I chose this because I like helping people and this seemed like a great topic to help. Some people have created a cane with this concept, such as WeWalk. But not everyone can afford canes that can be over 1000 dollars. So, I want to find an effective way that's better than regular canes and cheaper than electrical ones. For all ages, around 7 million people in the United States have vision impairment, blindness being responsible for about 1 million. So, what can people do to make walking easier for these people?



# Problem Question

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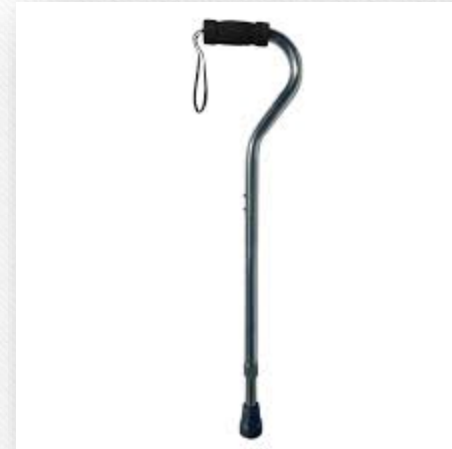


- How can a device be created with low cost and good results that can assist the visually impaired?

# Hypothesis

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- My hypothesis is that if I use ultrasonic ray cane connected to vibration sensors to detect paths, then it will be more effective than a regular cane because people will be able to have more understanding about their surroundings making it easier for day-to-day life.



# Methods and Procedures

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- My constant is the blindfold used the amount of area the tester will cover. around the testers. The dependent was the cane used and obstacles placed.
- 1. Attach an ultra-sonic sensor on the walking stick at an angle with it tilting downwards.
- 2. Connect it with wire to a vibrator
- 3. Program the vibrator to be able to do different vibrations to certain things
- 4. Put a blindfold on a person
- 5. Let them use the walking stick in busy areas/areas with lots of obstacles
- 6. Draw data from the accuracy of the stick + how much it helped and improved use



# Results / Conclusion

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- I found that most obstacles were hit with no cane, while the least were hit with the custom cane as the chart shows. Something that was changed was the environment because the original one was too small.
- I saw that when the people used no canes, they hit the most amount of object. While with the custom cane they hit the least amount of obstacles.