Sdmay20-47: Real Time Volumetric Analysis
Semester 2
Report 1
January 13 – January 30

Team Members
Kenneth Lange – *Team Lead*
Alain Njipwo – *Chief Hardware Developer*
Luke Bell – *Chief Interface Developer*
Daniil Olshanskyi – *Chief Software Developer*
Max Medberry – *Chief Backend Developer*

Summary of Progress
This is our first progress report for the second semester of senior design. We've split our efforts towards two options for controlling the drone with the Jetson: using purely ROS, or using a combination of ROS and AirSim. Team members have been working on and evaluating each option. We've also put further work into adding to our 3D simulation environments.

Pending Issues
We're having an issue with the battery of the drone. We're unable to control the rotors of the drone because of it.

Plans for Upcoming Reporting Period
We'll continue working on getting a solid evaluation of each option for controlling the drone, hopefully deciding on an option to move forward with. We'll be working to resolve the battery issue mentioned above so we can test sending commands from AirSim/ROS on the Jetson to the drone.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Kenneth Lange	Setting up Unreal Engine on our workstation after it became corrupted and creating 3D objects in Unreal Engine to train the volumetric analysis and object detection algorithms.	8	8

Alain Njipwo	Familiarizing self with ROS code structure and development cycle and reading documentation for Mavros.	8	8
Luke Bell	Installing and configuring ROS on the Jetson, and familiarizing self with ROS code structure and development cycle.	8	8
Daniil Olshanskyi	Setting up AirSim libraries on the Jetson and establishing a connection between the Jetson and the drone.	8	8
Max Medberry	Exploring interfacing between ROS and AirSim by making AirSim API calls in ROS command shell.	8	8

Gitlab Activity Summary

Nothing to report.