

Final Year Project Report Guidelines

Faculty of Computer Science and Information Technology Universiti Selangor 2014

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1. Overview

The purpose of this guide is to help students of Faculty of Computer Science and Information Technology, Universiti Selangor in preparing of their academic writings based on their academic projects undertaken.

The Final Year Project (FYP) guideline consists of Project Proposal, Project 1 and Project 2 (Final Year Project), constitute a very significant part of the study for Diploma and Degree in all program in the faculty. It is a component of all the programs, which is to be completed in the final stage of each student's undergraduate.

The project is a module that provides the students with the opportunity to design, undertake or conduct an independent piece of research or study related to their program of studies under the guidance of a supervisor, who is normally a member of the academic staff.

The project will carry 6 credits and will normally last for two semesters. A project report should be submitted as part as of the module and this should be complemented with a project presentation and software or product demonstration.

The following sections consist of a report structure and guidance to write a good report for Diploma and Degree projects and to ensure that essential parts are not missed out.

Note however that some parts may not be applicable to your project. As far as possible, this guideline tries to depict the main sections.

2. Schedule

For successful completion of the Final Year Project, the following schedule must be observed. Reliability and punctuality will be assessed as part of the continuous assessment.

Final Year Project 1	
Week 1	Briefing
Week 2-4	Prepare Project Proposal (Use Project Proposal Template) and assign supervisor.
Week 4	Submit Project Proposal
Week 5	Proposal Defend presentation with Panels(Department Member)/ Meeting with Panels
Week 6	The list of approved Project Proposal and Supervisors is published.
Week 7 - 12	Complete Final Year Project 1 report
Week 13	Submit Final Year Project Report to Supervisor and Coordinator. Prepare for Final Year Project 1 Presentation
Week 14	Final Year Project 1 Presentation
Week 15	Submit Final Year Project 1 to Coordinator and Supervisor (finalize)

Final Year Project 2	
Week 1	Briefing
Week 2- 11	Prepare for Final Year Project 2
Week 4 - 10	Complete Final Year Project report and System.
Week 11	First Draft submission
Week 12	Pre presentation
Week 13	Submit 3 copies of the report to the coordinator (2 copies for assessor)
Week 14	Final Year Project 2 Presentation
Week 15	Final Year Project 2 Report submission. (3 copies submit to supervisor)

3. Writing format

The format for Final Year Report writing for the Faculty of Computer Science and Information Technology is in reference to the American Psychological Association (APA) documentation system. Further information can be retrieved from www.apastyle.com or see in Appendix M.

3.1 Languages and Length of Writing

The length of the body of the completed FYP should be no more than 9,000 words (excluding the bibliography, language examples, and appendices) and the entire thesis should not exceed 12,000 words.

3.2 Presentation and printing

All final copies of the report should be typed using computer software and printed on a laser printer.

3.3 Typefaces, Font Size, Paper and Pagination

- a) Mandatory write in English.
- b) White simile 80 gram high quality A4 size papers (210 x 297 mm) should be used.
- c) All pages should be set with the same margin. The left margin should be 4 cm (for binding purposes) and 2.5 cm for the top, right and bottom margins.
- d) Line spacing at 1.5
- e) Font size 12 point, Font type is Times New Roman.
- f) Page numbers at the bottom right-hand corner.
- h) The preliminary pages must be numbered in Roman numerals (i,ii,iii).
- i) All pages of the main text should be numbered 1,2, and 3.

4. General Requirements for the Final Year Project

This section overviews the general specifications of the Project Planning Proposal, Project Planning and Final Year Project (Project 2), including possible topics, instructions for topic proposals and the structure of the FYP report. The section also provides guidelines for the layout of the report and specifies the requirements for submission of the completed FYP manuscript.

This section will briefly explain the followings:

4.1 Proposal guidelines (Project Planning Proposal)

4.2 Final Year Project 1 Report guidelines

4.3 Final Year Project 2 Report guidelines

4.1 Proposal guidelines (Project Planning Proposal)

Students are expected to formulate their project proposal independently. After the students have been assigned a supervisor, the project topic can be further refined.

The proposal should be about 1500-3000 words long, indicating the topic of the project, the project objective and scope, an outline of the methodology and conclusion.

Your proposal template may be structured in the following way:

1. Introduction
2. Problem Statement
3. Objective
4. Scope
5. Methodology
6. Significance

The proposal template is shown in **Appendix L** . Students **MUST** use the proposal template.

