
EE/CprE/SE 491 WEEKLY REPORT 4

October 19, 2019 – November 1, 2019

Group number: 05

Project title: Vision Impaired Swim Aid

Client &/Advisor: Leland Harker

**Team Members/Role: Carson Kneip, Paden Uphold, Nathan Mortenson, Timothy Steward,
Conor Albinger, and Jake Sieverding**

○ **Weekly Summary**

We have been working on finding reliable devices that will work in the water for more than a couple times. We have established some headphones to order and an FM transmitter that will send the signal from our micro-controller to the user. We also went to the pool to test our IR sensor.

○ **Past week accomplishments**

- Carson Kneip: Ordered FM headphones and transmitter so that we can start to establish communication.
- Paden Uphold: Testing on 10/23, research FM headphones and transmitter to order, reached out to Iowa Department for the Blind
- Nathan Mortenson: Tested IR with concrete data that we can share with our client and others
- Timothy Steward: I reached out to the president of the Alliance for Disability Awareness club to see if she could put us in contact with any vision-impaired people who could help us. I helped test the IR sensor at the pool and started figuring out how to use video software to track the swimmer.
- Conor Albinger: Researched communication devices and helping with sensor test data.
- Jake Sieverding: Tested IR at pool. Tested sonar out of water.

○ **Pending issues**

- Carson Kneip: New sonar sensor does not like to update until the object being detected is not moving. It likes to get a definite reading before it returns a value.
- Paden Uphold: sonar gave weird reading.
- Nathan Mortenson: Sonar needs to be tested, needs wires soldered to connect to arduino

- Timothy Steward: Since it is necessary for the swimmer to be in motion while they are swimming, it is difficult to measure their distance from the edge. We need to find better methods for getting good data in determining if our sensors work well.
- Conor Albinger: Need to wait for communications devices to arrive in order to test them.
- Jake Sieverding: Issues with sonar not detecting a moving target.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Carson Kneip	Went to the pool 10/23 to test IR sensor, ordered FM headphones and FM transmitter, and reached out to Iowa Braille School coach. Tuesday 10/29 I helped solder and calibrate sonar sensor. Wednesday 10/30 talked to blind coach and got some feedback.	8	26
Paden Uphold	Swim to test on 10/23, helped research FM headphones and transmitter, reached out to Iowa Department for the Blind. Help solder and calibrate sonar.	7	22
Nathan Mortenson	Tested IR and researched new FM receivers and transmitters.	7	23
Timothy Steward	Reach out to president of Alliance for Disability Awareness, started getting video software for measuring swimmer position working	10	35.5
Conor Albinger	Researched communication devices and helped with initial sensor test results.	7	21
Jake Sieverding	Went to pool 10/23 to test IR sensor. Tested sonar sensor out of water	7	22

○ **Plans for the upcoming week**

- Carson Kneip: Test IR and Sonar in the pool again, and test FM transmitter.
- Paden Uphold: year IR and sonar and try and get better readings.
- Nathan Mortenson: Test sonar and FM. Create a waterproof system for components.
- Timothy Steward: Do another with the IR sensor and store the data to better validate if this sensor will work. Work with trying to interface with the sonar sensor.
- Conor Albinger: Help with IR/Sonar Pool test at pool and work on communication system when it arrives.
- Jake Sieverding: Test IR and Sonar at pool.

Summary of weekly advisor meeting

Established that we need to improve our testing techniques and reach out to more outsiders to give us suggestions on our product. Provided a list of new parts that we wanted to get ordered for communication.