According to the American Federation for the Blind, there are 10 million blind and visually impaired people in the United States of America.

Our Mission:
“Provide a safe, effective, and reliable assistive device for Blind & visually impaired swimmers”

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The Problem:
Blind and visually impaired swimmers have the following difficulties:
- Location in pool.
- Directional alignment.
- Awareness of obstacles.

Active Device Advantages:
- Portable- does not require installation.
- Instant alerts to a swimmer about orientation.
- Minimizes erratic motion in the lanes.
- Reduces visibility- does not draw attention to swimmers disability.

Previous Device:
Previous groups developed a vibrating belt and a snorkel device to communicate with BVI swimmers.
- Not comfortable wearing the device.
- Feedback language questionable
- Technology created before user input was obtained.

Survey Results:
Visually impaired individuals were asked how they would like to receive information.

Goals achieved:
- A survey was created and administered to the BVI community.
- A prototype of the snorkel using headphones was built.
- Research on multiple technologies was completed. Three were selected. (Ultrasonic sensors, Invisible Fence, Hydrophone)
- Built hydrophone prototype.
- All the research was documented for the reference of future IPRO 310 students.

Future goals:
- To gain more feedback from the BVI community to guide design.
- Implement the concept of the researched technologies in building a new active device.
- To use the modified prototype of the snorkel device in the next pool test.

Conclusion: Visually impaired people prefer an audio device that is worn on the head.