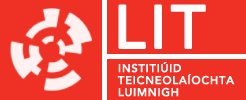
**Department of Information technology**

**Limerick Institute of Technology**



**Software Development Year 4 project Information**

# General Guidelines for B.Sc. in Software Development project

## Clarity

The project should be written up so that a non-specialist in the subject area can, without having to consult other sources, understand the project, the software and the conclusions. A non-specialist here means a degree level practitioner in the IT industry or an IT academic. This means that you would need to present a technical chapter in such a manner that the reader is taken through the material he needs to understand in order to appreciate the project. It is not appropriate to present a technical chapter in such a way that only a reader competent in that particular technical area can understand it. This means that you will have to provide a context for your project and the parts of the project i.e. chapters and software. This can be done in a few places in the write-up (in addition to the Introduction).

Unintelligibility and the over use of technical jargon are a hindrance in a project write-up. While the use of technical terms is probably unavoidable, they should be explained the first time they are used, either as they occur in the text or by referring the reader to a glossary. This is particularly applicable to abbreviations and acronyms.

The project is to be presented in an academic style like that of refereed journal articles.

## Conciseness

Quality is better than quantity in a project write-up. The completed project write-up should be long enough to cover your material, no more. A guide page count for complete write-up is 70 to 90 pages. A guide page count for the Introduction and first two research chapters is 35 to 40 pages. Padding out text by repetition, excessive use of quotations or references or by including irrelevant material are hallmarks of a poor project. On the other hand, bald statements of facts, without any interpretation or analysis or of conclusions without any justification are equally as bad as too much verbosity.

## Honesty and Accuracy

Your project will be an analysis and synthesis of other peoples work, described using your own particular interpretation and contribution, to produce a new viewpoint on the topic. To do this effectively honesty and accuracy are essential.

Accurate statements of facts and careful presentations of logical arguments are essential for your project. Write exactly what you find, attributing other peoples work to them. Put direct quotations in single quotation marks. Quotations need not be complete, provided the omissions are indicated by the use of ellipsis marks (i.e. …) and the omissions do not radically alter the significance of the quotation.

Do not present theories as facts and do not give greater emphasis or weight to particular facts because they support your argument. Do not omit or gloss over particular facts because they contradict your argument. Instead draw them into your discussion.

## Plagiarism

The Oxford English dictionary description of plagiarism

‘*to take and use another person’s thoughts, writings, inventions, etc. … as ones one’*

Students must be aware that using someone else’s words, thoughts, ideas or software without adequate references is plagiarism. It does not matter that if this is done intentionally to deceive supervisors and second readers or if it is done unintentionally, it is still plagiarism. *‘Students who weave together blocks of text, citing each source correctly and adding little of any words or ideas of their own have probably written a very poor document but have not plagiarised.’ Stefani and Carroll (2001).* However, this is little more than presenting a report.

Students are expected to consult the works and publications of others, and use them as a basis for their arguments. Your project must have some value added to what has already been published.

Students may incorporate ‘third party’ software into their application. However students are expected to undertake careful study and adhere to license agreements for third party software. A full list of any third party software used including a brief description of its license is to be included in both the software chapter and in a ReadMe file incorporated into the software application. The details of how the software you developed utilises third party software is to be described in the Software Chapters.

## Originality

The following is expected in terms of originality: original thinking in terms of a viewpoint on a topic or a new application of an existing approach or application of lateral thinking to a common situation. The software which you develop is original and should be described as such in the software chapters. For example – The software development work carried out by the author for this project involved developing etc. This software demonstrates etc.

In terms of originality what is to be avoided is the mere reproduction of other people’s ideas, without any attempt to make the link between previously unrelated items.

## Project components

Taking a high level view of the student deliverables of a B.Sc. in Software Development project (which must be a coherent body of work), we see that it must consist of three components:

* Two research chapters.
* Evidence of significant software development work undertaken.
* Software chapter(s) (one or two)

The research chapters documents the research undertaken in areas pertinent to the software development work carried out. The research chapters must describe the research work based on the literature search and review carried out by the student. The software chapter(s) contains information pertinent to the software development work undertaken by the students.

