EE/CprE/SE 491 WEEKLY REPORT 05
Oct 4th, 2024 – Oct 10th 2024
Group number: 25-34
Project title: Laser Scan Readings for Propeller Measurement
Client &/Advisor: Linden Propeller (Gary Linden) / Dr. Mani Mina

Team Members/Role

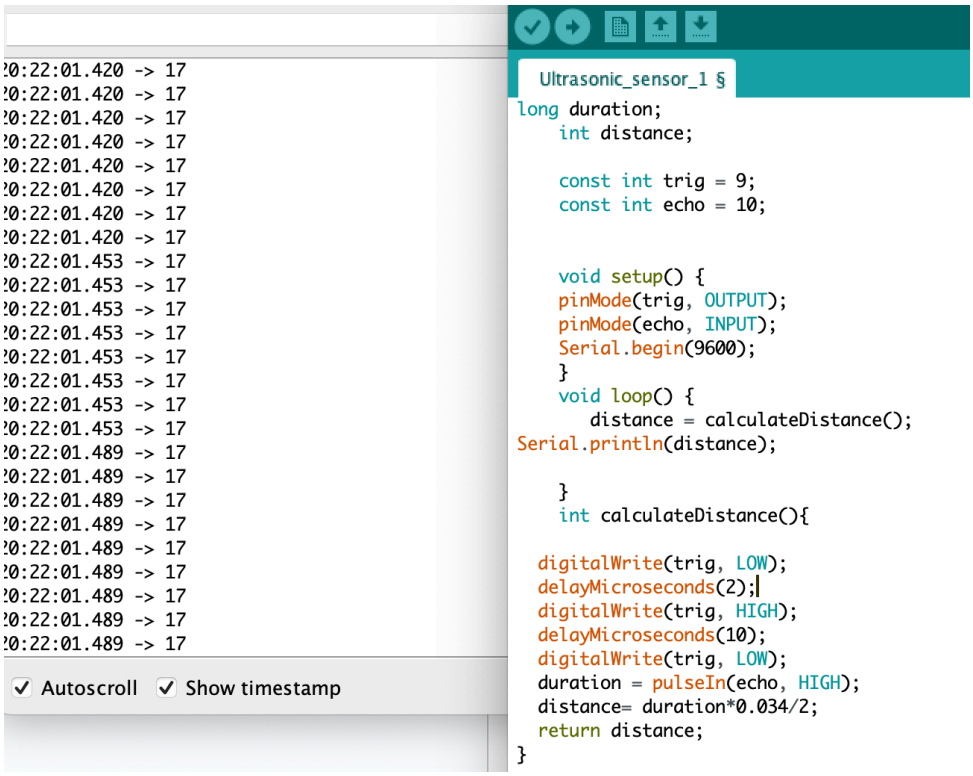
Name:	**Role:**
Alan Whitehead	Testing
Elias Colsch	Client interaction
Spencer Rudin	Schematic Design
Denny Dang	Individual Component Design

Past Week Accomplishments

Name	**Past Contributions**
Alan Whitehead	Worked on getting the IR and Ultrasonic sensor set up. This includes troubleshooting, coding, and assembly of the Arduino.
Elias Colsch	Did some research about Arduino coding to get a refresher on how to work with an Arduino. Looked into overall user necessities and the most efficient ways to meet them. Helped with Arduino coding and finding equipment for the KEYENCE meeting workstation.
Spencer Rudin	I helped troubleshoot Arduino code, went to the ME labs and found out that we have a HandyScan 3D available here for use(in both modeling and measurement), talked with the ME Additive Manufacturing about possible light-based sensor solutions.
Denny Dang	I set up the workstation for Kyle from KEYENCE to set up the demonstration of his laser devices. I helped with programming the proof of concept. I helped my team members in their respective duties and other contributions.

Weekly Summary:

This week we met with both Mani Mina and Kyle Downey, a sales representative for KEYENCE. He provided us with a lot of information regarding the KEYENCE sensor that we were looking at as well as their 3D scanning systems. He also provided general price points for these systems, factoring in a university discount. Below is the code and testing results of the ultrasonic sensor that Alan worked on this week. This shows a distance in centimeters, but it does not show any centimeter or millimeter measurements.



We also scheduled a meeting with Gary Linden to provide him with more information on our progress, as well as the new information we learned from Kyle.

Name	Individual Contributions	Hours this week	HOURS Cumulative
Alan Whitehead	This week, I worked on the ultrasonic sensor setup and began working on data fusion/multi-sensor algorithms.	6	22
Elias Colsch	This week, I set up a workstation for the KEYENCE meeting and a meeting with Gary Linden. I also continued with some	6	24

	basic ARDUINO research, finding a general cheat sheet and some general documentation questions.		
Spencer Rudin	Continued working on the IR sensor. Started calibration. Started debugging and working on improving accuracy.	6	20
Denny Dang	Met with Kyle from KEYENCE and coordinated our meeting with demos of his lasers. Continued research on alternative solutions. Helped with other team members.	6	22

Plans for the upcoming week

Name	**Future Contributions**
Alan Whitehead	I will focus on the data fusion of the ultrasonic sensors to increase the accuracy.
Elias Colsch	Work on providing Gary Linden with some general information to make an educated decision before deciding what method he would like to use to solve his problem. I will also continue to help debug the ultrasonic and IR sensors when needed.
Spencer Rudin	Continue working on IR sensor. Looking to start working on data fusion for IR sensors.
Denny Dang	Will continue research on existing products and applications. Will continue communication with Kyle, concluding our recent meeting. Will continue helping other teammates in their contributions.