Virtual Robotics and Experimental Platform

by Callum Rohweder

School of Information Technology and Electrical Engineering, The University of Queensland.

Submitted for the degree of Bachelor of Engineering in the field of Mechatronic Engineering...

June & 2018.

ADDRESS LINE 1 ADDRESS LINE 2 Tel. (07) nnnn nnnn April 10, 2018

Prof Paul Strooper Head of School School of Information Technology and Electrical Engineering The University of Queensland St Lucia, Q 4072

Dear Professor Strooper,

In accordance with the requirements of the degree of Bachelor of Engineering in the division of Electrical Engineering, Electrical and Biomedical Engineering, Electrical and Computer Engineering, Software Engineering, Mechatronic Engineering, I present the following thesis entitled "...". This work was performed [in partnership with Mr/Ms ... and] under the supervision of Mr/Ms/Dr/A/Prof./Prof.

I declare that the work submitted in this thesis is my own, except as acknowledged in the text and footnotes, and has not been previously submitted for a degree at The University of Queensland or any other institution.

Yours sincerely,

Author's Signature

AUTHOR'S NAME.

To . . .

Acknowledgments

Acknowledge your supervisor, preferably with a few short and specific statements about his/her contribution to the content and direction of the project. If you collaborated with another student, acknowledge your partner's contribution, including any parts of the thesis of which s/he was the principal author or co-author; this information can be duplicated in footnotes to the chapters or sections to which your partner has contributed. Briefly describe any assistance that you received from technical or administrative staff. Support of family and friends may also be acknowledged, but avoid sentimentality—or hide it in the dedication.

Abstract

This document is a skeleton thesis for 4th-year students. The printable versions (skel.dvi, skel.ps, skel.pdf) show the structure of a typical thesis with some notes on the content and purpose of each part. The notes are meant to be informative but not necessarily illustrative; for example, this paragraph is not really an abstract, because it contains information not found elsewhere in the document. The LaTeX 2_{ε} source file (skel.tex) contains some non-printing comments giving additional information for students who wish to typeset their theses in LaTeX. You can download the source, edit out the unwanted material, insert your own frontmatter and bibliographic entries, and in-line or \include{} your own chapter files. Of course the content of a particular thesis will influence the form to a large extent. Hence this document should not be seen as an attempt to force every thesis into the same mold. If in doubt about the structure of your thesis, seek advice from your supervisor.

Contents

A	cknowledgments	vi				
Al	bstract	vii				
Li	st of Figures	ix				
Li	st of Tables	X				
1	Introduction					
2	2 Literature review / prior art					
3	3 Theory					
4	4 Methodology, procedure, design, etc.					
5	6 Results and discussion					
6	Conclusions 6.1 Summary and conclusions	6 6				
\mathbf{A}	ppendices	7				
\mathbf{A}	Dummy appendix	8				
В	Program listingsB.1 First programB.2 Second programB.3 Etc	9 9 9				
\mathbf{C}	Companion disk	10				
Bi	Bibliography					

List of Figures

List of Tables

5.1	Fraction of air volume involved in heat exchange for second mode	
	(right column) vs. filling factor (left column). The plain-text headings	
	represent f, m, μ_2 and f_2, \ldots, f_n	-

Introduction

The introductory chapter describes the importance of the field and the scope and significance of your project. It usually ends with an overview of the remainder of the thesis.

Notice that Arabic page numbering begins with Chapter 1. Preceding pages (known as "frontmatter") have Roman numbering. The book document class in LATEX follows this numbering convention by default (see Lamport [1], p. 80).

Literature review / prior art

You will need to review previous work in the field, which may include books and papers ("literature"), patents and commercial products ("prior art"), and earlier work in your Department. This information is usually (but not always) collected in a single chapter, whose title should preferably be more specific and interesting than the one above.

Theory

A scientific paper is likely to be read by people who are not specialists in the same field as the author(s), but who nevertheless may need to use the results of the paper in their own fields. Similarly, the examiners of your thesis will probably include at least one academic who does not teach or conduct research in the subject area of your thesis. In an early chapter of your thesis, therefore, you should quote any theoretical results which are necessary for the understanding of later chapters. Examiners who are not specialists in your area will know whether you have given sufficient theoretical information. They will also know whether you have insulted their status by presenting material which is familiar to every half-competent graduate in every field of ECE.

Methodology, procedure, design, etc.

This may be one chapter or several. Again, titles should be more informative than the above.

You will almost certainly need diagrams to clarify your meaning. The LaTeX 2ε graphics package allows the inclusion of PostScript graphics, as in Fig. ??. The inclusion of LaTeX picture graphics, as in Fig. ??, requires no auxiliary packages and allows the mathematical formatting features of LaTeX to be used in diagrams; but the picture files, unlike PostScript files, usually require manual editing.

Results and discussion ...

... or perhaps the discussion should be a separate chapter.

In any case, you will probably need to include tabulated results. Table 5.1 illustrates the use of various LATEX environments to include a computer printout (plain text file) in a document. The verbatim environment, which encloses the formatted text, is also useful for program listings.

Table 5.1: Fraction of air volume involved in heat exchange for second mode (right column) vs. filling factor (left column). The plain-text headings represent f, m, μ_2 and f_2 .

f(%)	m	mu2	f2(%)
0.016	80.00	0.05400	4.874
0.031	56.57	0.07732	5.438
0.062	40.00	0.11103	6.125
0.125	28.28	0.16001	6.970
0.250	20.00	0.23175	8.020
0.500	14.14	0.33799	9.329
1.000	10.00	0.49789	10.967
2.000	7.07	0.74444	13.008
4.000	5.00	1.13919	15.525
8.000	3.54	1.81095	18.568
19.237	2.28	3.61958	23.174
37.180	1.64	7.28635	27.094
57.392	1.32	14.63631	29.813
74.316	1.16	29.35160	31.453
85.734	1.08	58.79364	32.360

Conclusions

- 6.1 Summary and conclusions
- 6.2 Possible future work

Appendix A

Dummy appendix

Appendices are useful for supplying necessary details or explanations which do not seem to fit into the main text, perhaps because they are too long and would distract the reader from the central argument. Appendices are also used for program listings.

Notice that appendices are "numbered" with capital letters, not numerals. When the \appendix command in LATEX [1, p. 175] is used with the book document class, it causes subsequent chapters to be treated as appendices.

Appendix B

Program listings

B.1 First program

Some initial explanatory notes may precede the listing.

- B.2 Second program
- B.3 Etc.

Appendix C

Companion disk

If you wish to make some computer files available to your examiners, you can list and describe the files here. The files can be supplied on a disk and inserted in a pocket fixed to the inside back cover.

The disk will not be needed if you can specify a URL from which the files can be downloaded.

Bibliography

- [1] L. Lamport, Lambert, Lambe
- [2] REFERENCE 2
- [3] Etc.