## Student Presentation and Technical Interview

Presentations will be carried out according to the following format:

* The presentation panel will consist of the project supervisor, second reader. In addition any of the following may be present: External Examiners, Dept. of IT staff members, Industry professionals.
* It is expected that the duration of student presentations is 10 minutes.
* Your presentation should outline the aims and objectives of you project and how you carried it out and description of software developed.
* The presentation will be followed by a short question and answer session.

## Layout of SD4 Project Reports

The first written deliverable (Research Report) is a soft bound copy of your research report as per the published project plan (due first week back in second term). This is to consist of the Introduction and two research chapters and should have the following layout:

Title Page

Abstract

Acknowledgement

Table of Contents

List of Tables (if any)

List of figures (if any)

Introduction

Chapters (2 research chapters)

List of References

Appendices with support material (in necessary)

Glossary (if necessary)

The second written deliverable (Software Report) is a soft bound copy of your report as per the published project plan (due first week back in third term). You may include an updated introduction. The second written deliverable should have the following layout:

Title Page

Abstract

Acknowledgement

Table of Contents

List of Tables (if any)

List of figures (if any)

Introduction

Software Chapters (1 or 2 software chapters)

Conclusions

List of References

Appendices with support material

Glossary (if necessary)

The content of the hardbound copy is to be identical to the second written deliverable and is also to include the two research chapters from the first written deliverable. The hardbound copy should have the following layout:

Title Page

Abstract

Acknowledgement

Table of Contents

List of Tables (if any)

List of figures (if any)

Introduction

Chapters (2 research chapters)

Software Chapters (1 or 2 software chapters)

List of References

Appendices with support material (in necessary)

Glossary (if necessary)

### Title Page

A layout for this is given in Appendix A. Catchy phrases as titles should be avoided, for example, B A Game Guru. The main title should be descriptive and may include the basic research methodology, for example, ‘An analytical approach to …’ or ‘A review of…’ or ‘The development of…’.

### Abstract

This is an executive summary which outlines:

* The rational for the research. Why the topic was important enough or relevant enough to be chosen. i.e. why?
* The specific focus for the research i.e. what?
* The methodology used i.e. how the research was carried out and the framework used to give it context i.e. How?
* The main conclusions i.e. So what?

The abstract should be short and fit on at most two thirds of a page. It needs to be written well.

### Acknowledgements

It’s usual to acknowledge any people or organisations who assisted you.

### Table of Contents

Customise the previously shown layout for your project. Select an appropriate style and use page numbers. All chapter and sub-section titles should be descriptive.

### List of Tables/List of Figures

These two lists, if present should each be on its own page after the table of contents page(s) and the format and style to be the same as the table of contents.

### Introduction

This is the first chapter in the project. It informs the reader about the project topic and the reasons for choosing it. It states the aims and objectives of the project. It outlines what issues are to be studied and why other related issues are not addressed in the project. It gives an explanation of methods by which information was gathered or generated, the sources used and the methods of analysis applied. It describes the software development work and the software problem being addressed. It outlines what software was developed and how it was developed. The Introduction should also describe the rest of the project i.e. what follows in subsequent chapters. The introduction does not describe the results or the conclusions of the project. The introduction is normally two to three pages. It does not normally have references or quotations as it is not presenting the actual research. However at the start of the introduction where the project area is being described it may be appropriate to have a reference or quotation.

### Chapters

These explain the background and present the results of your analysis in detail with references to appropriate source material. Generally there will be two chapters taking the reader through technical areas related to the project which is needed for an appreciation of the software development.

The software chapter(s) describe what was built, how, the technologies employed, source of requirements, software engineering utilised, sample run of software, screens, software architecture, pre-requisite software, IDE information, instructions on how to build and run the software etc. The software chapter should also have a full list of any third party software used and a brief description of its license. This information is also to be included in a ReadMe file incorporated into the software application. The details of how the software you developed utilises third party software is to be described in the Software Chapters.

Chapters can have their own introduction section where you can outline the rationale for the chapter. Chapters can have their own conclusions or summing up sections where the reader is reminded of the most important points.

### Conclusions

This is a summary of the outcome of the research compared to the context. It states your conclusions having completed the project. Your conclusions should be valid and based on the content.

A future research section may be used to describe any related avenues of research which you have identified in the course of your project but have not been able to follow.

