

CONTROL SYSTEM FOR A FIXED-WING UAV; A PRELIMINARY PROJECT PLAN

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Electrical/Information Engineering Design Project (ELEN4000/4011);
Control Group - 2019
September 17, 2019

1 Introduction

This document serves as a high-level summary of the proposed commencement and project management related to the 4th year Control Design Project. The contents of this report are not final and largely reflect preliminary suggestions and solutions by members of the control group who were available at the internal meeting on 17/09/2019.

2 Background

2.1 Constraints

A total of 5 weeks and 5 days (16 September 2019 - 25 October 2019) are available to complete the design, simulation and documentation of the project. It is assumed that no laboratory equipment or facilities are required for the completion of the investigation. Furthermore, considering the School of Electrical and Information Engineering's purchase of a campus wide MATLAB license, no constraints exist in terms of accessing the platform; members of the control group will be able to access MATLAB either through their personal devices or through the school computer lab (D-Lab).

3 Project Management

The nomination and election of a primary facilitator will be determined in the following meeting (18/09/2019).

3.1 Meetings

All meetings are scheduled to occur from 08:00 to 09:00 each Monday morning in the EIE Seminar room for the duration of the project, unless otherwise stated. It is proposed that at each weekly meeting a pair of members from the control group are assigned to chair and record minutes of the meeting respectively. This pair will be allocated at the conclusion of the meeting and will be responsible for communicating the time, venue and agenda of the meeting they will be chairing/taking minutes for. All record of these meeting minutes will be stored in a control group Google Drive, which all members will have access to. The proposed meeting dates are as follows;

1. **Wednesday 18/09/2019,**
2. **Monday 23/08/2019,**
3. **Monday 30/09/2019,**
4. **Monday 07/10/2019,**
5. **Monday 14/10/2019,**
6. **Monday 21/10/2019.**

3.2 Division of Work

Whilst each member of the group is required to submit an individual, scientifically unique report, it is proposed that the group split up into sub-groups allowing for multiple tasks to be completed in parallel. For example, a sub-group of 4 members can be assigned to propose a propulsion system whilst 5 members analyse airframe parameters. The findings and models proposed by these sub-groups should be presented to the group in its entirety and be scrutinised. These proposed models do not necessarily need to form part of an individuals final design, but will rather serve as a springboard for final designs.