A short outline for each sub-part is described below:

1. Introduction

The introduction part is another trigger for the reader. If after reading this part, the user is not bored yet, you have won him over.

It should include:

- Overview of topic
- Description of project.
- Describe the solution you plan to explore
- The important of the project
- Expected result

2. Problem Statement

Provide current problems/issues. Problem statement must be derived from the introduction.

3. Objective

The objectives of the project must reflect with the problem statement generated earlier. The objective must be clear, measurable and achievable.

4. Scope

This section describes the boundaries of the project. Basically, what and who does the project cover.

5. Methodology

Describe methods used along the research or project activities. In other words, it describes the flow of research activities from the beginning until the end and we need to thoroughly explain the involved steps in the activities.

6. Significance

In this section discusses the importance of the project to users, organizations or society.

4.2 Final Year Project 1 (FYP 1) report guidelines.

The content in FYP 1 report should consist of the following chapters.

1. Introduction
2. Literature review
3. Research Methodology
4. Analysis *
5. Design*
6. References

**Can be combined in one chapter or separate chapter.*

A short outline for each sub-part is described below:

Chapter 1: Introduction

The introduction part is another trigger for the reader. If after reading this part, the user is not bored yet, you have won him over.

It should:

- Present the problem under investigation
- Indicate the Aim and Objective of the project
- Scope of Project
- Indicate a timeline for the project
- Include the distribution of task

This part might sound like the abstract but it is much longer. It will most likely be a few pages long.

Introduction chapter should include the following sub chapter:

- 1.1 Background of Study
- 1.2 Problems Statement
- 1.3 Objective
- 1.4 Scope of Study
- 1.5 Hardware & Software Requirements
- 1.6 Significance of Project
- 1.7 Constraint & Critical Assumption
- 1.8 Project Management

Chapter 2: Literature Review

In this section students need to discuss thoroughly on literature which related to the area or topics selected. In this section you should show where in current literature the problem was first recognized as well as what serves as the foundation for your research proposal or final report. The more references you can find that relate to the given problem statement, the more credibility it will have. This will give the reader an idea whether you have done your “homework” and know enough about the topic to start with the research project. Guideline for this chapter is such follow

- What are the past literatures in your selected topic/area?

- Is there any related and suitable theories with your selected topic/area?
- How the literatures/theories help you in determining problem statement and ideas
- Why your selected topic/area is important to do the research/system

The literature review chapter should include the following sub chapter:

2.1 Introduction

2.2 Review of Literature in your area (The breakdown of sub-chapter is depending on the student creativity)

2.3. Summary

Chapter 3: Research Methodology

Describe methods used along the research or project activities. In other words, it describes the flow of research activities from the beginning till the end and we need to thoroughly explain the involved steps in the activities.

The research methodology chapter should include the following sub chapter:

3.1 Introduction

3.2 Data Collection Methods

3.3 Data Analysis Methods

3.4 Software Development Methods

3.5 Summary

Chapter 4: Analysis

This section documents the analysis of the system to be implemented. It consists of the following:

- Feasibility Study (optional)
- Functional and Non Functional Requirement
- Alternative ways of solving the problem
- Proposed Solution with reasons
- Evaluation of tools- Pros and Cons
- Choice of Final Tool(s) with justification
- Detailed description of the system
- Functional Modeling of the system- Data Flow Diagram

The analysis chapter should include the following sub chapter:

4.1 Introduction

4.2 User Requirements

4.3 System Requirements

4.3.1 Functional

4.3.2 Nonfunctional

4.4 Summary

Chapter 5: Design

The Design section documents the design decisions that have been taken. The structure of the system and its components has to be established.

The various system design issues that have to be addressed are:

- Software Design Approach
- Performance
- Robustness
- Interactively
- Flexibility
- Re-usability and portability
- Security

The design should also consist of the following:

- Architecture Design – Interaction between components and/or modules
- Interface Design
- System Modeling – UML diagrams
- Database Design – ERD diagram
- Story Board

Design chapter should include the following sub chapter:

5.1 Introduction

5.2 System Design

5.3 Database design

5.4 Interface Design

5.5 Summary

References

It is a major offense to copy the work of others without proper referencing. This practice is termed as “plagiarism”. It is the equivalent of theft in the academic world. It is therefore very important that you add proper references at the end of your report and to add proper links of those references to your report. References are important because they acknowledge the work of others and prove that you have done enough investigation.

