

# I P R O 3 1 0

Designing and Building  
Prototypes for Assisting  
Blind and Visually  
Impaired Swimmers

# PASSIVE TEAM

## Our Mission

***“Provide a safe, effective, and reliable assistive device for visually impaired swimmers”***

## PROBLEM

- According to the American Federation for the Blind, there are 10 million BVI Americans.
- The durability of the end tappers was insufficient because they degraded with exposure to chlorine from the pool
- The durability of the side tappers was insufficient because they were damaged from rolling them around the old storage device.

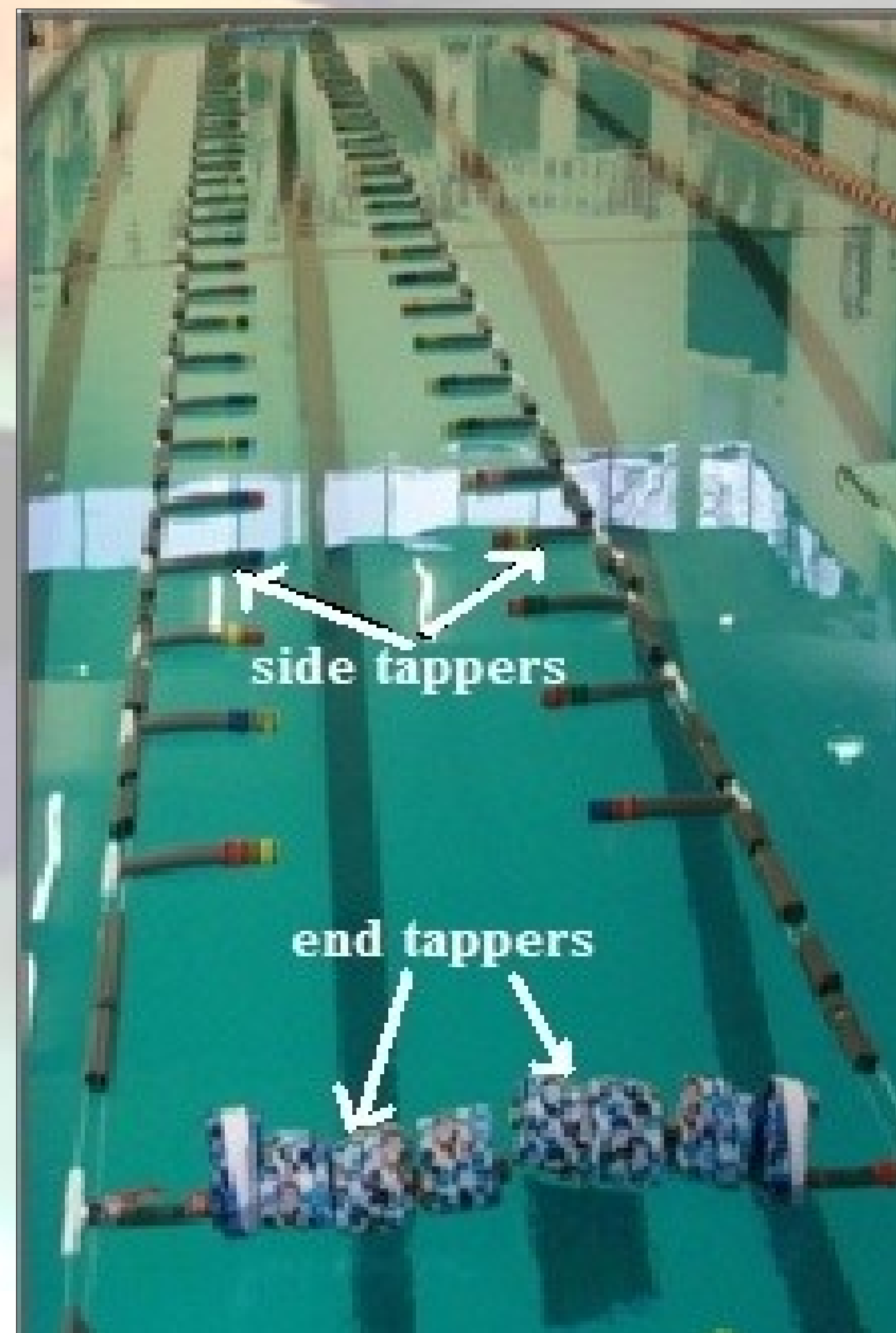
## GOALS

- Rebuild the passive device and redesigned end tappers.
- To redesign storage device.

