

STANDARD OPERATING PROCEDURES FOR FINAL YEAR PROJECT (BSSE)



**DEPARTMENT OF SOFTWARE ENGINEERING
FACULTY OF ENGINEERING & CS
NATIONAL UNIVERSITY OF MODERN LANGUAGES
ISLAMABAD**

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1. Introduction

The Final Year Project (FYP) is a 6-credit hours mandatory part of BSSE program. The aim of the project is to enable the students to practically implement all the theoretical knowledge learnt during the program. The FYP involves proposal, design, and development of a real and substantial project related to software engineering. It provides an opportunity for the students to crystallize their acquired professional competence in the form of a demonstrable software, simulation, or hardware product.

2. Roles and Responsibilities

The roles and responsibilities of departmental stakeholders are defined in the following subsections.

2.1 Role and Responsibilities of a Student

Every FYP student is responsible to:

1. Conduct the regular biweekly meeting with the supervisor.
2. Maintain the meeting log (Appendix B) for every meeting. Provide the photocopy of meeting log (after every meeting) to the supervisor and the project coordinator for the record.
3. Perform the assigned tasks regularly.
4. Seek guidance from the supervisor and explore online resources in case of any problem.
5. Present his/her work in front of project evaluation committee according to the schedule.
6. Accommodate the changes recommended by the supervisor and/or project evaluation committee.
7. Report any grievance to HoD/departmental grievance committee.

2.2 Role and Responsibilities of a Faculty Member

Every faculty member is required to:

1. Submit two (or more) project ideas every semester. The project idea includes the project domain (e.g. web application), brief description, tools and technologies involved, team size required, and any additional information according to the template (Appendix A).
2. Guide and motivate FYP students whenever they seek the guidance in general.

2.3 Role and Responsibilities of a Project Supervisor

A project supervisor is required to:

1. Conduct regular fortnightly meetings with students under his/her supervision to discuss/evaluate their performance. At the end of each meeting, a meeting log (Appendix B) will be filled by students and signed by the supervisor.
2. Advise them for all activities related to FYP such as defining the project scope, selecting the appropriate tools and technology, and process model etc.
3. Guide them in report writing according to the approved templates.
4. Review the writing drafts prepared time to time for the official submission.
5. Evaluate his/her students' performance at the end of project (according to the defined rubric – Appendix F) or whenever required by the department.

2.4 Role and Responsibilities of Project Committee

The formation of project committee is performed by HoD. Project committee is required to:

1. Evaluate project proposals, progress, final presentations, and reports according to the defined rubrics (Appendix C, D, and E) and schedule.
2. Provide critical feedback to students for the improvement of their projects.

2.5 Role and Responsibilities of Project Coordinator

One of the project committee members is assigned the role of Project Coordinator by HoD.

Project coordinator is required to:

1. Manage all the activities related to project proposal, progress, and final presentations.
2. Maintain all the relevant records of project approval, supervision, and evaluation.
3. Schedule the seminars and project evaluation activities according to the approved timeline.
4. Display the results after every evaluation activity.

3. Standard Operating Procedures

This section describes the standard operating procedures required to follow for final year project.

3.1 Group Formation for FYP

1. Every project must be performed by a group of two to three students.
2. Students are free to form their groups according to their skill set, interests, and the nature of project.
3. If a single student wants to do FYP independently then he/she must need the prior approval from HoD.

3.2 Project Supervision

1. Every faculty member may supervise the maximum of five projects at a time: including ongoing and new projects.
2. Project coordinator may ask students to change the supervisor (at the time of project proposal submission) to ensure the maximum number of projects allocated to any faculty member.

3.3 Project Timeline

1. The following timeline is defined for 6th, 7th, and 8th semester students to complete the project in an efficient and smooth manner.

Activities and timeline for 6th semester students		
Sr.	Activity	Timeline
1	Call for project ideas (for the faculty)	4 th week of the semester
2	Submission of project ideas (by the faculty)	6 th week of the semester
3	Display of project ideas	7 th week of the semester
4	Seminar on project proposal preparation	7 th week of the semester
5	Submission of project proposals	10 th week of the semester
6	Presentation/evaluation of project proposals	11 th week of the semester
7	Resubmission of project proposals (in case of rejection)	13 th week of the semester
8	Presentation/evaluation of re-submitted project proposals	14 th week of the semester
9	Display of accepted project proposals (result)	15 th week of the semester

Activities and timeline for 7th semester students		
Sr.	Activity	Timeline
1	Seminar on report writing	4 th week of the semester
2	Submission of report (first four chapters)	10 th week of the semester
3	Evaluation of 40% project implementation	12 th week of the semester
4	Evaluation result	14 th week of the semester

Activities and timeline for 8th semester students		
Sr.	Activity	Timeline
1	Seminar on final report writing	4 th week of the semester
2	Submission of final report (hard and soft copy)	10 th week of the semester
3	Plagiarism check	11 th week of the semester
4	Evaluation of 100% project implementation	12 th week of the semester
5	Re-evaluation (if required)	14 th week of the semester
6	Resubmission of final report (2 nd submission for plagiarism check if required)	14 th week of the semester
7	Submission of hard binding report (final)	16 th week of the semester

