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The Title

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Abstract

This document gives some ideas about how to write a final report, and provides a template for the report. You should discuss your report with your supervisor. The following is a sensible breakdown of chapters as described in the Course Handbook (except for c7 which is a discussion on formatting) but this is not something you have to follow if a more sensible structure exists for your project.

Contents

Chapter 1

Introduction

The purpose here is to introduce the problem being solved, to motivate why it is a problem one should care about, and to outline the solution developed during the project. *Remember:* the introduction is the first part of the report an examiner will read. If they finish reading it without a proper understanding of the problem being solved or what has been done, then they will almost certainly struggle with under- standing the remainder. You should attempt to make the project goals and associated specifications as clear and as quantifiable as possible. These goals and specifications should inform everything else that follows, so it is important to establish them in the examiners mind.

Chapter 2

Background and Related Work

The background should cover any important terminology and/or concepts used in the remainder of the report, and should demonstrate an understanding of previous works which are relevant. *Remember:* A good related work section does not just provide a list of previous works, accompanied with short summaries. Wherever possible it must extract real insight from these works, painting a picture of how they relate to each other and the project.

Chapter 3

Design

The aim here is to identify the key trade-offs in any design work you have undertaken. When solving a complex problem, there are normally many different approaches one can take - each with its own advantages and disadvantages. It is expected that students will have initially considered a range of different solutions, and will then have narrowed these down. The reasons why a particular approach was discounted should be documented here. Remember: appropriate design notation (e.g. UML diagrams) can be very helpful in conveying different aspects of a design.

It is vital that your design not be carried out in a vacuum. Your design should be motivated very clearly by your goals and specifications. Make sure that it is clear why you took the decisions that you did. Do not give the impression that you settled on a design because it "felt right" or that you tinkered around until you found something that worked.

In particular, for ENGR489 students, the design (and other aspects of the report) should also include consideration of real-world issues (economic, social and/or environmental) around implementation and delivery such as sustainability, safety, ethics and so on.

Chapter 4

Implementation

The aim here is to explain the technical aspects of the project. The challenge is to ensure the text is clear and understandable. This is not easy, as ideas and concepts involved are often complex in nature.

Nevertheless, if an examiners cannot understand how the implementation works, they cannot award marks for it. If this happens, the student is fault for poor communication. *Remember:* nothing is so complicated that it cannot be clearly explained. Classic pitfalls include: long convo- luted sentences, use of long words, too much time spent discussing irrelevant details, poor organisation of sections, subsections and paragraphs, and too few diagrams or examples.

Chapter 5

Evaluation

The purpose of the evaluation section is to demonstrate whether you did or did not satisfy the project goals or specifications. If you can tie the performance of your design to some real specification then your evaluation is much stronger. "My code runs in 29 ms" is much weaker than "my code runs within the 30 ms window allowable for real-time performance of the. . . ".

In many cases the evaluation of a project requires significant extra work to design and build test harnesses. These should be explained so that the validity and scope of the evaluation can be understood.

Make liberal use of graphs and other figures. They are much more effective at communicating many results than are words. ?

Chapter 6

Conclusions and Future Work

Future work should not just be a list of things that you would have done if you had a little more time. Talk about new things that are possible now that you have finished your project. What projects could an ENGR489 student tackle next year if they started from your end point?

Structure and Formatting

The report does not have to confirm exactly to the above structure.

With formatting, please use 11pt font. Given the relatively short length of the report, there is no need to start each chapter on the right-hand page (which can lead to some blank pages, which is wasted white space).

The following points clarify the main requirements of the final report:

- The report is expected to be 30 pages in length inclusive (i.e. title page, bibliography, ... all count in the 30 pages) and no more than 30,000 words. A separate appendix document, which may reference your approved University online repository, may also be submitted but will not receive additional marks.

- As a rough breakdown, a page of introduction and three to four pages on background/related work. An additional page each on progress and future plans would be appropriate. Students are advised to ensure all necessary detail is provide.

- The report must contain a table of contents but does not have to contain a separate Acknowledgements page.

- The report should be written in such a way that any 4th year student in your specialisation can understand. Since the report will be assessed by examiners (i.e. not just the supervisor), it is critical that all examiners can properly understand what has been achieved.