Guidelines for Preparing Report for M.S - IT Final year Project

Note:

These guidelines are prepared based on the Format of Thesis from Academic Research, VIT University.

Objective

These guidelines are provided to formally expose you to the various ethical and technical issues involved in writing up your work

Ethics Involved

Knowing the difference between ethical and unethical practices in technical writing requires an understanding of plagiarism, paraphrasing, and quotation. These concepts are defined below. (The definitions are reproduced from the `Handbook of Technical Writing' by Brusaw et al., St. Martin's Press, 1993.)

Plagiarism

``To use someone else's exact words without quotation marks and appropriate credit, or to use the unique ideas of someone else without acknowledgment, is known as plagiarism. In publishing, plagiarism is illegal; in other circumstances, it is, at the least, unethical. You may quote or paraphrase the words or ideas of another if you document your source. Although you need not enclose the paraphrased material in quotation marks, you must document the source. Paraphrased ideas are taken from someone else whether or not the words are identical. Paraphrasing a passage without citing the source is permissible only when the information paraphrased is common knowledge in a field. (Common knowledge refers to historical, scientific, geographical, technical, and other type of information on a topic readily available in handbooks, manuals, atlases and other references.)"

Examples of Plagiarism

Clearly, taking sentences/paragraphs from sources such as journal articles, books, reports, proceedings, theses, and Internet, mixing them to camouflage the source, changing some of the words, or rearranging the sentences is plagiarism. Picking sentences from various sources to form paragraphs is also plagiarism. Similarly, if there is a thesis/report already submitted and is closely aligned with your work, copying sections such as literature survey, methodology, theory, etc., with or without changes is also plagiarism. You must carry out your own literature survey, write your own interpretation of theory or methodology after reading the relevant material or quote from earlier reports or the relevant material using quotation marks.

Taking experimental data and pictures from others' work or from the internet without citing the authors or the website is a far more serious issue. Graphs and schematics already published in a work can be reproduced after taking written permission from the copyright holder. You can alternatively re-plot the same data and prominently cite the authors in the figure/table captions as well as in the text; under no circumstances should you leave a reader with the confusion that this could be your data. The written permission from the author(s), although not necessary, is still a desirable option. It also helps you establish contacts in your field.

Paraphrasing

``When you paraphrase a written passage, you rewrite it to state the essential ideas in your own words. Because you do not quote your source word for word when paraphrasing, it is unnecessary to enclose the paraphrased material in quotation marks. However, the paraphrased material must be properly referenced because the ideas are taken from someone else whether or not the words are identical.
Ordinarily, the majority of the notes you take during the research phase of writing your report will paraphrase the original material. Paraphrase only the essential ideas. Strive to put original ideas into your own words without distorting them."

Quotations

``When you have borrowed words, facts, or idea of any kind from someone else's work, acknowledge your debt by giving your source credit in footnote (or in running text as cited reference). Otherwise you will be guilty of plagiarism. Also be sure you have represented the original material honestly and accurately. Direct word to word quotations are enclosed in quotation marks."

When you use programs written by others with or without modifications, the report/thesis must clearly bring this out with proper references, and must also reflect the extent of modification introduced by you, if any. A modified program is not entirely yours. Only a program, which you write from scratch, does not require source to be identified. Identification of source in all other cases is must. Standard subroutines (even if public domain) used in your programs must be properly referenced. Although programs need not be appended to the thesis, they must be submitted to your research supervisor in hard copy and other media. Inclusion of a computational flow chart in your thesis is highly recommended, however.

The material presented in the thesis/report must be self contained. A reader must be able to reproduce your experimental, theoretical, computational, and simulations results based on the information presented in the thesis. You must mention the names of the suppliers whose chemicals/instruments were used in the work to allow a reader to setup an experiment. While discussing issues related to computation time, the hardware used must be specified accurately, using processor speed, etc.

Quotation and Reference to Earlier Work

If reproduction of some text material available in a published work can enhance the value to your thesis, you can add it to your thesis in the form of quoted material or a quotation. Such material should be indented on both sides over and above the indentation used for the regular text. It should preferably be single spaced, and appear as a separate paragraph(s), whether short or long. The idea is to make such material stand out from the rest of the text that you have written. Clearly, too many quotations or quoted paragraphs are not desirable in a thesis which is an original piece of work. Not quoting a material taken verbatim from another source is however plagiarism. Paraphrasing and giving credit to the author(s) is more accepted way of referring to earlier works.

References

Names of all the authors with their initials, title of the article, names of editors for edited books or proceedings, and the range of pages that contain the referenced material must appear in the bibliography. You should not mix citation styles of several journals and create your own style.

Format for Thesis

Good readability requires that there are no grammatical mistakes in the text. Minor grammatical mistakes are annoying irritants and distract a reader from progressing with the text without losing focus. Unnecessary use of italicized, underlined, and bold faced words in the text is also irksome; such usage must be kept to a bare minimum. The font size and font type used for headings should be just big enough to indicate a break in continuity; the heading should not dominate the layout of a page.

