

ATHABASCA UNIVERSITY

YOUR PROJECT TITLE

BY

YOUR NAME

A project submitted in partial fulfillment  
of the requirements for the degree of  
MASTER OF SCIENCE - COMPUTING AND  
INFORMATION SYSTEMS

Athabasca, Alberta

Month, Year

© Your Name, Year

## DEDICATION

1. Center the word “DEDICATION” on this page and then begin typing on the very next line (i.e., do not insert any blank lines between the heading “DEDICATION” and the first sentence).
2. Type this section as a single paragraph in block format (i.e., do not use indentation).

## **ABSTRACT**

1. Center the word “ABSTRACT” on this page and then begin typing on the very next line (i.e., do not insert any blank lines between the heading “ABSTRACT” and the first sentence).
2. Type this section as a single paragraph in block format (i.e., do not use indentation).
3. The purpose of this section is to provide a brief (**250-300** words), comprehensive summary of the study. The abstract includes a succinct description of the problem or question that has been investigated, of the methodology, of the results, and of their implications.
4. It is a good idea to write this section last (i.e., after all of the other sections are written). One way to help in the writing of the abstract is to take the lead sentence or two from the introduction, method, results, and discussion sections and integrate them.
5. Finally, do not cite references in the abstract.

## **ACKNOWLEDGMENTS**

1. Center the word “ACKNOWLEDGMENTS” on this page and then begin typing on the very next line (i.e., do not insert any blank lines between the heading “ACKNOWLEDGMENTS” and the first sentence).
2. Type this section as a single paragraph in block format (i.e., do not use indentation).
3. In this section, you may list those to whom you are indebted for their encouragement and support.

## TABLE OF CONTENTS

CHAPTER I - INTRODUCTION .....	9
Statement of the Purpose.....	9
Research Problem .....	9
Definition of Terms .....	9
Organization of the remaining chapters.....	9
CHAPTER II - REVIEW OF RELATED LITERATURE.....	12
Related Work .....	12
Current Research.....	12
Summary .....	12
CHAPTER III - METHODOLOGY .....	13
Requirements analysis	
Specifications	
Architecture	
Algorithms	
Data structure	
Data flow	
Testing/Experiments .....	14
CHAPTER IV - DISCUSSIONS.....	15
Statement of the characteristics, strengths, and limitations .....	15
Statement of problems left unsolved .....	15

CHAPTER V - CONCLUSIONS AND RECOMMENDATIONS .....	17
Conclusions.....	17
Suggestions for Further Research.....	17
REFERENCES .....	18
APPENDIX A - User's Manual.....	20
APPENDIX B – Maintenance Manuel .....	21
APPENDIX C – Design Documents .....	22
APPENDIX D – Source Code .....	23
APPENDIX E - Test Suite.....	24

## LIST OF TABLES

	<u>Page</u>
1. User Role Ranked from Most Important to Least Important.....	3
2. Recent Changes that have affected the Role of the User.....	6

## LIST OF FIGURES

	<u>PAGE</u>
1. Architecture of the System .....	8
2. Diagrams of the Object-Relational Data Model.....	11
3. Type of Software Testing where Users are Involved.....	34



# **CHAPTER I**

## **INTRODUCTION**

1. Start a new page for this section. Set “CHAPTER I” to the Heading 1 style and “INTRODUCTION” to the Heading 2 style. Do not insert a blank line between Heading 1 and Heading 2 but do insert a blank, double-spaced line between the Heading 2 text and the first paragraph.
2. The introduction begins the pagination for the document. That is, the first page of the “INTRODUCTION” is page 1 of the entire document.
3. The main purpose of this section is to inform the reader why you carried out the study. In other words, you have to inform the reader of the research problem or question and indicate why it is important, and how it is unique when compared to previous studies. This chapter starts out in a general way and then becomes more and more specific.
4. The first line is indented five characters for all paragraphs in the manuscript.
5. Single space after sentence terminators (i.e., “.”, “?”, “!”).
6. All text is left-aligned (i.e., the left margin forms a straight line, and the right margin is ragged).
7. Do not hyphenate (split) words at the end of a line.
8. Use complete sentences.
9. The first sentence of a paragraph must be independent (i.e., able to stand on its own).
10. Do not use slang (e.g., “. . . put a damper on . . .”).
11. Do not use contractions. That is, instead of “it's”, use “it is”.
12. Assume you are writing the paper for submission to a scientific journal.
13. Avoid use of the terms “I”, “me”, and “my” as well as the phrase “personally speaking”.

14. Avoid the use of sexist language. When referring to an unknown individual, do not use a gendered pronoun. Instead, use the word “they” or rewrite the sentence so that a pronoun is not needed.
15. Avoid using “empty words” or words that serve no purpose. For example, “In the Smith (1990) study, it was found that . . .” should read “Smith (1990) found that . . .”.
16. Generally speaking, use the past tense in the ABSTRACT, INTRODUCTION, and METHODOLOGY sections. The DISCUSSIONS and CONCLUSIONS sections can be in the present tense.
17. When abbreviating any terms, spell them out the first time (in both the abstract and again in the body of the manuscript, if need be). For example, “The Computer-aided software engineering (CASE) tool was used to...”.
18. Do not use too many abbreviations. Whereas one, two, or three can be helpful, four or five can be confusing.
19. You will often see the following Latin abbreviations used:

cf.	compare
etc.	and so forth
e.g.	for example
i.e.	that is
et al.	and others
vs.	versus, against

Note that (except for “et al.”) these abbreviations are only used in parenthetical material. In non-parenthetical material, use the English translation.

