



A Vision for Blind Swimmers

Communication

STATISTICS

- 1.8 million people with blind condition in the US (US Census)
- 7.8 million people with blind and visually impaired (BVI) condition in the US (US Census)
- Up to 80% abandonment rate of assistive technology (Michigan Dept of Education)

OBJECTIVES

- Since lack of assistance leads to a sedentary lifestyle, create an assistive technology that allows BVI individuals to, along with the rest of the nation, seek a more active lifestyle safely
- Refine our method of communicating available information between the device and the swimmer

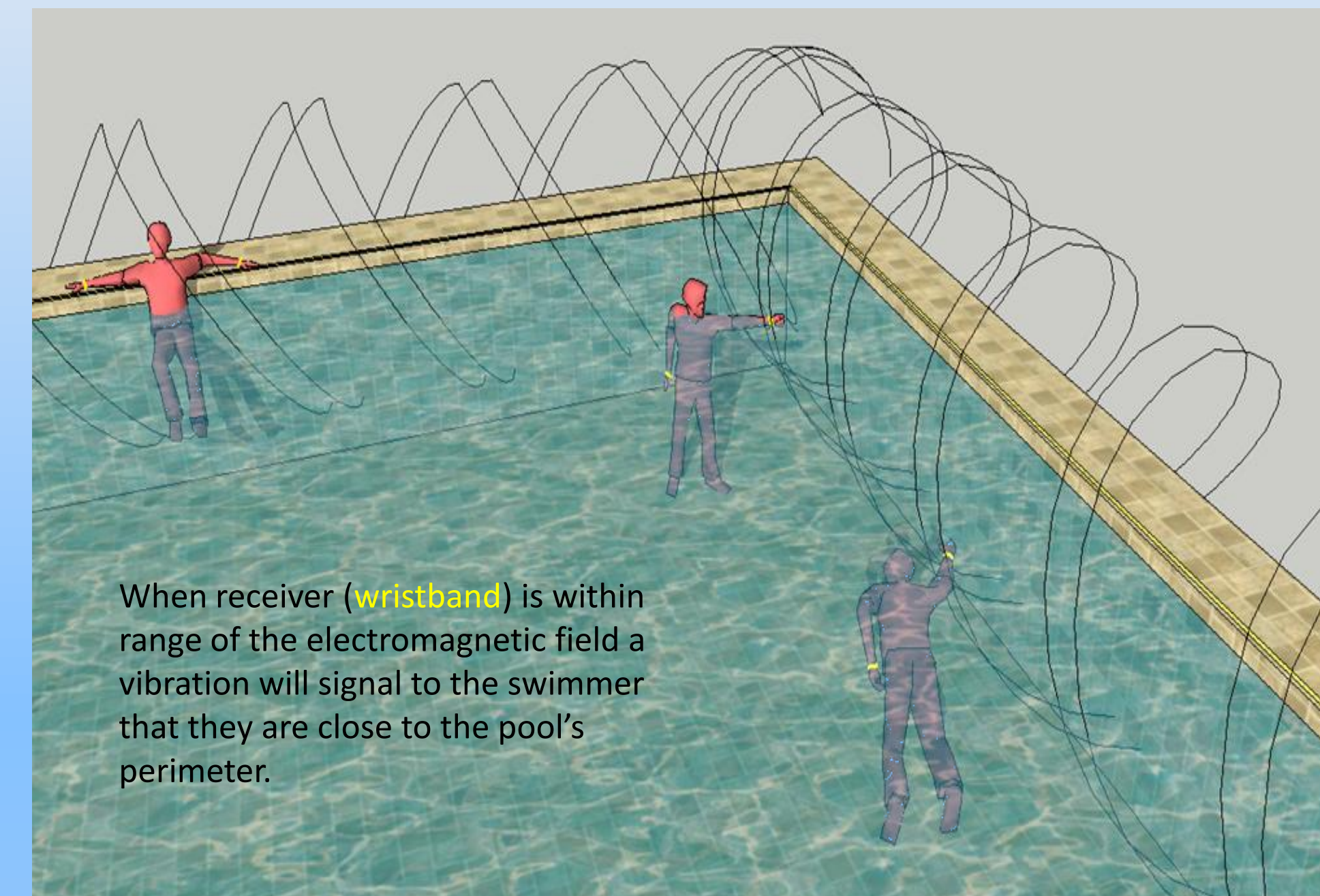
MISSION STATEMENT

- “Our mission is to develop, test, and implement an assistive technology in collaboration with the blind and visually impaired (BVI) community that promotes safety and improves independence of BVI individuals while swimming.”

