System Overview

Introduction

Large buildings must be visually inspected for defects. Traditionally, this has been done with scissor lifts, requiring an inspector to go up/down many times to cover the entire space of large buildings. With the advent of modern drone technology, the task of inspecting large building projects has been streamlined with the use of GPS technology.

However, in indoor environments, GPS is not a viable option. Therefore, drone inspections cannot be automated. Flying in unfamiliar indoor environments is difficult. We need a medium for training and familiarizing novice pilots to a particular space before making the flight on-site. That is, to familiarize and train people to repeat or perform a similar flight path to that of a path taken during an inspection by an expert drone pilot.

Purpose

This app seeks to provide a method of visualizing drone flights used in interior building inspections, or wherever autonomous GPS-driven flights are not feasible. This visualization will enable drone pilots to better understand the flight paths of professional pilots who have conducted simulated inspections within the space. Delivering this functionality is contingent on communicating spatial flight path data intuitively within a 3D space.

Devices

The app will primarily be used on computers with a keyboard and mouse. It is a web application that will be run in the browser. It may also be used on a tablet or cell phone, but this is not the recommended device.

The path data is gathered from expert pilots flying in a simulated environment. These paths can be uploaded from real world data as well, though this is beyond the scope of this project.