

CprE / SE / EE – sddec26-11

CyFlyBot: Collaborative CyBot and UAV System for Faster Missions

Week 4 Report

September 16 2026 – September 23 2026

Client: Dr. Rover and Dr. Jones

Faculty Advisor: Dr. Rover and Dr. Jones

Team Members:

Daniel Bieber

John Brittain

Jake Nickel

Caleb Sanchez

Tu Reh

Ping Wu

Mitchell Fowler

Weekly Summary

This week had a slight slowdown in production due to the team needing to prep for the career fair. There was no general meeting, but each member had their assigned tasks and was able to complete them sufficiently. Hardware made progress in the UGV and UAV construction, with the UGV further incorporated with the Raspberry Pi and UAV only needing the additional boards. Software made progress with the backend and frontend development, with camera feeds being integrated on both sides and ArUco markers being prepped for integration.

Past Week Accomplishments

- Hardware
 - UGV
 - Raspberry Pi fully flashed
 - UAV
 - Fully constructed out of box
 - 3D model compiled and uploaded to Git
 - Imaging Deck Prototyped
- Software
 - Frontend
 - Revised based on faculty feedback
 - Connected to Ros2 simulation
 - Backend
 - Formatted for ArUco camera feed
 - Websocket created for camera display
 - Issue Board
 - Start Trigger Issue worked on

Individual Contributions:

NAME	Contributions	Weekly Hours	Total Hours
John Brittain	-UGV Raspberry Pi Flashed with Ubuntu Server -Imaging Deck prototyping	4	15
Daniel Bieber	-Created UAV Model for Simulation Purposes	5.5	19
Jake Nickel	-Worked on Start Trigger Issue for UGV	4	17
Caleb Sanchez	-Formatted ArUco camera feed for backend -Created websocket in backend to display camera feed	6	25
Tu Reh	-revised frontend based on faculty feedback -connected front end to ros2 simulation	5	18
Ping Wu	-Worked on receiving camera feed from simulation -successfully got backend to fetch camera feed	3	15
Mitchell Fowler	-Finished UAV building -Researched Warehouse Management systems per Dr. Rover's request -Report Writing and Presentation	5	22.5

General Meeting Review

There was unfortunately no general meeting this week, as the Engineering Career Fair occurred exactly during the time of our meeting. We all prepped for this and were all clear on our tasks for the upcoming week.

Summary of Weekly Advisor Meeting

The weekly advisor meeting was successful with feedback being provided by the advisors. Some of the issues that were brought to light were as follows: 1) Provide a live video feed as a demo for the frontend 2) Improve naming conventions and scalability 3) Improve

Layout 4) Fix Hardware Diagram 5) Improve coordination between hardware and software diagram 6) Incorporate last semesters diagrams.

Extended Discussion

The career fair really threw a wrench into progress this week. Each member had 5 or more less hours to work with this week to dedicate to the project. However, this is better than the alternative, as ignoring the Career Fair would have been putting the cart before the horse. In any case, both hardware and software were able to accomplish goals and make use of the time available to each of us.

Pending Issues

- Hardware
 - New UPS board
- Software
 - Mapping Start trigger

Plans for Coming Week

- Whole Team
 - Return to regularly scheduled meetings
 - Return to average of 6 hours of work
 - Complete Instructor Review Meeting
- Hardware
 - Continue UGV testing and building
 - Bring UAV to functional level
 - Continue node integration work
- Software
 - Continue Frontend Development
 - Continue Backend Development
 - Develop live demo of Frontend and Backend with simulation