Designing and Building Prototypes for Assisting Blind and Visually Impaired Swimmers

RESEARCH

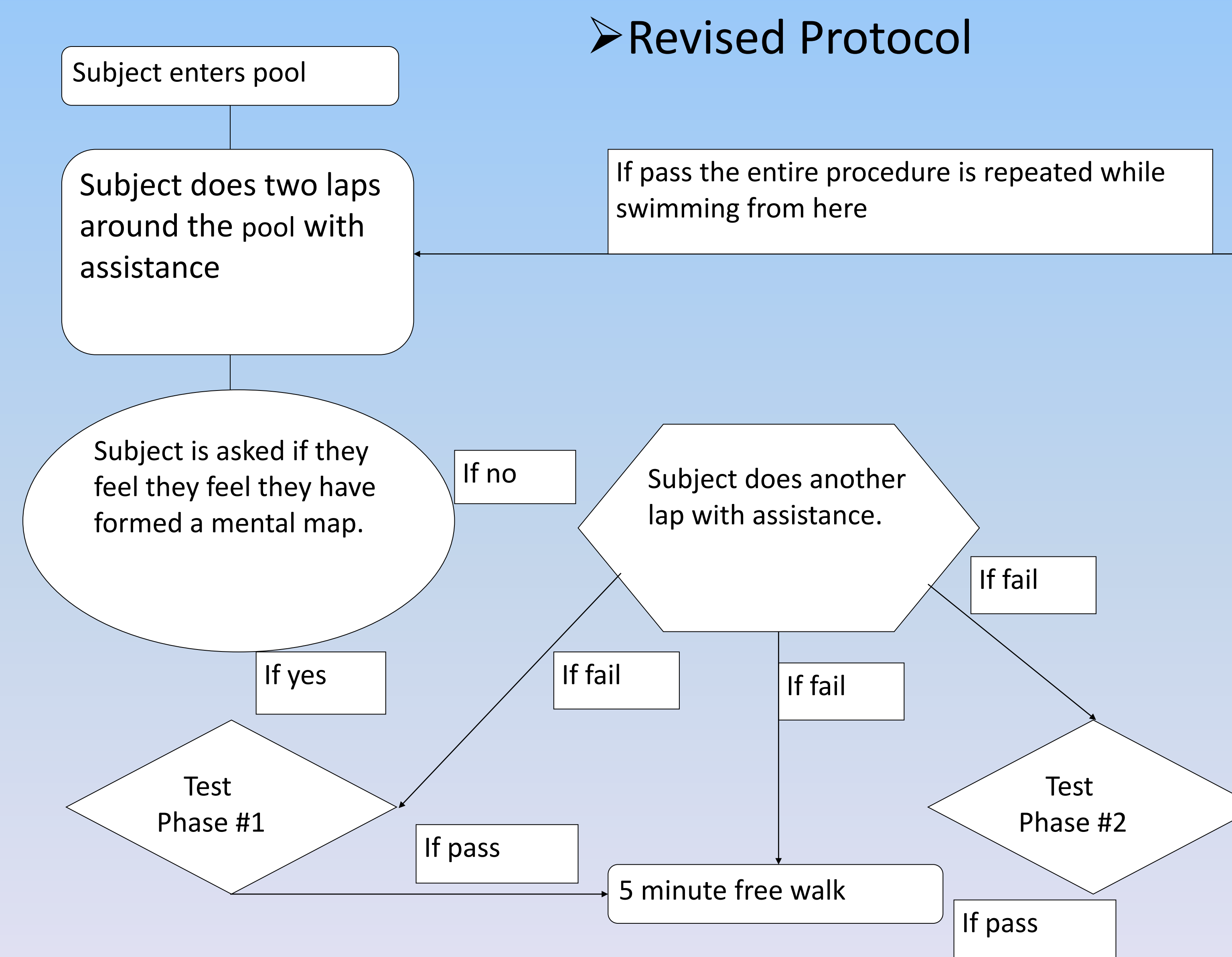
- Mobility training (current methods for cane training, dog training, etc.)
- Spatial Mapping (creating a cognitive map of the pool)
- Communication Methods (tactile, verbal, and auditory feedback)