## POOL TEST

End Tappers: The team tested the modified end tappers that were re-designed by incorporating an arm flotation device.

Storage Device: The team also modified the previous version of the storage device by rotating it vertically to minimize the bending of side tappers and reduce the overall wear and tear of the device.



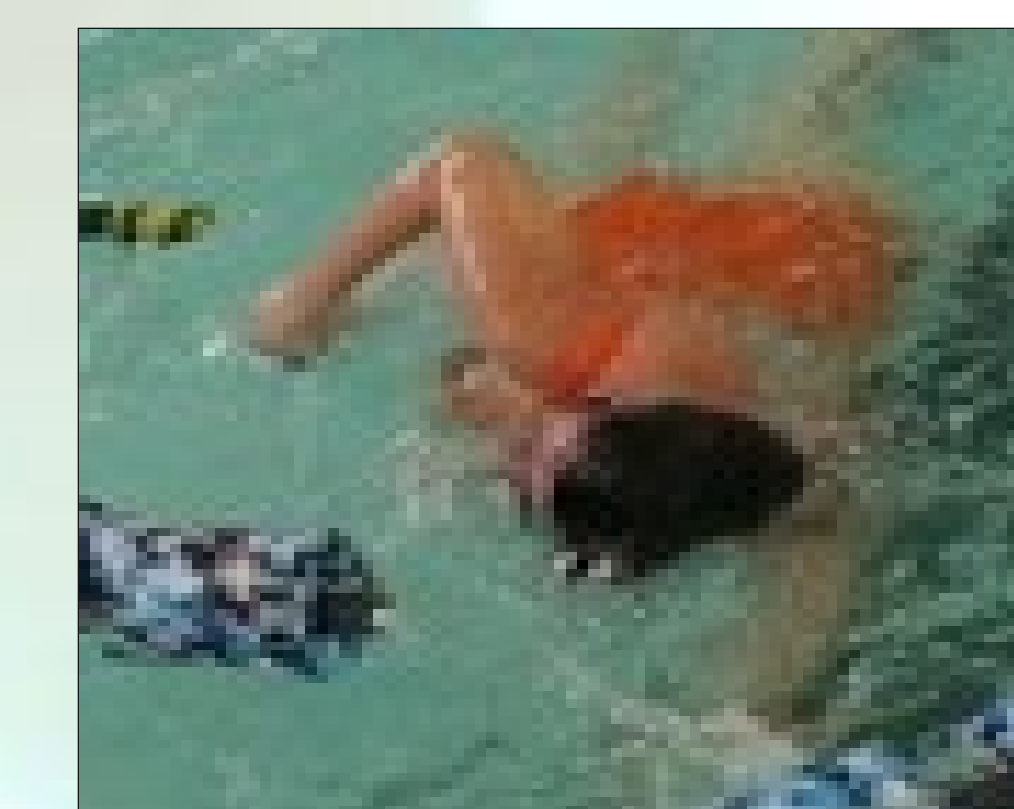
## RESULTS

Survey results from BVI swimmers: (1) reduce the number of side tappers and (2) widen the lane lines.



***“If you lessen the distance between tappers, it would make a great device.”*** - Kelly, blind swimmer

***“I loved the device and had lots of fun.”***  
- Alex, partially blind swimmer



***“Confident in the pool setup. Need to narrow end tappers.”***  
- Beth, blind swimmer

## ACKNOWLEDGEMENTS

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