*EE/CprE/SE 491 WEEKLY REPORT 7*

*1/13/20 – 1/30/20*

*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*

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- ○ **Weekly Summary**

    Over the past couple of weeks, we have begun tests on our new sensor using the Arduino to receive data. We then ordered the Blue Robotics BLUART USB to Serial and RS485 Adapter so that we can see better what the sensor is reading. We have also looked into getting a higher power fm transmitter so that we would only need one. Finally, we started looking into waterproof boxes that we can enclose our device in.

- ○ **Past week accomplishments**
    - ● Carson Kneip: Ordered new parts that were necessary to obtain all of the data from our sonar sensor and communicate with the swimmer. (USB to Serial Adapter for BlueRobotics sonar sensor, Transceiver for communication between Arduinos, and another FM Transmitter)
    - ● Paden Uphold:Just started semester before was design document and presentation
    - ● Nathan Mortenson: Built bracket for sensor and helped with testing
    - ● Timothy Steward: Read datasheet and protocol documentation for the blue robotics sonar device. Started working on a program to read it from the arduino.
    - ● Conor Albinger: Helped with new sonar test at the pool. Also did some research on the Blue robotics sonar's data/register values.
    - ● Jake Sieverding:
- ○ **Pending issues**
    - ● Carson Kneip: Tracking the swimmer and communicating with them.
    - ● Paden Uphold: Sensor is picking up back wall instead of swimmer

- Nathan Mortenson: Can't fully understand the data being received from the sensor. Purchased blue robotics' BLUART USB to Serial and RS485 Adapter to use their interface
- Timothy Steward: Need UART USB device to read the data coming from the blue robotics sensor.
- Conor Albinger: Need to work on getting useful data from the sonar once we receive the microcontroller order.
- Jake Sieverding: Sensor stops reporting swimmer after about 6 ft.
○ **Individual contributions**

| **NAME** | **Individual Contributions** | **Hours this week** | **HOURS cumulative** |
|---|---|---|---|
| Carson Kneip | Ran the computer during sonar testing and ordered parts. | 4 | 4 |
| Paden Uphold | Swimmer for testing and meeting with advisor | 3 | 3 |
| Nathan Mortenson | Created the bracket to hold the sensor and involved in testing | 4 | 4 |
| Timothy Steward | Started working on program to communicate with the sonar via Arduino | 4 | 4 |
| Conor Albinger | | 4 | 4 |
| Jake Sieverding | Tested sonar at pool. | 3 | 3 |

○ **Plans for the upcoming week**
- Carson Kneip: Test sonar device and start writing a code to interface with both FM transmitters.
- Paden Uphold: Waiting for parts, figure out how to detect swimmer instead of back wall, and then do more testing
- Nathan Mortenson: Look for more boxes and wait for components to arrive to continue testing
- Timothy Steward: Get blue robotics sonar connected to the computer using USB UART device. Go to the pool and run another test.
- Conor Albinger: Help get data from sonar using the new microcontroller when it comes in.
- Jake Sieverding: Come up with and test various ideas for making sonar device detect swimmer instead of wall.

**Summary of weekly advisor meeting**

We discussed the results of our test, remaining inconclusive as of now, and discussed ordering the BLUART USB to Serial and RS485 Adapter to further our testing.

**Grading criteria**

Each weekly report is worth 10 points. Scores will be awarded as follows:

- ○ **8 – 10**: Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- ○ **6 – 8**: There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- ○ **< 6**: Please talk to instructors/TA after class hours about any difficulties that you/your team is facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.