RESULTS

- As a result of pool testing conducted last semester, a revised protocol was created at the beginning of this semester to more strongly indicate the presence or absence of a complete cognitive spatial map.
- Results were very consistent over all participants using the revised protocol.
- The new protocol not only showed greatly improved consistency; the range of the number of required laps was reduced.

METHODOLOGY

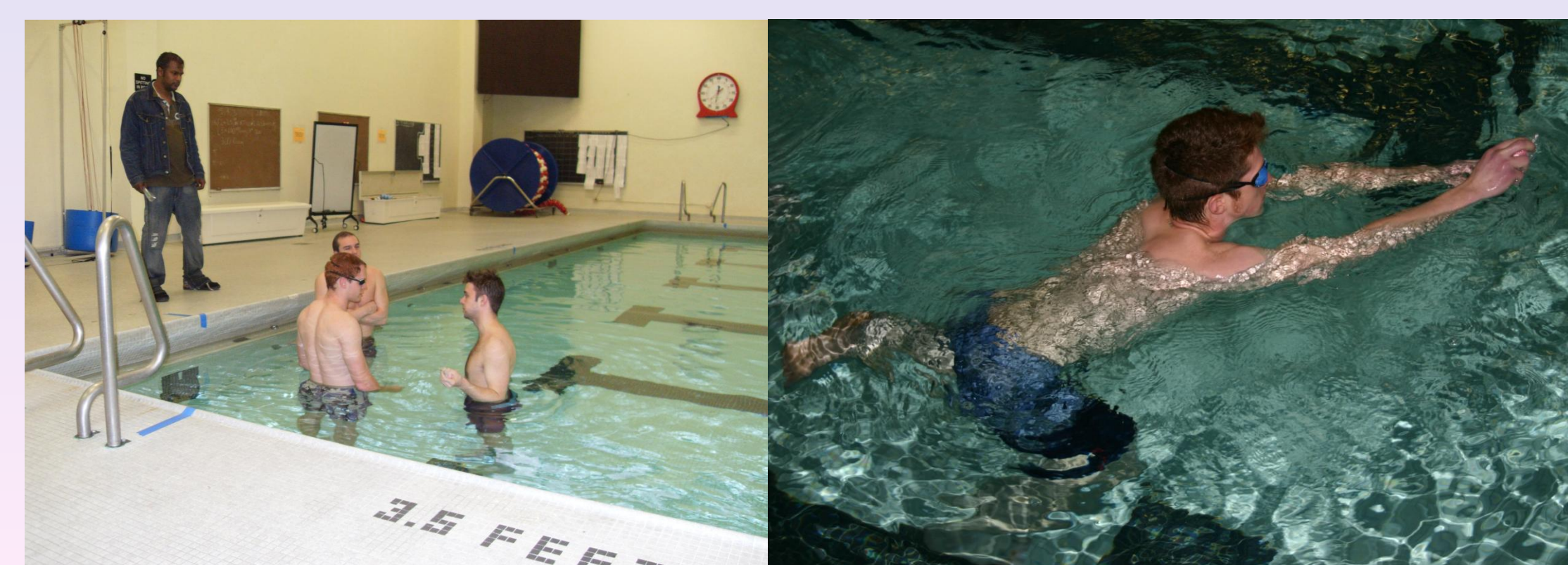


NEXT STEPS

- Collect and store all IPRO testing material.
- Comprehensively archive Team Buoy information.

DATA

- Subjects: 5
- Gender: 4 male, 1 female
- Age Range: 20-21
- Revised pool testing



ACKNOWLEDGEMENTS