Format for Preparation of ITY 592 Project for M.S - IT

1. Sequencing

The sequence in which the thesis should be arranged and bound should be as follows:

1. Cover Page & Title Page
2. Declaration
3. Certificate
4. Abstract (not exceeding 300 words)
5. Acknowledgement (1 page)
6. Table of Contents
7. List of Tables
8. List of Figures
9. List of Symbols, Abbreviations and Nomenclature
10. Chapters of the Report
11. References

The table and figures shall be introduced in the appropriate places.

2. Page Dimension and Binding Specifications

The dimension of the project report should be in A4 size.
Page Specification:

Left Margin	**: 3.5 cm**
Right Margin	**: 3.0 cm**
Top Margin	**: 2.54 cm / 1 inch**
Bottom Margin	**: 2.54 cm / 1 inch**

The project report should be bound using flexible cover with below mentioned colored **art paper (Soft Binding).** The cover should be printed in black letters and the text for printing should be identical

The guidelines total number of pages in the report for each program is shown below:

Course	Color of Art Paper	Total Number of Pages in the Project
M.S – IT	White	Min. of 60 – Max. of 80

Page numbers – All text pages as well as program source code listings should be numbered using Arabic numerals at the **bottom center** of the pages.

Normally Body Text – Font Size: 12, Times New Roman, 1.5 Spacing, Single Side Writing

<u>Headings</u>
Chapter Heading – Font Size: 16, Bold, Times New Roman
Section Heading – Font Size: 14, Times New Roman,bold, CAPS(upper case)
Subsection Heading – Font Size: 12, Times New Roman, No CAPS(title case)

Line spacing

The line spacing used should be the same throughout the text **1.5 line spacing**, and can be chosen to be between one and a half. The lines in captions for figures and tables, Table of Contents, List of Figures, and List of Tables can be single spaced, if desired.

3. Preparation Format

The Following sections should be as per the Front page document circulated to you:
- **Cover Page & Title Page**
- **Declaration by the candidate**
- **Bonafide Certificate**
- **Abstract**
- **Acknowledgement**
- **Table of contents**
- **List of Tables**
- **List of Figures**
- **List of Symbols ,Abbreviations and Nomenclature**

3.1 Chapters

The chapters may be broadly divided into 6 parts
1. Introduction
2. Literature Survey
3. Proposed System
4. Detailed Design of the system/ Experimental setup/ prototype model
5. Implementation of system / Methodology
6. Results and Discussion
7. Conclusion and Future Work

3.1.1 Introduction

The introduction is a shorter version of the rest of the report, and in many cases the rest of the report can also have the same flow that summarizes the major contributions of the project. The chapter should provide a critical and concise outline of the subject to be covered by the dissertation and indicate how this study will contribute to the subject. This chapter should include the descriptions such as: (not necessarily in that order, but what is given below is a logical order).
- Background [The setting of the scene of the problem].
- Problem Statement [Exact problem you are trying to solve].
- Motivation [Importance of the problem].

- Post/Related work [Existing methods including pros and cons of the methods should be cited wherever possible].
- Challenges [Difficulty in the problem solving].
- Essence of your approach [Your method of problem solving].
- Statement of assumptions [The conditions under which your solution is applicable].
- Organization of the report.
- Aim(s) and Objective(s)
- Avoid 'routine' background e.g. the C programming language.
- Don't cite endless sources that are irrelevant or that you haven't read.

3.1.2 Literature Survey/Review of the Proposed System

This chapter should include the brief description of the whole-proposed software system that is to be developed, system preliminary design, system planning and the details of the hardware & software used. System analysis & design vis-à-vis user requirements (Preliminary design) should also be represented as a block diagram. System planning is represented as either as PERT chart or as Gantt chart.

A thorough review of the literature with respect to the chosen field should be projected. It should include earlier and current reports along with author citation and year. In other words it should be a collection and a record of past land recent work. Summarize major contributions of significant studies and articles related to your field under review, maintaining the focus established in the introduction. Evaluate current "state of art". Point out major gaps, inconsistencies in theory and findings. Conclude by providing some insight into the relationship between the central topic of the literature review and the areas / issues pertinent to future study.

Citation of the reference in the literature survey using [1]

3.2.3 Detailed Design of the System

This chapter should describe the engineering specifications and targets critically evaluating the existing benchmarks and specifically identifying the gaps which the project is intended to fill; It should show how the concepts evolved and were evaluated also should describe and justify the formation of the final product which may include possibly a number of subsections such as:
- Details of the development. System architecture indicating various modules / components and their interaction.
- Feasibility assessment report.
- Entity relationship diagram / analysis / DFD / State Transition Diagram.

If you adopt an object-oriented method, you will include the following in this chapter:
- Sequence diagrams for each module and entire system.
- Class diagrams or any other UML diagram for each module and entire system.

