Project : Multiple Drones Coordination

Problem Sponsor : Dr. Zhong

Meeting Date: 2024-10-30 4:00 PM

Group Members Present: Brenden Martins, Matthew Paternoster, Matthew Wyatt, Tarek Kayali, Tutku Gizem

Agenda:

1. Review project objectives
2. Discuss problem statement, challenges, and solutions (e.g., real-time coordination, collision avoidance.
3. Assign next steps and tasks.

Notes:

- Recapped the project objectives: developing a 3D simulation for multi-drone coordination with real-time interface and target detection for disaster response applications.
- Started to familiarize with AirSim and discussed on setting up the initial environment. Challenges with realism and drone responsiveness in the environment.
- Decided to possibly use React for a web-based application for the user interface.
- Talked about potential disaster scenarios to simulate and associated complexities in environmental conditions.

Challenges and Solutions Discussed:

- **Real-Time Coordination:** Discussed what possible routes we could take to integrate real-time updates and coordination with AirSim and the UI.
- **Collision Avoidance:** Discussed potential algorithms for obstacle detection in the 3D environment.

Assigned Tasks:

- **Matthew P:** Begin mockup interface and create initial features.
- **Brenden:** Start looking into AirSim and setting up the initial environment.
- **Matthew W:** Investigate data management and communication options.
- **Tutku:** Research Algorithms suitable for target detection.
- **Tarek:** Research algorithms and protocol implementation and report on feasibility.