It is expected that the conclusions are the students own original thoughts and observations having completed the project.

## Sources

### Paraphrasing

This involves reporting a point an author makes in a book or article in your own words ie not a direct quotation. When citing this in your text, include the author's surname, the year of publication and the relevant page number (optional). For example paraphrasing material taken from Journal article Costello Bill (2004: 55)

### Direct Quotation

Use direct quotation sparingly and only in the following situations:

* If you need to quote from an authoritative text, for example a government report, the UML User Guide. i.e. a respected author in the relevant area.
* To clarify a point that would be ambiguous if paraphrased.
* Where you need to prove that a particular author who write the words, or where you intend to analyse the quotation yourself.
* Where there is no way to paraphrase it, for example quoting lists.
* Because it is so well stated and can't be improved upon.

Note direct quotation must reference a page number for example 'Computer games are utilised primarily by the young' Costello Bill (2004: 5)

The text you are quoting must be enclosed on quotation marks.

### Secondary References and Quotations

A secondary reference or quotation is something which you have **NOT** read but which has been cited by another author (in something you have read). This type of thing is not recommended. If it looks interesting for your project try to read the original source yourself. If a secondary reference is unavoidable (check with your supervisor) it can be documented as follows: Kelly, T. and Smith, F. (2003 : 55), cited by Dawson (2006)

### References

References should be as recent as possible. In terms of quality the best type of references are Group 1 then Group 2 and then Group 3.

1. Group 1 References

a. Refereed Journals

b. Refereed conferences and seminar proceedings

2. Group 2 References

a. Un-refereed conferences and seminar proceedings.

b. Published books by reliable authors.

c. Professional Web sites e.g. British Computer Society. OMG web site and Software Development web sites e.g. GarageGames

d. Computer Company Web sites e.g. Microsoft, Sun

3. Group 3 References

a. Magazines e.g. PC World, Byte

b. Newspapers

There are two aspects to references: Citing references and Listing References. In the text of your document you must cite your references i.e. identify your source. At the end of the publication you must include a section titled List of References. In this list you identify clearly particulars of all sources of information such as title, author etc. The following sections describe both Citing references and Listing References in detail.

#### Citing References

You are asked to use the Harvard system when citing your references. The name of

the author and the year of the publication are used to uniquely identify each reference

in the text. Below describes how references are cited in the text. The Harvard citation

is then listed in the List of References (see section Listing References below). Below are examples of how you cite references in the text.

**Example**: (Walsh, 2002) provides a review of computer game development in which he identifies the major obstacles which developers have to overcome. These include etc. etc. ..... Kelly (2003) compares games development to development of commercial software applications and he states that the challenges faced by both groups are very similar. These are etc. etc. As part of this project a software game was developed by the author and obstacles such as etc. etc. (Costello Bill, 2004) referred to above were found to be present but so too the issue of etc. etc.

**In your write-up you are** paraphrasing material taken from Journal articles, books etc. and citing the references in appropriate places in your text.

**Un-authored Works:**

If there is no obvious author then instead of the author name put the most important part of the text in instead. For example paraphrasing material taken from a TUI publication (Equality of Opportunity in Teaching, Teachers Union of Ireland, 1990)

**Multiple publications, Same Author**

If a particular author has more than one publication in a given year that you want to reference, use letters added to the date to uniquely identify each article, e.g. (Bloggs, 2003a), (Bloggs, 2003b)

#### List of References

The List of References section is a separate section at the end of the publication. Its purpose is to provide the reader with all the information they need to source the references you used. Harvard references are listed alphabetically, with articles by the same author(s) presented chronologically. If a particular author has more than one publication in a given year that you want to reference, use letters added to the date to uniquely identify each article, e.g. Bloggs, (2003a), Bloggs, (2003b)

In general the format is Author Surname, First Name, (Year Published) Book or Article Title, Publisher, ISBN

**Books**

Kelly, Harry, (2003), Computer Games, WoldWard Publishing Inc, ISBN 003404030

Walsh, John, (2002), The Ultimate Gaming Book, Prentice Hall Publishers, ISBN 00956849

**Journals**

Costello, Bill, (2004), "Getting to Grips with Gaming", Information Week.

