
EE/CprE/SE 491 WEEKLY REPORT 10

February 28, 2020 – March 7, 2020

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 talked about what we needed in the presentation and how we wanted to set it up so we could start working on it. We discussed how to transition into using the raspberry pi instead of the arduino. We think that we can still use the same FM transmitter and headphones that we already have by just sending the audio through aux from the raspberry pi.

○ **Past week accomplishments**

- Carson Kneip: Got the two Arduinos to communicate with each other.
- Paden Uphold: Reports and worked on presentation
- Nathan Mortenson: built testing frame and worked on report
- Timothy Steward: Worked with OpenCV. Got some basic image processing to identify the shape of the lane and position of the swimmer working unreliably under verse specific circumstances.
- Conor Albinger: Reviewed previous computer-vision coursework and projects online.
- Jake Sieverding: tested recognition through tutorial images.

○ **Pending issues**

- Carson Kneip: Determining what controller to use.
- Paden Uphold: Determine if pool will still be open for testing
- Nathan Mortenson: need to test camera and object recognition in pool
- Timothy Steward: Computer Vision is hard, need to learn more.
- Conor Albinger: Need to determine if computer vision or IR are the best sensor choice.
- Jake Sieverding: Reading real world camera images.

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Carson Kneip	Obtained code and wrote effective software to get the two controllers to communicate.	7	72
Paden Uphold	Worked on presentation	3	58
Nathan Mortenson	Building testing frame	4	57
Timothy Steward	Swimmer detection with OpenCV	12	96
Conor Albinger	Reviewed previous computer-vision coursework and projects online.	5	55
Jake Sieverding	Studied computer vision through opencv tutorials.	8	55

○ **Plans for the upcoming week**

- Carson Kneip: Determine what the final products are that need to be ordered for finished design.
- Paden Uphold: Test in pool if it is still open
- Nathan Mortenson: Test the camera at the pool
- Timothy Steward: Continue to work on looking into more ways get data from the video using computer vision
- Conor Albinger: Test computer vision and more rigorous IR tests at the pool and determine sensor options.
- Jake Sieverding: Try testing camera images.

Summary of weekly advisor meeting

Didn't have a meeting during this period.