sdmay19-35: Implementing a Web Portal System for Drone Simulation and Control
Week 8 Report
November 10 – November 16
Client: Ali Jannesari
Faculty Advisor: Ali Jannesari

Team Members
Bansho — *Test Engineer. Sensors Hardware Developer.*
Ian — *Scrum Master. Full Stack Developer.*
Li — *Test Engineer. Back-end Developer.*
Jawad — *Meeting Manager. Embedded Systems Developer.*
Mehul — *Project Lead. Computer Vision Developer.*
Sammy — *Report Manager. Lead Front-end Developer.*

Summary of Progress this Report
- Dockerized the Node/React component and pushed it to the cydrone repository on the Docker hub.
  - Created a Dockerfile inside the node directory for the React app and its Node server.
  - Created a Dockerfile inside the gazebo directory for the GzWeb project
  - Set up an account/repo on the Docker Hub for our project under the account name cydrone.
  - Pushed the Node docker container to our repo under the name cydrone/node
  - Pushed the Gazebo docker container to our repo under the name crydrone/gzweb.
- Created wiki on our Gitlab and began filling out some sections
  - Development page consisting of guides and tips related to development of the different components of the system.
  - ROS management containing general ROS information and an overview of how ROS is used.
  - Raspberry PI setup & camera page for instructions related to the Raspberry PI.
- Began adding more ROS commands to be interpreted when received from the client
  - ROS is extensive and executing a command is more complex than simply calling it.
  - Requires further consultation with more knowledgeable resources.

Pending Issues

- WebODM takes a long time to produce results, explore methods for optimizing the performance.
- The drone must still be ordered, some issues occurred with finding a vendor that can ship in a reasonable time.
- Still awaiting the camera for the Raspberry PI, cannot proceed with that component until it is received.
- All the additional functionality added in previous sprints needs to be reimplemented.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Bansho	Added Wiki content for Raspberry PI	6	51
Ian	Worked on reimplementing the terminal to the simulator	7	55
Jawad	Added more ROS commands. Added ROS content to Wiki	8	56
Li	Researched more drone options	7	51
Mehul	Explored WebODM more	6	52
Sammy	Dockerized the components. Added development page to wiki	10	61

Plans for Upcoming Reporting Period

- Frontend
    - Re-implement features such that they work with the new simulator.
    - Improve the movement and tweak the physics to be more believable.
    - Work with the backend to establish socket communication for executing ROS commands.
- Backend
    - Optimize WebODM routine performance.
    - Work with the frontend to establish socket communication for executing ROS commands.
    - Establish communication between ROS and the Raspberry PI to mock the communication with the drone.
    - Coordinate with the client to place an order for the drone as well as any other necessary hardware.