UNIVERSITY of York

Department of Electronics

MEng Project Report

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AUTOPILOT FOR AERIAL PHOTOGRAPHY

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4th Year Project Report for degree of
Master of Electronic and Computer Engineering With a Year in Industry

I would like to dedicate this report to my school teachers who said I was too lazy to amount to anything.

Acknowledgements

And I would like to acknowledge firstly Dr. Andrew Pomfret

Abstract

This is where you write your abstract ...

Table of contents

List of figures **xi**

List of tables **xiii**

Nomenclature **xiii**

1 Introduction **1**
1.1 An Introduction to Unmanned Aerial Vehicles 1
1.2 UAVs for Aerial Photography 1
1.3 ArduPilot and ArduPlane 1
1.3.1 JSBSim 1
1.4 Autopilot Hardware 1

2 Literature Review **3**
2.1 Dubin's Paths 3
2.2 Path Following in Wind 3

3 Task One: Path Planning **5**
3.1 The Problem 5
3.2 Solution 5

4 Task Two: Path Following **7**
4.1 The Problem 7
4.2 Solution 7

5 Future Work **9**
5.1 Proposal 1: Incorporation into MissionPlanner 9

6 Project Planning and Management **11**
6.1 Agile Planning 11

7 Summary and Conclusions **13**
7.1 Conclusions 13

References **15**

Appendix A Testing Results **17**

Appendix B MATLAB Outputs **19**

Index **21**

List of figures

1.1 Simple Lawnmower 2

List of tables

Chapter 1

Introduction

1.1 An Introduction to Unmanned Aerial Vehicles

Unmanned Aerial Vehicles (UAVs)

1.2 UAVs for Aerial Photography

1.3 ArduPilot and ArduPlane

ArduPilot is an open-source suite of autopilot products aimed at hobbyists and professionals alike

1.3.1 JSBSim

JSBSim is the simulator packaged with ArduPlane for testing purposes

1.4 Autopilot Hardware

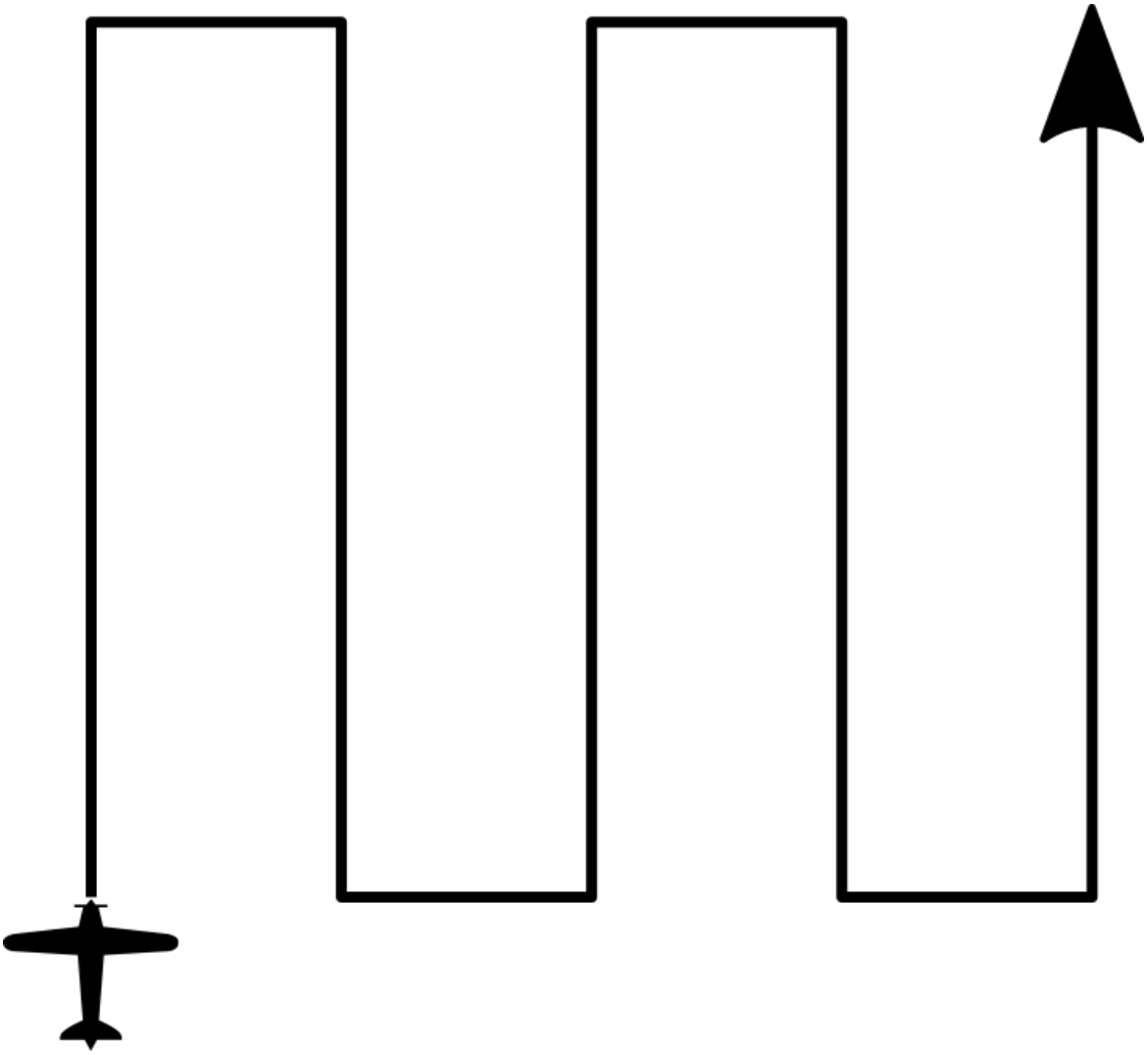

Fig. 1.1 This is the general form of a lawnmower pattern aerial imaging run

Chapter 2

Literature Review

2.1 Dubin's Paths

2.2 Path Following in Wind

Chapter 3

Task One: Path Planning

3.1 The Problem

3.2 Solution

Chapter 4

Task Two: Path Following

4.1 The Problem

4.2 Solution

Chapter 5

Future Work

5.1 Proposal 1: Incorporation into MissionPlanner

Chapter 6

Project Planning and Management

6.1 Agile Planning

Chapter 7

Summary and Conclusions

7.1 Conclusions

References

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Appendix A

Testing Results

Appendix B

MATLAB Outputs

Index

LaTeX class file, 1