

EE / CprE / SE 491/492 – sdmay20-47

Real-time volumetric analysis

Third bi-weekly report

March 23 - April 02, 2020

Client: Prof. Ali Jannesari

Faculty Adviser: Prof. Ali Jannesari

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

Past weeks accomplishments

- Researched advantages and disadvantages on using Ros versus AirSim to model realistic wind effects
- Set up distance communication methods to stay in contact with graduate students and client via Zoom and Slack

Pending issues

- **Still unable to access the lab (required for progress in hardware and simulation environment) (main issue)**
- Even if access is granted have to maintain social distancing (no more than 1 person at the lab since it is small)
- Still no functioning battery

Individual contributions

- **Everyone** attended online group meeting to solve the quarantine situation
- **Everyone** is establishing workspace to work from home

Team member	Contribution	Bi-weekly hours	Total hours
Kenneth Lange	Moved home from Ames, making accessing the research lab and Titan PC impossible. Attempted to clone existing AirSim environments via git and run on home PC, but found the environments were too resource intensive to run. Attended weekly Zoom meetings to discuss working on the project with the team and stakeholders from distance for the remainder of the semester.	12	66
Alain Njipwo	Unable to access lab since campus	12	69

	<p>shutdown as undergrads do not have access to the building the research lab is located in. Researched advantages to reviving current battery, buying new battery, or buying new and more powerful battery. Looked into borrowing special tools to safely recharge dead battery. Attended weekly Zoom meetings to discuss working on the project with the team and stakeholders from distance for the remainder of the semester.</p>		
Luke Bell	<p>Unable to access lab since campus shutdown as undergrads do not have access to the building the research lab is located in. Worked on setting up home PC to be able to run Ros like the drone to have access to tools necessary to work with the Zed API. Attended weekly Zoom meetings to discuss working on the project with the team and stakeholders from distance for the remainder of the semester.</p>	12	66
Daniil Olshanskyi	<p>Unable to access lab since campus shutdown as undergrads do not have access to the building the research lab is located in. Researched advantages to reviving current battery, buying new battery, or buying new and more powerful battery. Looked into borrowing special tools to safely recharge dead battery. Researched plan to work in lab while maintaining responsible social distancing. Attended weekly Zoom meetings to discuss working on the project with the team and stakeholders from distance for the remainder of the semester.</p>	12	74
Max Medberry	<p>Unable to access lab since campus shutdown as undergrads do not have access to the building the research lab is located in. Researched the advantages and disadvantages of modeling realistic wind effects in</p>	12	74

	AirSim, versus receiving them from Ros - Hector Quadrotor package. Set up Unreal Engine 4 and AirSim on home PC to work remotely on simulating wind effects. Attended weekly Zoom meetings to discuss working on the project with the team and stakeholders from distance for the remainder of the semester.		
--	--	--	--

Plans for the upcoming week

- Finish with moving as much work as possible to online
- Start group work on the documentation to facilitate continuation of project after pandemic
- Resolve the battery problem (restore old or buy new)
- Make an online schedule to be able to be one person at the lab at all times