3.3 Project Management Tools

3.3.1 Work Breakdown Structure (WBS)

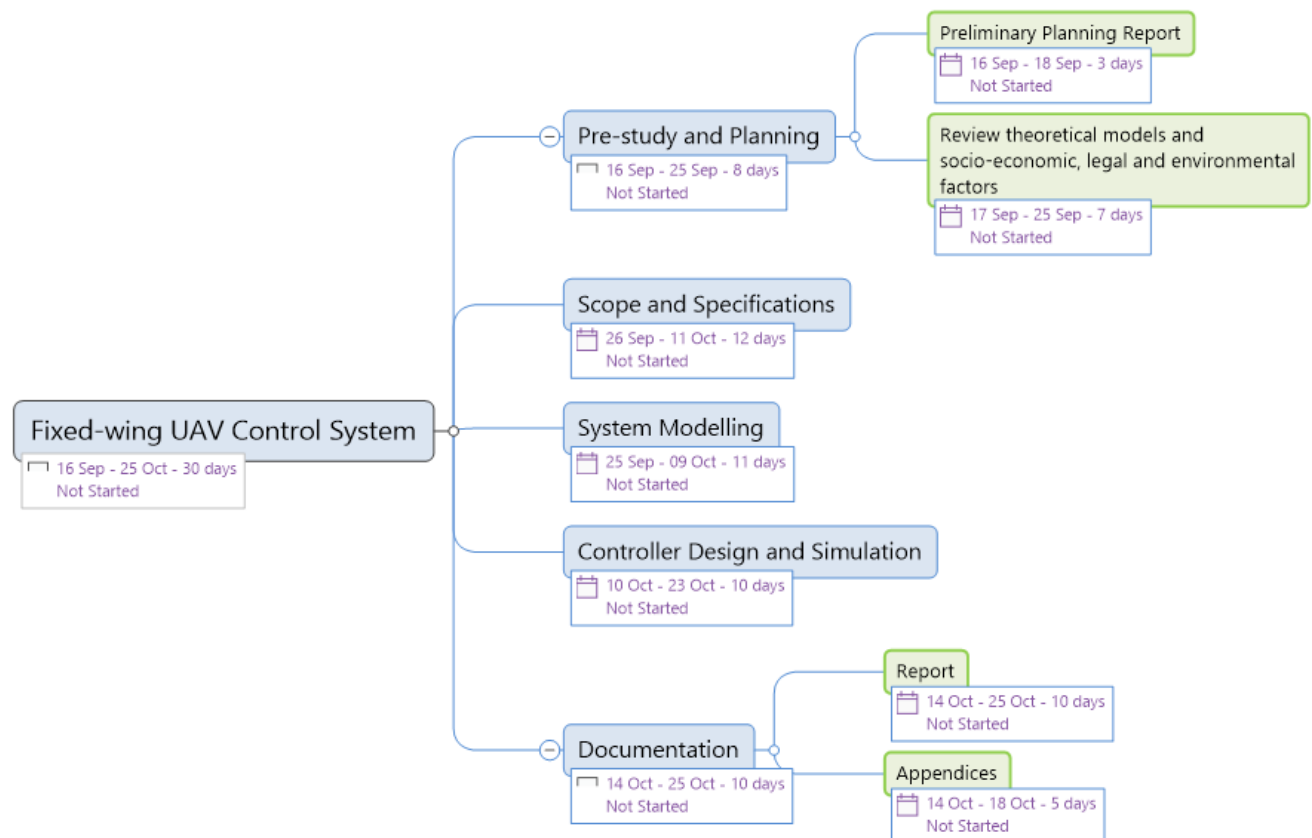


Figure 1: Basic WBS Identifying Main project objectives and their respective timelines

3.3.2 Gantt Chart

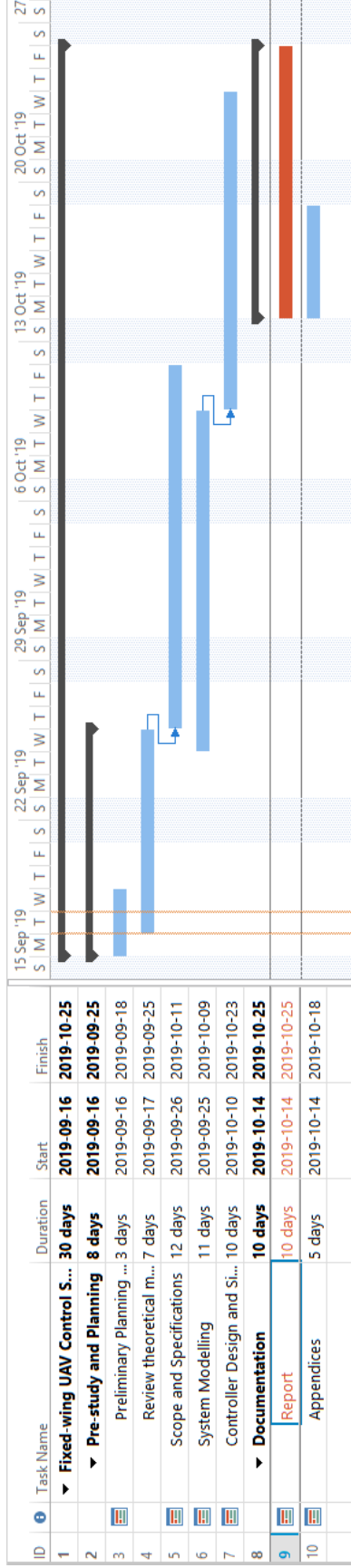


Figure 2: Gantt Chart illustrating a basic project schedule

4 Conclusion

A basic review of project scheduling, management and progression is provided. This plan requires extension and will inevitably expand after the general control group meeting on Wednesday 18/09/2019. A basic summary of the project schedule is provided in the form of a Gantt chart and WBS.