
EE/CprE/SE 491 WEEKLY REPORT 6

November 17, 2019 – December 6, 2019

Group number: 05

Project title: Vision Impaired Swim Aid

Client &/Advisor: Leland Harker

Team Members: Carson Kneip, Paden Uphold, Nathan Mortenson, Timothy Steward,

Conor Albinger, and Jake Sieverding

- **Weekly Summary**

  Went to the pool to test how the Adafruit FM transmitter and the UWater Waterproof headphones. We tested three different channels out of the water, and took results at different lengths. With two of the channels we were able to maintain connection all the way throughout Beyer pool. Then we tested the same 3 channels in the water, we got good results but did see some reduction in signal quality due to water. We knew this was going to be an issue, but we think that the headphones picked up enough sound to work. When we were within 6 ft of the edge we could go at least 10 inches underwater. Exact test results are in the design document.

- **Past week accomplishments**
  - Carson Kneip: Got good results from FM Transmitter test and going to look into ordering another one and see how the headphones pick up the two signals.
  - Paden Uphold: Made Youtube video. Finished Design document. Helped with presentation
  - Nathan Mortenson: Tested SONAR and rewired it due to leak at pool
  - Timothy Steward: Got the Arduino to be able to read the data from the Arduino. Went to the pool, but the sensor was not airtight, so it got water in it.
  - Conor Albinger: Worked on news report Youtube video and helped complete design document.
  - Jake Sieverding: Tested FM transmitter. Contacted visually impaired swimmer.
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- **Pending issues**
  - Carson Kneip: Sending a digital audio file from Arduino to transmitter. Getting new sonar sensor to initialize.
  - Paden Uphold: Need to test new sonar
  - Nathan Mortenson:SONAR not working properly after water got in

- Timothy Steward: The ultrasonic sensor doesn't work how it used to. It's looking like it won't work, but we need to try one more pool test.
- Conor Albinger: Need to research the proper method to using two FM transmitters with 1 receiver.
- Jake Sieverding: Discussing possible testing with visually impaired swimmer.

○ **Individual contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Carson Kneip	Went to the pool to try testing sonar device on 11/21. Got antenna soldered on FM transmitter and went to the pool on 12/2 to test transmitter. Tried getting code for new BlueRobotics sensor to work.	14	48
Paden Uphold	Youtube video. Finished design document. Helped with presentation	10	39
Nathan Mortenson	Tested IR and prepped again after it broke	8	41
Timothy Steward	Worked on getting the soar sensor to read data in a useful way so we could do a test. Went the the pool to test on 11/21 and the sensor got water in the sensor.	18	69.5
Conor Albinger	Worked on news report Youtube video and helped complete design document.	8	35
Jake Sieverding	Tested FM transmitter. Worked on design document and presentation. Contacted visually impaired swimmer.	8	36

○ **Comments and extended discussion**

We went to the pool and tested the MaxBotix sensor. We got water in it during the test. We were not able to get it to give us anything useful back in response. We should try one more time, but it seems likely that it won't work.

○ **Plans for the upcoming week**

Give final presentation, and get new BlueRobotics sensor to work.

Summary of weekly advisor meeting

Met with Lee, discussed ordering new sonar device and another FM Transmitter. Also, went over final presentation expectations.