Your Title Here
(M801 Dissertation Template Version 1.1)

A dissertation submitted in partial fulfilment of the requirements for the Open Universitys Master of Science Degree in Computing for Commerce and Industry/Software Development/Networks and Distributed Systems/Management of Software Projects. (please delete as appropriate)

Your Name Here

(Your PI Here)

30 January 2010

Word Count: Fill in Before Final Save/Print

Preface

It is academic practice to acknowledge those who have contributed to the content of your dissertation (for example, your supervisor), and anyone who has provided resources (for example, if your employer has provided time or resources to assist with the project or anyone from whom you have received financial assistance).

Table of Contents

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Abstract

Your abstract should be a short (200-300 words) outline of the problem that you attempted to solve, how you went about solving it, and the results that you obtained.

Chapter 1

Introduction

Your introduction should motivate the research problem that you intend to solve in the dissertation. This chapter explains why the problem is important, and a brief overview of how the dissertation describes your solution to the problem.

1.1 Background to the research

You may require sections discussing why the general problem is interesting and important.

1.2 Aims and objectives of the research project

An overview (dont go overboard with detail; thats what the main chapters are for) of how you have chosen a specific research project to address the general problem that you have already described.

1.3 Overview of the dissertation

Sometimes it is helpful to put a kind of roadmap to the dissertation here, if it helps the reader see how the different parts of the dissertation address

different aspects of the research project. This is not essential, but can be useful. Note that the word dissertation in the previous sentence has been marked as an Index Entry which means the index can be automatically created. Mark a word as an Index Entry by selecting it, choosing Insert - Reference - Index and Tables, then clicking Mark Entry click the Mark button.

Chapter 2

Literature Review

The literature review[1]is used to demonstrate how other people have addressed the problem that you have identified, and to show how you have used the existing body of work to develop your particular research project. If there is more than one topic to consider, a second chapter summarising secondary research may be required.

2.1 Sections

Different sections review the relevant knowledge that already exists on different aspects of the problem. If you are using a citation in the text, you might want the author name implicit as in this citation (Jones and Smith, 2005). Conversely, it might make the sentence flow better to include the authors explicitly, for example by mentioning the excellent results from Bloggs and Simpleton (2004) which corroborate your theory.

2.1.1 Subsection

Subsections can be used for more fine grained descriptions.

2.2 Research question

Based on the literature that you have reviewed, you should be able to hypothesise an answer to your research question, to be tested in the rest of the dissertation.

2.3 Summary

It can be helpful to summarise the literature review with an indication of how the main points in the literature have informed the direction that you will take in the rest of the dissertation.

[1]Here is a footnote where you might mention something about the term literature review or whatever you need to make a footnote about. Note that we discourage footnotes as you can usually have this effect in the text with parentheses. Use them sparingly.

Chapter 3

Research Methods

The methods (data collection and analysis techniques) you used to solve your research question are described in this chapter. You will usually need to refer back to texts in your literature survey to justify the techniques that you have chosen to solve your particular research problem.

3.1 Research Techniques

In a survey or case study project, these might include, for example, the questionnaires and/or interview scripts. In a project which requires development or experimentation, the development of the code or mock-ups is discussed.

3.1.1 Presenting Figures

Note that every Figure and table should be referred to in the text. Here I am referring to Figure 3.1 in Microsoft Word by choosing Insert -¿ Reference -¿ Cross-Reference -¿Figure and insert reference to only number and label. Because I used the Word Insert Caption feature, it means I can insert cross references in the text that are updated automatically and the table of figures can be updated automatically.

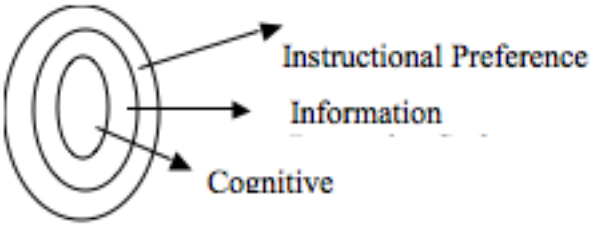

Figure 3.1: Curry's Onion Model

3.1.2 Presenting Tables

Tables and references to tables are done in the same way (see Table 3.1).

	Cognitive Personality Style (CPS)	Information Processing Style (IPS)	Instructional Preference (IP)
Cognition-centred Approach	Examines underlying cognitive traits in internal cognitive activities	Examines underlying cognitive traits in information processing of external stimuli	Extrapolates from CPS and IPS adopting a cognition perspective to predict preference in instruction

Table 3.1: Mapping between different approaches and their goals

Table 3.1 illustrates how tables should be presented in your dissertation.

3.1.3 Presenting Bulleted Lists

You may wish to use bullet points for a list, if the items in the list are:

- short.
- closely related to each other.

However, you should not use bullet points as an alternative to correctly written English.