Web Sites Sega, (2004), Online Company Literature, http://www.segacom.com. (1-9-06)

Kelly, Mick, "Video Game Music", http://wwww.vgmusic.com. (1-10-06)

Note for Kelly above I know the author but not when the information was put on the site. Garage Games,

Build a Great Game, http:/Iwwww.garagegames.com. (1-11-06)

Note for Garage Games above I don't know the author or the date information was put on site. I still want to use it, but with key information like author and date created it is not a good reference academically.

**Trade or Company Publications:**

IAEA, (1983), "Guidebook on Computers", Technical Report Series, Germany

**Thesis**

Kelly, (2004), "A Previous SD Project", Final Year B.Sc. in Software Development degree project, Limerick Institute of Technology, Limerick.

**Conferences**

Jowitt, J., (1995) "The Effectiveness of Computers", Applications ofInformation Systems, Rowntree Publications, Liverpool.

ISIAS, (1995), International Conference on Something, proceedings of an international conference on Computer Games organised by the Irish Computer Society, Dublin

**Web Addresses**

Sega, 2004, http://www.segacom.com,1-9-06

Kelly, 2003, http://www.vgmusic.com. 1-10-06

Department of Information Technology, Limerick Institute of Technology

## Presenting the Final Deliverables

The final deliverables of the SD4 project (in addition to student presentations and technical interviews) are:

1. First deliverable - Research Report.
2. Second deliverable to consist of
   1. Software Report.
   2. A receipt from binders showing you have left in your project to be bound.
   3. Two labelled CDRs containing the software/source code and instructions.
   4. The CDRs are to be placed in labelled CDR slipcases. Labels on both CDRs' and CDR slipcases are to be printed and should read

* The full title of the project submission in at least 20pt type.
* The full name (first name and surname) of the author
* The qualification i.e. B.Sc. in Software Development
* The year of submission

1. The Hard Bound Report.

All of the following requirements must be adhered to in the format of the final deliverables:

1. The CDRs are to contain all source code, all pre-requisite software and environments and a ReadMe.txt file. This file details instructions on how to setup and run the software and separate instructions on how to build the software. Note: You are required to provide everything needed to build your software and instructions as to how this is done. The ReadMe is also to detail all third party software/open source software used.
2. The hard bound copy bindings shall be of fixed type so that pages cannot be removed or replaced. The front and rear binding boards shall be sufficiently rigid to support the weight of the work when standing upright. On the hard bound copy the outside spine of the binding shall show the following:

* The full name (first name and surname) of the author.
* The qualification.
* The year of submission

1. The outside, front board on hard bound and soft bound copies shall show the following information:

* The full title of the project submission in at least 24pt type.
* The full name (first name and surname) of the author.
* The qualification.
* The year of submission

1. All the project reports should be submitted on A4 **white** paper medium weight of 80g/m2. Margins at the binding edge should be not less than 40 mm, and the other margins not less than 20 mm.
2. The project reports are to be printed on one side of the paper only. Double spacing is to be used.
3. The inside title page of the reports shall show the following:

* The full title of the project submission in at least 24pt type
* The full name (first name and surname) of the author.
* The award for which the work is submitted in partial fulfilment of it's requirements and that the degree is awarded by HETAC.
* The department and Institute.
* The month and year of submission

1. The project reports must use Times New Roman, a True Type (TT) font, with font size of 12 for the main body of the text, larger for headings and chapter titles. Chapter titles should be in bold font.
2. List of references and Appendix should be single spaced.
3. In the project reports text should be left aligned and figure and table titles centred under the figure or table.
4. In the project reports pages shall be numbered consecutively through the main text from the first page of Chapter 1 Introduction onwards, including images and/or diagrams, which are included as whole pages.
5. In the project reports Appendices should be named alphabetically and each appendix paginated consecutively but separately from the main text and from each other.
6. In the project report, page numbers should be centred and located centrally at the bottom of the page.
7. All students must submit their signed declaration that the project is their own work.

I

# Appendix A sample title page is on next page

**Department of Information Technology**

**Limerick Institute of Technology**

Staff Portal

**The Development of a Gaming Environment**

**Joseph Bloggs**

**K00002343**

**April 2013**

This work is submitted in part fulfilment of the requirements for the degree of Bachelor of Science (Software Development)