Requirements

Approved

Introduction

This document presents a list of basic requirements for the first prototype of the “drone geo-awareness service”. One of the goals of these requirements is to keep the scope as small as possible without sacrificing the feasibility of the proposed solution. In a future set of requirements, we will propose a more advanced solution that will be built on top of this basic solution.

Assumptions

1. There is a drone detection system with known specifications.
2. The drone detection system has software SDK or APIs for software developers to interact with it.
3. The system doesn’t require any authentication system
4. We can use any programming language and technology stacks to develop our solution

Relevant documentation

1. S. Kunze and A. Weinberger, "Concept for a Geo-Awareness-System for Civilian Unmanned Aerial Systems," 2021 31st International Conference Radioelektronika (RADIOELEKTRONIKA), 2021, pp. 1-6, doi: 10.1109/RADIOELEKTRONIKA52220.2021.9420196.

Requirements

Detection

1. Detect drones with 1 miles range
2. Detect drones greater than a certain size. For example 2x2x2 ft

User interface

1. Visualize the basic simulated environment as a simplified digital twin of the real environment
2. Select a rectangular region (airspace) of interest for detecting drones in the simulated environment

3. Select the end time for drone detection service assuming the start time is when the program starts
4. Enter a list of emails to receive notifications

Notification

1. Notify the user visually if a drone is detected and entered the airspace of interest in the user interface
2. Notify the user by email if a drone is detected in the airspace of interest