3.4 Submission and Evaluation of Project Proposal

1. A student is eligible to take up a project if he/she has secured a minimum CGPA of 2.0 and his pending failed courses in all semesters are not more than three. The failed courses must not be the Programming Fundamentals, Object Oriented Programming, and Data Structure and Algorithm.
2. Students may select the project from the list displayed by the department or propose their own idea.
3. A formal project proposal prepared with the help of supervisor and countersigned by him/her is submitted to the Project Coordinator according to the timeline defined by the department.
4. Students must have at least two meetings before the project proposal submission and record must be maintained and presented at the time of presentation. Students are not allowed to present the proposal without the meeting log and 50% of the total marks allocated for this evaluation activity will be deducted. Students will be given another chance to present after providing the meeting log.
5. Students are required to present the project proposal in front of Project Committee according to the schedule.
6. Project committee evaluates the project proposal according to the define rubric (Appendix C).
7. The project proposal is either approved as it is, or approved with modifications, or is rejected.
8. In case of rejection, students have another chance to submit new project proposal within the given timeline. 25% of the total allocated marks for this evaluation activity will be

deducted. The second time rejection leads to failure and students need to submit the project proposal in the next semester.

9. A project proposal approval report (result) is prepared and forwarded by the Project Coordinator to HoD within three days after presentations.
10. Results are displayed by the project coordinator after the formal approval.
11. Every approved project proposal (within the scope of ignite funding) will be submitted for the ignite funding (Ministry of information technology and telecom) whenever the funding call will be opened.

3.5 Submission and Evaluation of Project Progress

1. 40% project work must be implemented for the presentation of project progress. In general, it is quantified based on the total number of modules / functional requirements to be implemented.
2. Students submit four chapters of the final project report countersigned by the supervisor according to the defined timeline.
3. Students need to submit the undertaking, countersigned by the supervisor, about the completion of 40% project work.
4. Students must show the meeting log at the time of presentation; otherwise, they will not be allowed to present the project progress. 50% of the total marks allocated for this evaluation activity will be deducted. Students will be given another chance to present after providing the meeting log.
5. Project committee evaluates and grades the project progress according to the defined rubric (Appendix D).
6. Results are prepared and forwarded by the Project Coordinator to HoD within three days after presentations.
7. Results are displayed by the project coordinator after the formal approval.

3.6 Submission and Evaluation of Final Project

1. At the time of final presentation, a student can have only one pending/failed course from previous semesters. In that case, his/her result will not be declared until he clears failed course(s).

2. Students are required to submit the project completion certificate, countersigned by the supervisor. In case of less than 80% project completion or more than 18% similarity index of final report, students are not allowed to present their project.
3. Students submit the final report countersigned by the supervisor according to the defined timeline. The same report will be forwarded to the project committee and checked for plagiarism.
4. The similarity index of the report must not be more than 18%. Students will be given two chances (maximum) to reduce the similarity index in case of exceeding the defined limit.
5. Students must show the meeting log at the time of presentation; otherwise, they will not be allowed to present the project progress. 50% of the total marks allocated for this evaluation activity will be deducted. Students will be given another chance to present after providing the meeting log.
6. Project committee evaluates and grades the final project according to the defined rubric (Appendix E).
7. In case of poor performance, students will be given a chance of re-demonstration (re-demo). The re-demo will be conducted after 15 days (maximum) from the date of final presentation. If the project committee is not satisfied after the re-demo, students shall present their project in the next semester.
8. Results are prepared and forwarded by the Project Coordinator to HoD within three days after presentations.
9. Results are notified by the examination department after the formal approval.
10. A student will be responsible for fees or any other dues (for extra semesters) in case of failure/delay at any stage of the project.

3.7 Submission of Final Report

1. After the formal approval of report from the department, students are required to submit three hard copies of the report to the project coordinator. These copies will be distributed to department, library, and supervisor after being signed by the HoD and Dean.
2. The report must be hard bound in green color and the text must be embossed in silver.
3. Degree title along with batch number, project title and year of completion must be written on the spine of hard binding.

4. A CD must be attached at the end of hard binding containing certificate with original signatures. The CD should contain project proposal, final report along with all presentations, project source code, project setup, user manual, and supporting tutorials (if applicable).
5. Submission date of hard bound copies should be considered the completion date of the project report.
6. The final result will only be declared after receiving three hard copies of report and one CD within specified timeline defined by the department.
7. As per the University exam rules, a student is required to submit the final report within 60 days after the final presentation. If a student fails to complete the requirement within his last semester (including 60 days' grace period), he/she will have to re-register in his Final Year Project. He/she will have to pay fee equivalent to the number of credit hours allocated to the project in the last semester of his degree program till the submission of the report.

