Project Name – UAS Mission Management System

Overview

This project’s goal was to make a mission management system, or MMS, that allowed our sponsor, Bell-Helicopter, to manage their extensive fleet of Drones. The MMS was to allow a person to request a service, such as Search and Rescue, and send a drone that could perform that task to that person. They also wanted us to partner the MMS up with a smartphone application that could allow a user to view various information about the drone, such as fuel remaining and current location. A database was also needed to keep track of all the properties of the drones to display their information in the smartphone application.

Objectives

As a team we decided that our number one priority would be to create a product that would meet all the criteria set forth by our sponsor. We also wanted to create something that could be expanded upon by Bell-Helicopter in the future.

Approach

To achieve completing this project, we started out wanting to write the MMS in Parse server which required us to write JavaScript code that worked in the cloud. However, due to time constraints, inexperience with JavaScript, and inexperience with writing cloud code we decided to write the MMS in the C programming code using a TCP connection that allowed the communication between the MMS, smartphone application, and database. The smartphone application was created for an android phone using Java in Android Studio.

Outcomes

The final product that we made ended up being what our sponsor wanted. We made a database that contained information about drones and the MMS could access and change this information to give the user a drone that could service their request. In conclusion, as a group we designed a system that could be used by our sponsor and enhanced in the future if the company so chooses to.