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Mailbird

An autonomous delivery system

# Project Description

## Abstract

This document details the preliminary approach to an autonomous package delivery system design. A summary is given of the design specifications, and of the system that will be created to satisfy those conditions. Consideration is given to design decisions, the technical cruxes of the project, and the anticipated use of the completed system. In addition, procedures are defined for project management, financial operations, and distribution of equipment after project completion.

## Executive summary

The attempted design application is an automated mail system. A successful guidance system will use GPS to bring the quadcopter within five feet of the desired landing area, then it will use a custom built guidance module to dock within a tolerance of 1 inch. The technical aspect of the project will be designing an aircraft guidance module and associated ground station (if necessary) to land in a precise location carrying a deliverable. This will be accomplished with a quadcopter equipped with an augmented precision external landing module (APELM), for extreme accuracy. The APELM will be designed to use infrared optics and LEDs to determine position, then will interface with the flight controller to guide the docking procedure. After creating an effective, precision landing system, if time allows the system will be extended to include a software suite and mail delivery peripherals. The final result will be a system for autonomous delivery of a custom-designed bin on a schedule determined by a user.

# Technical Approach

# Management Approach

# Budget

# Timeline

# Facilities To Be Used

# Disposition Agreement