There are two types of copying:

- Copying whole paragraphs
- Using the idea of someone else

Different styles are needed depending on what you are referencing:

- Books
- Articles in journals
- Web pages
- Discussion groups

The reference system used at the university is the APA system. It is a very popular referencing system and is widely utilized.

Please refer **Appendix M: APA system**

4.3 Final Year Project 2 (FYP 2) report guidelines.

Your report may be structured (ordered) in the following way:

1. Title Page
2. Declaration of Project Paper and Copyright
3. Acknowledgements
4. Abstract
5. Table of Contents
6. List of Figures
7. List of Tables
8. Introduction
9. Literature Review
10. Research Methodology
11. Analysis
12. Design
13. Implementation and Testing
14. Conclusion
15. References
16. Appendix

A short outline for each sub-part is described below:

Title Page

As per the university's regulations, the title page of the report shall give the following information in the order listed:

- Full title of the project as approved by the faculty.
- The full name of the author.
- The qualification for which the report is submitted.
- The Faculty name in which the project is to be submitted.
- The name of the institution to which the report is submitted.
- The month and year of submission.

A good title should be relevant, short, concise and catchy. A good title will attract readers.

It should not:

- Leave the reader guessing what it is about
- Have spelling and grammatical errors.

The Title Page example is shown in **Appendix C: Title Page**.

Declaration of Project Paper and Copyright

Refer to **Appendix D: Declaration of Project Paper and Copyright**.

Acknowledgement

This part is all about thanking those who have helped you directly or indirectly on the completion of the project. For example, your supervisor, your team mate and/or anyone who provided some funding etc. Remember to be courteous.

Refer to **Appendix E: Acknowledgement page.**

Abstract

This is one of the most important parts of your report. It should normally be written last. It should be:

- Short and concise (not longer than 250 words and rarely longer than one paragraph)
- State the objective
- State the method used
- State the result
- State the conclusions

It should not:

- Introduce anything new
- Include references

If you have found anything interesting, it is important that you mention it here because after reading the abstract, the reader might decide to quit reading the project and he might miss your superb result which is only revealed at the end.

Refer to **Appendix F: Abstract page.**

Table of Content

The table of contents is essential in any report as it helps the reader to go directly to where he wants. It is important not to mislead the reader by indicating the wrong page number. Remember that you can use a word processor's Style feature to be able to able to TOC, LOF etc. automatically.

Refer to **Appendix G: Table of Content.**

List of Tables

Clear indication and labels to the list of tables. Refer to **Appendix H: List of Tables.**

List of Figures

Clear indication and labels to the list of figures. Refer to **Appendix I: List of Figures.**

List of Appendices

Clear indication and labels of the list of appendices. Refer to **Appendix J: List of Appendices.**

Chapter 1: Introduction

The introduction part is another trigger for the reader. If after reading this part, the user is not bored yet, you have won him over.

It should:

- Present the problem under investigation
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- Scope of Project
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Chapter 2: Literature Review

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- 2.3. Summary

Chapter 3: Research Methodology

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- 3.5 Summary

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- Detailed description of the system
- Functional Modeling of the system- Data Flow Diagram

The analysis chapter should include the following sub chapter:

- 4.1 Introduction
- 4.2 User Requirements
- 4.3 System Requirements
 - 4.3.1 Functional
 - 4.3.2 Nonfunctional
- 4.4 Summary

Chapter 5: Design

The Design section documents the design decisions that have been taken. The structure of the system and its components has to be established.

The various system design issues that have to be addressed are:

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- Performance
- Robustness
- Interactively
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- Security

The design should also consist of the following:

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- Interface Design
- System Modeling – UML diagrams
- Database Design – ERD diagram
- Story Board

Design chapter should include the following sub chapter:

- 5.1 Introduction
- 5.2 System Design
- 5.3 Database design
- 5.4 Interface Design
- 5.5 Summary

Chapter 6: Implementation and Testing

The implementation section describes how the different components in the project have been implemented.

It should also consist of:

- Develops tools and environment used
- Implementation of different modules (including detail steps about how they were Developed)
- Sample codes (including standards and conventions)
- Difficulties faced and how they were addressed.

Moreover, the implementation issues that have been addressed can be discussed:

- Performance
- Consistency
- Scalability
- Security issues
- Real-time issues
- Concurrency Control
- Flexibility
- Adaptability
- Fault-Tolerance

Testing

Testing starts alongside with the Implementation. The testing part will document the testing carried out – the test data and the results obtained. When independent modules have been implemented and tested, they can be integrated and tested as a whole.