Resources and Documentation

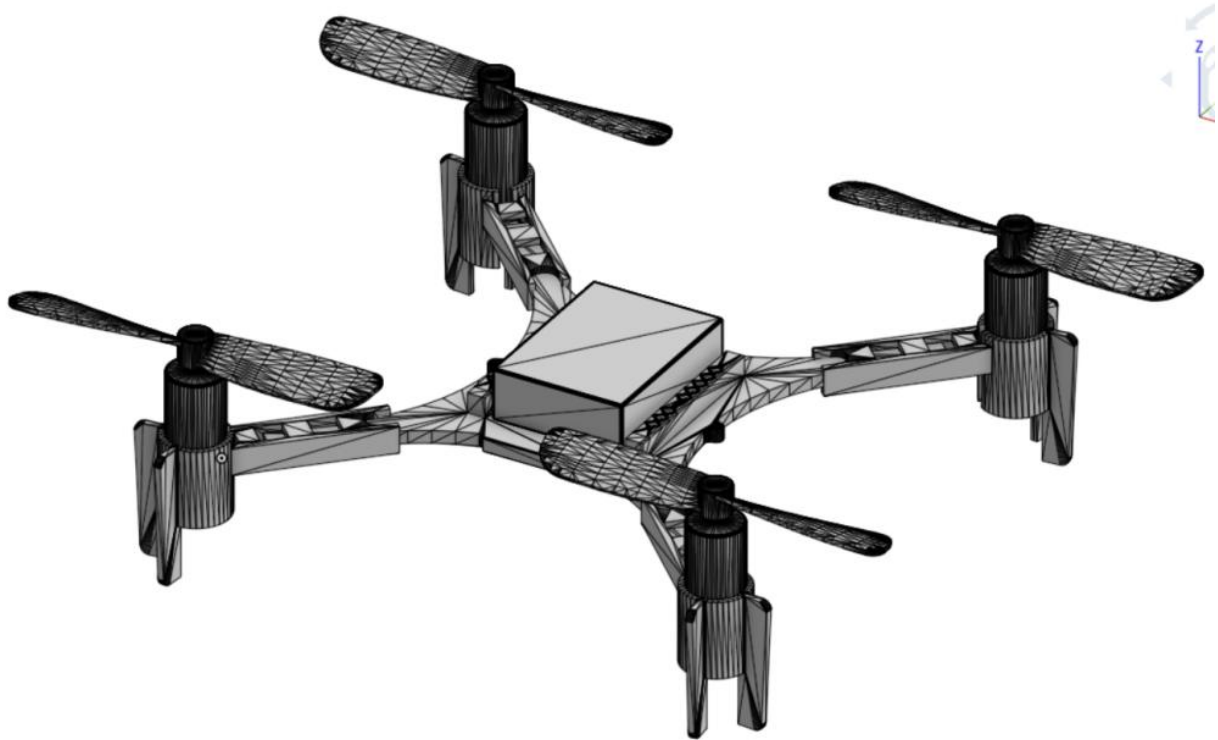


Figure 1: Initial UAV 3D Model

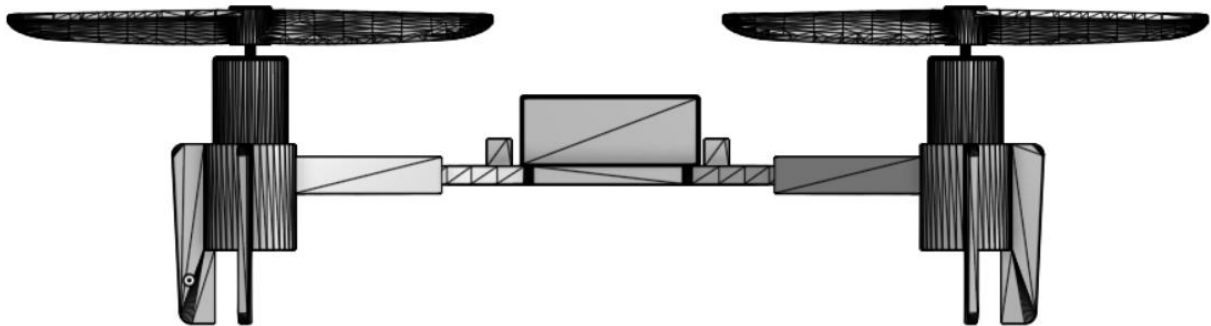


Figure 2: Initial UAV 3D Model(sideview)

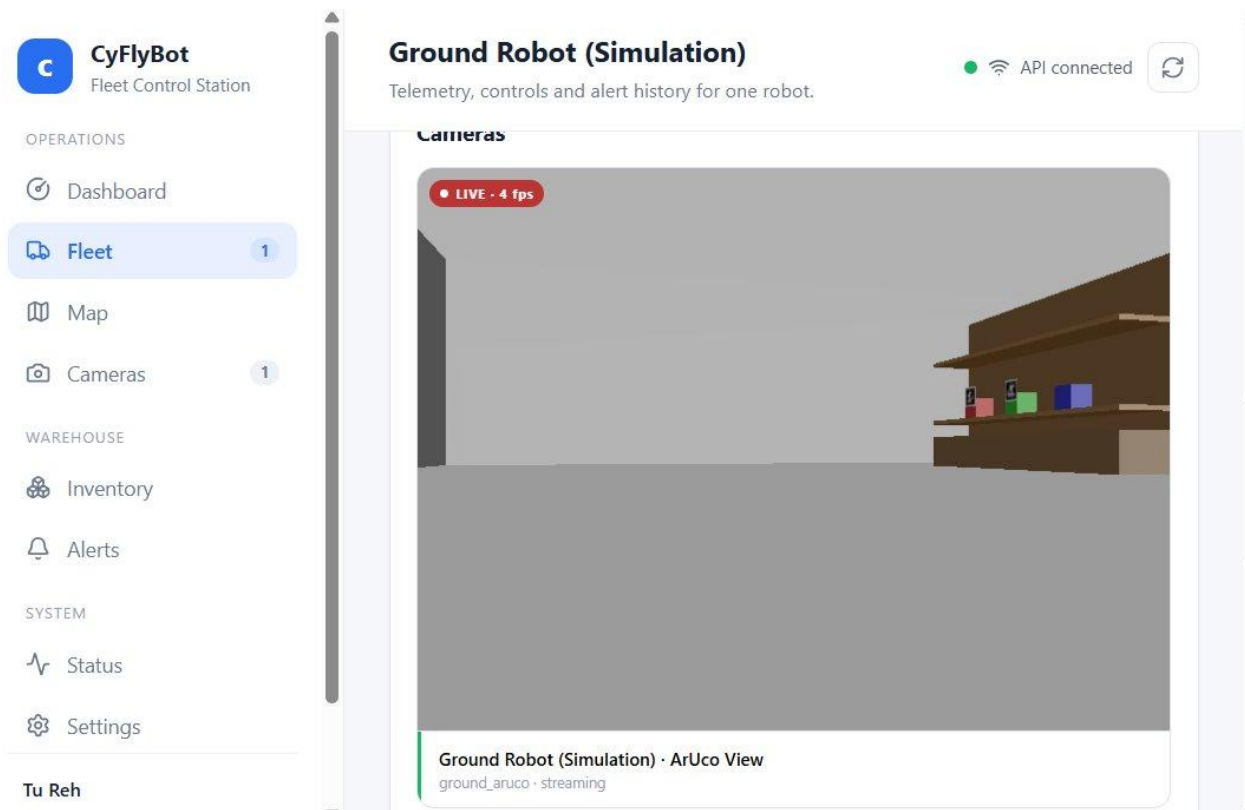


Figure 3: Updated Frontend