Chapter 4

Data Collection

Depending on your research methods, you may not need a chapter on data collection. However, if your research relies on collecting empirical data, for example, or asking subjects to complete questionnaires, you may have found some interesting issues to report.

4.1 Process and Data Sources

You should describe how you chose your data sources, and the process by which you obtained your data.

4.2 Preliminary Analysis

You should describe any processes that you applied to the raw data before using it, and note any properties of the data that came to light during a preliminary inspection. The raw data is often too voluminous to be included in the dissertation itself, but may be presented for inspection in an appendix. Note that appendices are not marked, and do not contribute to the word count.

Chapter 5

Results

This chapter describes how your results answer your research question. The results obtained are related back to the research question (and possibly the hypothesis), giving consideration also to the information found during the secondary research, and findings are determined.

5.1 Implementation based results

If your project was based on writing software, you will need to demonstrate how your working system can be used to answer your research question.

5.2 Empirical investigations

If your project was based on collecting data, you will need to demonstrate how your data corroborates or disproves your hypothesis. Where the findings are based on subjective evidence, as in the case of study project, a validation exercise is required. Here the findings are subjected to scrutiny, either by experts, or perhaps by applying them to a real-world situation to determine how well they stand up. In either case the findings are often refined as a result. (Where the findings arise from evidence obtained rigorously from a

representative sample, validation is not required.)

5.3 Presenting results

You will often need to present results as a figure, such as Figure 5.1. Note how the figure numbers are automatically generated by Word.

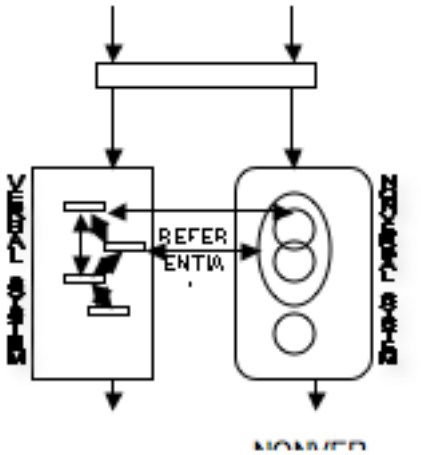

Figure 5.1: Paivio's Dual coding Framework

Tables, such as Table 5.1 and Table 5.2 Data requirements for Study 1 can also be a good way of presenting data. Note that Figures and Tables are both automatically inserted into the tables of contents.

5.4 Validation

Whatever form of research you carried out, you should consider how your initial research question has been shown to be answered/not answered/in need of modification.

5.4.1 Analysis

You may wish to consider how your choices of method, implementation and data have affected your research, and whether different choices (for future work, perhaps) might have found better results.

Artefacts	Photographs Drawings Maps Diagrams Graphs	Natural human languages Formal systems (Fregian) such as Mathematics Symbolic logic Computer languages
Properties	Analogue Iconic Continuous Referentially isomorphic (has links to other representations)	Non-analogue Non-iconic Digital or discrete (as opposed to continuous) Referentially arbitrary (does not have links to other representations) Propositional

Table 5.1: Characteristics of Paivio's picture-like and language-like dimensions

Approach	Research Questions	Group	Data Requirements
1	What are the preferences and perceptions of different representations in the CS domain?	Student and Academic	Information that reveals perspectives and preferences in representation and more implicit knowledge about these preferences and perspectives
2	What are the individual differences in learning?	Student and Academic	Inventory measures of individuals preferences and tendencies in learning
3	What are the individual background factors that might have an impact on preferences and perceptions in representation?	Student and Academic	Individual background information about learners and academics such as age, gender, prior experience, etc.
4	If any incidental learning has taken place can it be attributed to a particular representation?	Student	Pre- and post-test scores of simple recall of information that reveal any improvements in learning as a result of being exposed to particular representations
5	What criteria do academics use for choosing representations in instructional materials?	Academic	Information about criteria that individual academics have used in relation to instructional materials that they have produced

Table 5.2: Data requirements for Study 1

Chapter 6

Conclusions

The conclusions of the research are summarised, their implications considered, and any relevant recommendations are made.

6.1 Project review

Review the conduct and effectiveness of project itself, in the light of the aims and objectives set earlier.

6.2 Future research

Discuss how your research might be carried on in the future.

References

[1] Yao-Wen Huang. Securing web application code by static analysis and runtime protection. *International World Wide Web Conference archive Proceedings of the 13th international conference on World Wide Web*, 2004.

test[1]

Index

Note this index is created automatically and can be updated in the same way as the other tables.

Appendix A

The appendices are not marked, or included in the word count. They contain information not directly relevant to the main argument, for example raw data, a questionnaire, or a list of code. They are included as evidence of the work performed and to make it possible for a reader to replicate the study. If it is logical to divide up the Appendices, one convention is to give each a letter, but if you only have one Appendix that you do not need to add a letter. For programs (for example), an appendix can be submitted on a storage medium such as a CD or DVD.

Appendix B

Increment the letter if you need to add additional appendices.