3.2.4 Implementation of System/ Methodology

This chapter should reflect development of the project such as: implementation, experimentation, optimization, evaluation etc. and unit integration testing should be discussed in detail. The unit test cases and system test cases should describe the input, expected output and output obtained. It can also include the details of the tools used for implementation, justification for the selected tool and the detailed description of implemented modules. Screen shots, Pseudocode etc.

In case of simulation, modeling, programming techniques, programming steps, flow-charts, simulation results, verification of the approach followed and the like depending on the nature of the project.

The materials required, techniques followed, sample preparations, research design and methods should be clearly mentioned. The experimental procedure should be clearly defined.

3.2.5 Results & Discussions

This is part of the set of technical sections, and is usually a separate section for experimental/design papers. This chapter should include:

- Performance metrics.
- Parameters under study
- Comparison of cases/ studies with respect to existing and proposed work / algorithm/ design–comparison/ with the published data and deviations / improvements if any as expected in the aims and objectives
- Expected and obtained results- Analysis of the results- statistical analysis, plots, simulated results, synthesis of process, interpretation of the results
- Detailed results for each logical component of the project with an accompanying discussion section [Can include screen shots, graphs etc.].
- The results can be tabulated, graphically presented and photographs to be displayed if any.
- Discuss the results which should include an interpretation of the results and their relationship to the aims and objectives.
- TEST CASES

3.2.6 Conclusion & Future Work

This chapter should summarize the key aspects of your project (failures as well as successes) and should state the conclusions you have been able to draw. Outline what you would do if given more time (future work). Try to pinpoint any insights your project uncovered that might not have been obvious at the outset. Discuss the success of the approach you adopted and the academic objectives you achieved. Avoid meaningless conclusions, [e.g. NOT "I learnt a lot about C++ programming"]. Be realistic about potential future work. Avoid the dreaded:

"All the objectives have been met and the project has been a complete success". You have to crisply state the main take-away points from your work. Describe how your project is performed against planned outputs and performance targets. Identify the benefits from the project. Be careful to distinguish what you have done from what was there already. It is also a good idea to point out how much more is waiting to be done in relation to a specific problem, or give suggestions for improvement or extensions to what you have done.

Future scope of the work for improvement may also be included

3.3   **Appendices**

Appendices are provided to give supplementary information, which is not included in the main text may serve as a separate part contributing to main theme.

- Appendices should be numbered using Arabic numerals, e.g. Appendix 1, Appendix 2 etc.
- Appendices, tables and references appearing in appendices should be numbered and referred to at appropriate places just as in the case of chapters.
- Appendices shall carry the title of the work reported in it and the same title shall be used in the contents page also.

3.4   **List of References**

The listing of references should be typed 4 line spaces below the heading "REFERENCES" in alphabetical order in single line spacing and fully justified. The reference material should be listed in the alphabetical order of the first author.

The format for the references is:

Journal References:
Format:
Author Name(s), "Title of Paper", Journal Name, Volume No, Issue No., Page No., Year.
e.g.
1. J. Bolligcr and T. Gross, "A fiutnework-bused appruuch to the development of uetwork-awure applicatious", IEEE Trans. on Software Eng., Vol.24 (5):376-390, May 1998.

Book:
Format:
Author Name(s), **Title of Book** <Bold>, Edition Number, Edition, Publisher, Year of Publication.
e.g.
1. Sartaj Sahni, **Data Structures, Algorithms and applications in C++**, 2nd Edition, McGraw Hill, New York, 1998.

Conference Papers:
Format:
Author(s), "Title of Paper:, Proceedings of Conference, Place, Page No., Year.
e.g.
1. Cai, D., He, X., Li, Z., Ma, W.-Y., and Wen, J.-R., "Hierarchical Clustering of WWW Image Search Results Using Visual, Textual and Link Information", In Proceedings of the 12th annual ACM international conference on Multimedia, New York, NY, USA, pp.952-959, 2004.

URL:
Format:
Complete Webpage Address (Date of access from Internet)
e.g.
1. http://www.utdallas.edu/~lkhan/papers/IWMIS-2002-3. (9th January 2006)

3.5   Table and Figures

The table includes the tabulated numerical data in the body of the project report as well as in the appendices. All other non-verbal materials used in the body of the project work and appendices such as charts, graphs, maps, photographs and diagrams may be designated as figures.

All tables and figures must be placed at the back of the relevant page, clearly and logically labeled and identified in lists at the beginning of the dissertation and referenced in the text, e.g. (Fig 1) or "Table 1 shows".

The convention for displaying figures and table is that titles for the tables are positioned above the table, whereas titles for figures are positioned below the figure. They should be self-explanatory.

4   Typing Instructions

The impression on the typed copies should be black in color. One and a half spacing should be used for typing the general text. The general text shall be typed in the Font style: Times New Roman and Font size: 12.