20. Note the following common abbreviations and note also that you do not use periods with them:

cm	centimetre
s	seconds
mg	milligrams
min	minutes
g	grams
hr	hours
M	mean
IQ	intelligence

21. All measurement reporting is done in metric units.

22. The numbers zero through nine are spelled out (except when it is a table or figure number, or a metric measurement). The numbers 10 and above are written as numbers.

23. Capitalize nouns followed by numerals or letters that denote a specific place in a numbered series. For example, “As can be seen in Figure 3, during Block 4 of Session 2, such and such occurred.”

24. Spell out any number when it is the first thing in a sentence. For example, the sentence “34 students were asked” is not appropriate and should read “Thirty-four students were asked.”

25. Be consistent with number formats. That is, if you are reporting a series of related numbers, then they should all be presented with the same number of decimal places.

26. If you cite someone's words or ideas, then you must give them credit with a citation. This is particularly important, as the penalties for plagiarism are severe.

27. Avoid the use of footnotes.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

1. Start a new page for this section. Set “CHAPTER II” to the Heading 1 style and “REVIEW OF RELATED LITERATURE” to the Heading 2 style. Do not insert a blank line between Heading 1 and Heading 2 but do insert a blank, double-spaced line between the Heading 2 text and the first paragraph.
2. Go on to review the relevant literature. Avoid an exhaustive and historical review. Your goal is to make clear the connection between previous research and the present work.
3. You might include any hypotheses and the rationale for them.
4. The final paragraph usually contains a statement which clearly and explicitly states why the study was performed, such as “The purpose of this study was to . . .” or “The present study was designed to investigate the . . .”
5. Thus, this section should contain an absolute minimum of four components (these may or may not constitute sub-headings in this chapter):
  - general introduction
  - literature review
  - connection of the present study to the literature
  - explicit statement of purpose of your study
6. Avoid providing the reader with a lengthy and sequential exposition of the material that you are citing to support your study. The task is to generate a convincing rationale and a typical strategy is to present a summary of the trends that you discovered in the previous research in tables or figures.

## **CHAPTER III**

### **METHODOLOGY**

1. Start a new page for this section. Set “CHAPTER III” to the Heading 1 style and “METHODOLOGY” to the Heading 2 style. Do not insert a blank line between Heading 1 and Heading 2 but do insert a blank, double-spaced line between the Heading 2 text and the first paragraph.
2. The purpose of this section is to describe the methods you proposed and/or used in detail, i. e., how you performed the project. Another researcher should be able to replicate your study based on the information you provide in this section. Depending on your specific topic, you can have several subsections:
  - Requirements analysis
  - Specifications
  - System architecture or/and software architecture.
  - Algorithms
  - Data structures and data flows
3. Use a professional style. That is, do not make it sound like a class project. Assume you are writing for submission to a scientific journal.
4. Avoid unnecessary details. For example, do not describe the fact that the data were displayed on a computer screen and recorded on the data sheet(s).
5. If you carried out a simulation or experimental study, then you may need to define the environment, parameters, and procedure. Use a Heading 3 style for this section and Heading 4 style for subsections.

## **CHAPTER IV**

### **IMPLEMENTATIONS, EXPERIMENTS, AND RESULTS**

1. Start a new page for this section. Set “CHAPTER IV” to the Heading 1 style and “RESULTS” to the Heading 2 style. Do not insert a blank line between Heading 1 and Heading 2 but do insert a blank, double-spaced line between the Heading 2 text and the first paragraph.
2. Look carefully at the results. If you carried out an experimental study, then take a good hard look at all those numbers you collect. Think of different ways to summarize them, as well as to make sense of them. The articles that you scrutinized for inclusion in the REVIEW OF THE LITERATURE section should provide models for the table and figure configurations that you would use.
3. Do not discuss the implications of the results in this section.
4. Briefly state the main findings in words. That is, first give a general description, then go into the details.
5. If you are presenting a great deal of material in this section, you may wish to employ subsections (see “RESULTS” section above of the sample “TABLE OF CONTENTS” in this document). These subsections (use Heading 4 style) should have meaning and relevance to the data and should help to organize your presentation. In other words, they should not be organized by the type of analysis employed. Since this is not expected by the reader, it is a good idea to precede the subsections with a paragraph informing the reader of the logical organization of this section.
6. In cases where the reader would expect something to be significant and it is not, you should address the issue.
7. Do not provide raw data unless you have carried out a qualitative or ethnographic study.

8. Displayed below is a sample table. These tables can be generated with margin and tab settings.

However, they can also be generated with the “Table” function in word processors. The caption for a table can be generated with the “Insert/Caption” option. If you use the “Table” function, then you will have to right-justify the data in the rightmost column to set the horizontal lines to terminate correctly:

Table 1. The Relationship between GPA and Years in Program of MSc IS Students.

