

# IPRO 310 - Designing and Building Prototypes for Assisting Blind Swimmers



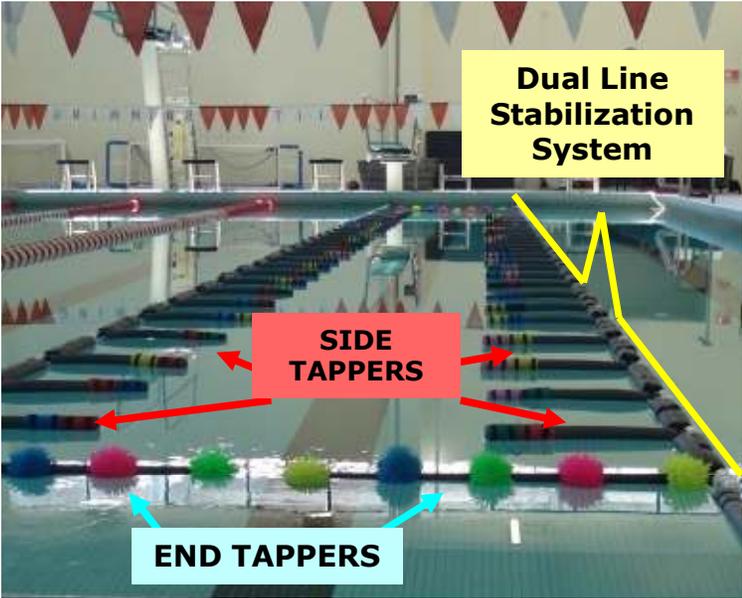
## Version VII

### The problem

Blind and Visually Impaired Swimmers cannot locate themselves in a pool. They have difficulty knowing when they are approaching the end of the lane and whether or not they are on center within the swim lanes. This causes blind swimmers to hit the pool walls and to veer off to the lane dividers or pool sides, which can cause injuries.

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 is a device used by blind swimmers to establish lane position and execute corrective maneuvers.

### Advantages of eyeSwim:

- ✓ Alerts - swimmer to pool sides and end
- ✓ Swimmer Independence - no Tappers required
- ✓ Safe - made of soft flexible materials
- ✓ Affordable - cheaper than hiring Tappers
- ✓ Orients - minimizes zigzagging along lane



Side tappers guide the swimmer toward the center of the lane. Icicles guide the swimmer toward the lane center while they are doing the breast stroke.



T-Connectors allow quick connections between the Side Tapper and lane line. T-Connectors slide along the lane line, allowing multiple Side Tapper insertions depending on the swimmers preference.



End Tappers alert the swimmer when he/she reaches the pool end. End Tappers return to position after the swimmer passes. Also, the swimmer can adjust the distance between the end of the lane and End Tapper because the T-Connector also connects the End Tapper to the lane line



Tapper - Alerting a blind swimmer

There are 15 million blind and visually impaired people in North America and 1.5 million are blind.

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:

Provide a safe, effective, and reliable assistive device for blind and visually impaired swimmers

I PRO 310

Code of Ethics: Over-arching principle



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## Passive Team Members

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# I PRO 310

## Designing and Building Prototypes for Assisting Blind Swimmers

# Passive Team

"I feel safer in the  
water with  
eyeSwim"

Tim Spencer  
Blind Swimmer