Different types of testing Carried out:

- Unit Test – testing a single component
- Integration Testing – Combining different components
- System test – Testing the system as a whole
- User acceptance test – user perspective of the system to check if requirements have been met.

Note that you should be able to provide details about how the above tests have been carried out and not just list them. A test script could be used to demonstrate this. It would be very helpful if you start documenting the tests carried out together with their test results during the Implementation stage itself.

Testing and Implementation chapter should include the following sub chapter:

- 6.1 Introduction
- 6.2 Implementation
- 6.3 Testing
- 6.4 Summary

Chapter 7: Conclusion

This is usually the last chapter in the report which contains three main parts:

- **Achievements:**
It should critically assess the work done including the strengths and weaknesses and try to explain the results obtained.

- **Difficulties:**
The difficulties can also be summarized. Keep in mind that the conclusion should not be overcritical or sound depressing.

- **Future Works:**
No report is totally complete or has completely explored a domain. You can give some indications where future work might be carried out or what other domain you would have explored without the current time/resource constraints.

Conclusion chapter should include the following sub chapter:

- 7.1 Introduction.
- 7.2 Conclusion
- 7.3 Recommendation

Refer to **Appendix K: Example of a number of sub-sections in the Chapter**

References

It is a major offense to copy the work of others without proper referencing. This practice is termed as “plagiarism”. It is the equivalent of theft in the academic world. It is therefore very important that you add proper references at the end of your report and to add proper links of those references to your report. References are important because they acknowledge the work of others and prove that you have done enough investigation.

There are two types of copying:

- Copying whole paragraphs
- Using the idea of someone else

Different styles are needed depending on what you are referencing:

- Books
- Articles in journals
- Web pages
- Discussion groups

The reference system used at the university is the Harvard System. It is a very popular referencing system and is widely utilized.

Refer to **Appendix M: APA system.**

Appendix

It contains things that could not be directly included in the report but which will nevertheless help the reader gain a better understanding of the project if included.

It usually includes part of the code, data sets, algorithms, extra illustrations (charts, barcharts, photos), surveys, forms and templates.

5. Binding

5.1 For the purpose of presentation, the copies of the FYP report writing should be submitted in a comb binding.

5.2 For the purpose of final submission, copies of the report writing must be submitted in hardbound bindings.

Please refer to **Appendix A and B** for FYP report cover.

6. Final submission of a final year project report

Students should submit the Final Year Project report as follows:

- i. Three copies of the thesis (without binding) to the Supervisor with RM45.00 for hard cover processing fees.
- ii. The electronic version of thesis in PDF format and the system in .exe format (DVD).
- iii. Students are expected to meet the scheduled date of submission. Late submissions will be penalized by the deduction of 5 marks per day.
- iv. Failure to submit the FYP report without a valid reason will be considered failed.

7 Plagiarism

Plagiarism is copying the work of another author without giving them the proper credits or acknowledgement.

Report should get below 30% of similarities to existing source from the turnitin.com software. If found <30% similarities, student need to re write FYP report.

turnitin.com is leading academic plagiarism checker technology for teachers and students.

8 Assessment objective

It is an assessment of a student's ability to:

1. Develop the contents of final year project report writing which are well structured, relevant and coherent.
2. Demonstrate an exceptional quality of writing with excellent language style.
3. Demonstrate the originality and practicality of the research project.

9 Marking

9.1 Final Year Project (FYP 1) report

a. **Format** **30 marks**

1.	Report properly formatted	5
2.	Report is well binding	5
3.	Contents are well organized	5
4.	Figures and table are well allocated and used	5
5.	Good references (APA Style)	5
6.	Good in writing style	5

b. **Content** **70 marks**

1.	Topic was properly chosen within the scope	5
2.	Problem statements are well defined	5
3.	Objectives of project/research are well constructed	5
4.	Scope of project/research are well identified	5
5.	Project/Research significances are well identified	5
6.	Project/Research limitations are well identified	5
7.	Project/Research methodology is suitable and correct	5
8.	Software development methodology is suitable and correct	5
9.	Literature review are properly discussed	5
10.	Choose and discuss relevant case study	5
11.	Requirements are well identified and discussed	5
12.	System design is well designed and constructed	5
13.	Provides good project plan (inclusive budget and schedule)	5
14.	Appropriate choose of hardware and software used	5