Year in Program	Grade Point Average		
	<u>M</u>	<u>SD</u>	<u>n</u>
1	2.1	.08	20
2	2.8	.07	19
3	3.4	.10	16
4	3.3	1.4	14

9. Figures may be generated either with a stand-alone drawing program (e.g., Aldus Freehand,

Microsoft Draw, Adobe Illustrator) or with the “Draw” functions of the word processor that you are using. Note in the example below that the label on the vertical axis (“Years in Program”) is displayed vertically:

10. The caption for a figure should be composed with the “Insert/Caption” option of the word processor (in this instance, Microsoft Word) and not with the “Text” function of the drawing program.

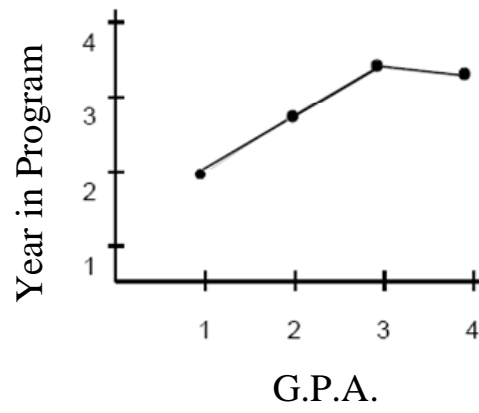


Figure 1. The Relationship between GPA and Years in Program of MSc IS Students.



## **CHAPTER V**

### **CONCLUSIONS AND RECOMMENDATIONS**

1. Start a new page for this section. Set “CHAPTER V” to the Heading 1 style and “CONCLUSIONS AND RECOMMENDATIONS” to the Heading 2 style. Do not insert a blank line between Heading 1 and Heading 2 but do insert a blank, double-spaced line between the Heading 2 text and the first paragraph.
2. The purpose of this section is to evaluate, to interpret and to discuss the results, especially with respect to the original research problem(s) or question(s).
3. Start off with a brief, non-technical summary of the results. In other words, tell the reader about the main findings without using technical or statistical terminology.
4. Proceed to discuss the implications of the results.
5. It is also important to discuss how the results relate to the literature you cited in the introduction, that is, emphasize any theoretical consequences of the results.
6. You might (or might not) also mention any limitations of the study and any suggestions for future research in this section.
7. Finally, you need an ending paragraph in which you make a final summary statement of the conclusions that you have drawn.

## REFERENCES

- Arndt, C., Chang, S., Guercio, H., & Maresca, P. (2003). An XML-based approach to multimedia software engineering for distance learning. *International Journal of Distance Education Technologies*, 1(1), 40–62.
- Deutsch, M. & Kraus, R. (1965). *Theories in social psychology*. Basic Books.
- Employment and Immigration Canada. (1989). *Success in the works: A profile of Canada's emerging workforce*. Public Affairs and Strategic Policy and Planning, Government of Canada.
- Gimblett, R. (2001). *Integrating geographic information systems and agent-based modeling techniques for understanding social and ecological processes*. Oxford University Press.
- Kapsammer, E. (1999). *Metadata-based middleware for integrating information systems* (2nd ed.). IOS Press.
- Laudon, K. & Laudon, J. (2002). *Management information systems: Managing the digital firm* (7th ed). Prentice Hall.
- Tamy, X. (1999). *Information systems integration, perspective of user training* [Unpublished master's essay]. University of Alberta.

## REFERENCES (IEEE alternative)

- [1] A.J. Albrecht, “Measuring Application-Development Productivity,” *Programmer Productivity Issues for the Eighties*, C. Jones, ed., pp. 34-43. Los Alamitos, Calif.: IEEE Computer Soc. Press, 1981.
- [2] W.M. Newman and R.F. Sproull, *Principles of Interactive Computer Graphics*, p. 402. Highstown, N.J.: McGraw-Hill, 1979.
- [3] D. Gasevic, D. Djuric, and V. Devedzic, *Model-Driven Architecture and Ontology Development*, ch. 4, Heidelberg, Germany: Springer, 2006.
- [4] M. Weiser, “Program Slicing,” *Proc. Int’l Conf. Software Eng.*, pp. 439-449, 1981.
- [5] I.E. Sutherland, R.F. Sproull, and R.A. Schumaker, “A Characterization of 10 Hidden Surface Algorithms,” *ACM Computing Surveys*, vol. 6, no. 1, pp. 1-55, Mar. 1974.
- [6] M. Sahami, “About the Google Education Summit,” blog, 26 Oct. 2007, <http://googleblog.blogspot.com/2007/10/about-google-education-summit.html>
- [7] B. Fagin, “A Parallel Execution Model for Prolog,” doctoral [or PhD] dissertation, Dept. of Computer Sciences, Univ. California, Berkeley, 1987.

## APPENDIX A - User's Manual

## APPENDIX B – Maintenance Manual

## APPENDIX C – Design Documents

## APPENDIX D – Source Code

## APPENDIX E - Test Suite