First Semester Progress Report
Programmable Flight Controller

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Abstract

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1 List of Acronyms

2 Objectives and Deliverables

2.1 Overall Objective

The main objective of the project is to develop a programmable flight controller that responds appropriately to control inputs and disturbances. The flight controller will recieve control inputs over WI-FI from a base station. The base station can be any device that is WI-FI enabled and has the appropriate software installed. The software on the base station will be a graphical user interface (GUI) that allows the user to send control inputs to the drone and view statistics of the drone during operation.

The objectives of the project have been broken down into what will be accomplished in the first semester (Short term objectives) and what will be accomplished in the second semester (Long term objectives). These objectives along with specific details of each can be viewed in sections 2.2 and 2.3 respectively.

2.2 Short Term Objectives (October 2016 - December 2016)

2.2.1 Simulation

The simulations will allow us to gain an understanding of how the controller will respond to specific inputs. The simulation can then be tuned until the output is within the constraints set by Dr. Rhinelander. We will be simu-

lating both the flight dynamics and controller using MATLAB and Simulink exclusively.

3   Background and Significance

4   Proposed Approach and Validation

5   Preliminary Report

6   Work Plan and Milestones

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