9.2 Final Year Project (FYP 2) report

a. Format

30 marks

1.	Report properly formatted	5
2.	Report is well binding	5
3.	Contents are well organized	5
4.	Figures and table are well allocated and used	5
5.	Good references (APA Style)	5
6.	Good in writing style	5

b. Content

85 marks

1.	Topic was properly chosen within the scope	5
2.	Problem statements are well defined	5
3.	Objectives of project/research are well constructed	5
4.	Scope of project/research are well identified	5
5.	Project/Research significances are well identified	5
6.	Project/Research limitations are well identified	5
7.	Project/Research methodology is suitable and correct	5
8.	Software development methodology is suitable and correct	5
9.	Literature review are properly discussed	5
10.	Choose and discuss relevant case study	5
11.	Requirements are well identified and discussed	5
12.	System design is well designed and constructed	5
13.	Provides good project plan (inclusive budget and schedule)	5
14.	Appropriate choose of hardware and software used	5
15.	Using suitable for testing	5
16.	Provide a comprehensive conclusion	5
17.	Project is well implemented properly function	5

10 Grading

Marks	Grd	Pnts
90 - 100	A+	4.00
80 - 89	A	4.00
75 - 79	A-	3.75
70 - 74	B+	3.50
65 - 69	B	3.00
60 - 64	B-	2.75
55 - 59	C+	2.50
50 - 54	C	2.00
47 - 49	C-	1.75
44 - 46	D+	1.50
40 - 43	D	1.00
30 - 39	E	0.75
0 - 29	F	0.00

11 Guidelines for the Student

The Final Year Project is meant to showcase a student's skills and knowledge acquired during their study. The FYP is a unique opportunity to carry out independent research and lay a foundation for future study or a career. The student will also benefit from one-on-one supervision and guidance.

In case of difficulties of any kind, the student informs the supervisor as soon as possible. If they are unable to do so, the student approaches the FYP coordinator as soon as possible.

11.1 Selection of Supervisor

After the submission of the proposal, students will be assigned a supervisor (a full-time academic staff). The selection will be made by the FYP coordinator who will match the student to the supervisor based on suitability of the topic as well as to the best of our availability and the student's choice.

11.2 Change of Topic or Supervisor

Changes or adjustments to the project topic are allowed before week 3. The approval of the supervisor is necessary before the request is submitted to the FYP coordinator.

A change of supervisor may be allowed before week 3. The FYP coordinator's endorsement is necessary before the request is submitted to the Department. The student will be notified by email about the decision.

11.3 Supervision and meetings with the supervisor

Students are advised to benefit from the supervisor's guidance by scheduling regular meetings.

The student will record the main points of each meeting, summarize them and submit them to the supervisor immediately following the meeting. This strategy will help both sides to track the progress and identify any difficulties.

11.4 Plagiarism

Absolute academic integrity is expected of every student in all academic undertakings. The Faculty takes a serious view of students who plagiarize any previous work (including previous FYPs, journal articles or books).

Rule of thumb: If the idea is not yours, you have to provide the appropriate citation. If the wording is not yours, rephrase and rework the sentence in your own words and provide the reference and the page number(s).

12 Guidelines for the Supervisor

The role of the supervisor is twofold: it consists of supervision and examination. The supervisor is expected to meet students individually or in small tutorial groups at least twice during the course of the project and closely monitor the progress of projects. Supervisors should allow students to demonstrate their project ability and creative and critical thinking.

12.1 Supervision

In supervision, the Supervisor is in particular expected:

- i. to help the student narrow the project topic to a manageable scope
- ii. to help the student formulate their project objective and clarify their views

The project should be a true reflection of the student's abilities; therefore the supervisor will not rewrite the project.

The supervisor will be available at agreed times, offer guidance where appropriate and provide feedback on the submitted draft within a reasonable time. It is strongly recommended that supervisors hold seven to ten meetings during the course of the FYP.

The supervisor will not initiate communication or demand to be updated on the progress of the project because the responsibility for the final project lies with the student.

12.2 Assessment

The Final Year project assessment consists of two components:

- i. Report Thesis assessed by the supervisor and examiner.
- ii. Product assessed by the supervisor and the examiner.

The continuous assessment of the process takes into account qualities such as motivation, reliability, independent work and improvement due to the student's effort.

The assessment of the final year project report takes into account the following aspects:

- i. Structure
- ii. Approach and Argument
- iii. Originality and Contribution to the field
- iv. Bibliographic information and Citation skills
- v. Academic writing skills (Stylesheet and Language)