QUICK FACTS

- There are 15 million blind and visually impaired people in North America
- 99% of blind people do not participate in any kind of athletic activity because they do not feel safe or secure when exercising

OUR MISSION

"Enabling Visually Impaired People to Exercise Independently"

Spring 2008
IPRO - 310

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IPRO 310

Designing and Building Prototypes for Assisting Blind Swimmers

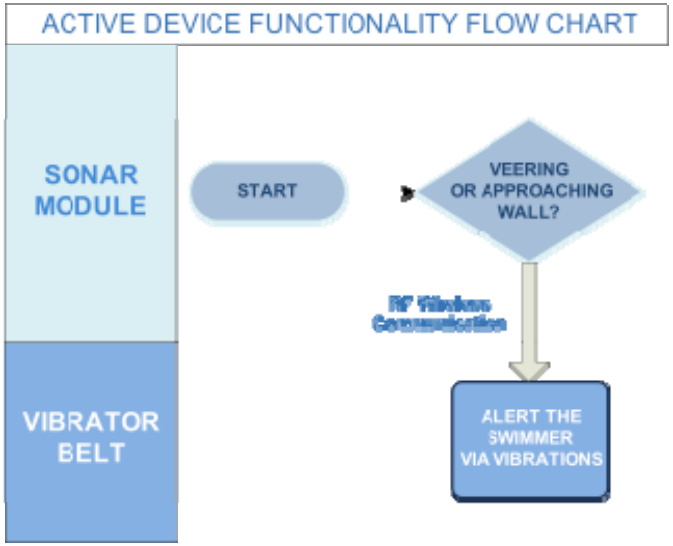
eyeSwim SONAR Team

"I feel safer in the water with eyeSwim"
-Tim Spencer
Blind Swimmer

THE PROBLEM

- Visually impaired swimmers have difficulty swimming safely and independently.
- Visually impaired swimmers constantly hit the pool walls/lane dividers as they veer off center.
- Currently, blind swimmers use one or more strategies to locate themselves in the pool and avoid collisions with swimmers or pool walls:
  - ⇒ Access a pool when there are no other swimmers present
  - ⇒ Hire tappers who alert them when they reach the end of the pool
  - ⇒ Constantly hit lane dividers with their arms to locate themselves in the pool lane

eyeSwim SONAR is an electronic device worn by visually impaired swimmers that alerts them using vibrations which enables them to perform corrective maneuvers.



Advantages of eyeSwim SONAR:

✓ Alerts - swimmer to pool sides and end

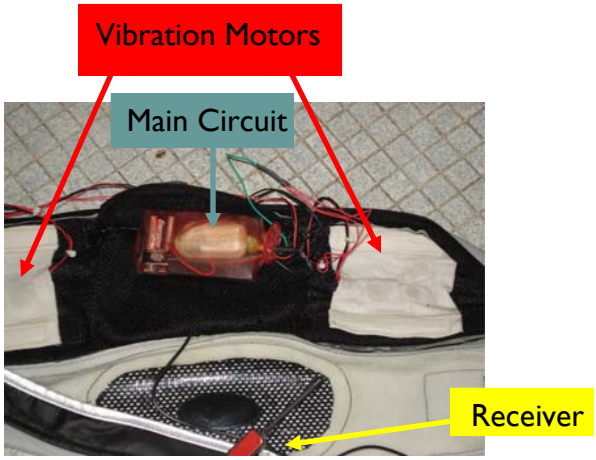
✓ Swimmer Independence - no tappers required

✓ Safe - soft and adjustable belt

✓ Convenient - small and portable

✓ Orients - minimizes zigzagging along lane

RF kit is used to transmit signal to activate left and right vibration motors that will be attached on the swimmer



The SONAR transducer, which is attached to the transmitter, sends signal to the receiver, which will vibrate to warn the swimmer of end of the lane.