3.8 Formatting of Final Report

1. Final report should contain minimum 8000 words (excluding the word count of initial pages, table of contents, table of figures, table of tables, chapters' title pages and references).
2. Use A4 size page with top, bottom, and right margin as one inch and left margin 1.25 inches. Strictly follow margins throughout the report. No blank spaces will be left on either side.
3. Use only one side of the page for printing.
4. Times New Roman font is recommended for the whole project report.
5. Chapter title should be in 18 pt size, bold.
6. Headings/subheadings should be from 16 pt size to 12 pt size in bold depending upon level of heading.
7. Body text should be in 12 pt size.
8. Body text should be justified on both right and left side.
9. A separator page containing the chapter (or appendix) number 18 pt size (bold) and chapter name in 22 pt size (bold) should be placed before start of each chapter (or appendix). This page should contain page number.
10. The sections should be numbered with chapter number e.g. 1.1, 1.2, and so on in the same

font size and style as the section heading. The subsections should be numbered with the number of their parent sections e.g. 2.1.1, 2.1.2 and so on.

11. Only section numbers should be used/referred in the text. No bullets or other para number will be used.

12. Figure and table: For caption use Times New Romans, size 10. Provide table title at the top and figure title below the figure. Figures and tables should be numbered with chapter number as prefix, such as, 2.1, 2.2, 2.3 etc.
13. Figures must be referred in the text before they appear in the report.
14. Figures and Tables should be referred with their number in text.
15. References: List all the books, journals, research articles, web sites you referred for the Project and place the list under Bibliography or References at end of your report. The list should be numbered. Insert the number of reference material that you learnt, copied, or referred with the text in your report. For example, a book on Java is placed at number 2 in your reference list and you are mentioning features of Java from that book in your report. You must insert [2] after writing the features of Java in your report. General reference like Wikipedia should not be used.
16. Roman Numbering: The first few pages from dedication to table of contents should be separately numbered in roman numbering as (i), (ii), (iii) and so on. The normal numbering (1, 2, 3,) will start from first page of chapter 1.


3.9 Sequence and Content of Final Report

1. Title Page: The title page should have name of project in 18 pt size (bold), monogram of university in 2 – 2.25” diameter, followed by developers name in 16 pt size (bold). Below it the phrase Supervised by and name of supervisor in similar format. The name of university with the year of completion should be in 14 pt size (capital letters) close to the bottom of page. Last line contains month and year of submission.
2. Abstract: The abstract should consist of three to four paragraphs. First paragraph will provide project overview. Also discuss about existing systems. Next paragraph should deal with project methodology explaining what has been done and how it has been done. In the last paragraph testing, validation and achievements should be discussed.
3. Final Approval Certificate: As per sample given in Appendix G.
4. Declaration: As per sample given in Appendix G.
5. Plagiarism Certificate: As per sample given in Appendix G.
6. Turnitin Originality Certificate: As per sample given in Appendix G.
7. Dedication (Optional): As per sample given in Appendix G.
8. Acknowledgement (Optional): As per sample given in Appendix G.


9. Table of Contents: The table of contents pages should not be numbered, and the contents must start from page number 1. Any page(s) before table of contents should be numbered in Roman. The page numbers should match correctly to the actual contents in the final version of the report. Heading up to third level may be included in the table of contents as described in sample.
10. List of Figures: All the figures used in report are mentioned here according to their page numbers
11. List of Tables: All the tables used in report are mentioned here according to their page numbers.
12. The possible sequence and organization of report chapters is given in Appendix H.
13. Appendices: Appendices should be appended at end of the project as Appendix – I, Appendix – II, and so on. There should be separate appendices for the material collected during system study (sample forms, sample reports, etc.), extra information (conversions tables, data dictionary, definitions of terms, or any material that would help in understanding some content of the report/thesis), and user manual of the system.
14. Bibliography and References: The list of books, articles and other sources should be listed at the last page of report. All references must be cited in the text. All references should be written as per IEEE format.

4. Appendices

Appendix A: Template for Project Idea

 FINAL YEAR PROJECT IDEA DEPARTMENT OF SOFTWARE ENGINEERING NATIONAL UNIVERSITY OF MODERN LANGUAGES ISLAMABAD	
Title	Meaningful phrase to convey the idea.
Project domain	For example: web application, mobile application, IoT application etc.
Description	A short paragraph to describe the project idea.
Tools and technologies	The required tools and technologies should be mentioned to design and implement the project.
Team size	No. of students in a team required to do the project (2-3 students).
Additional information	Any other relevant information.

Appendix B: Template for Meeting Log

 MEETING LOG (FYP) DEPARTMENT OF SOFTWARE ENGINEERING NATIONAL UNIVERSITY OF MODERN LANGUAGES ISLAMABAD	
SECTION 1 (to be completed by the students prior to meeting)	
Title of Project	
Supervisor Name	
Student Names with roll no.	
Date	
Date of Previous Meeting	
Work done since last meeting	
Issues/tasks to be discussed	
Signature (team lead)	
SECTION 2 (to be completed by the supervisor at the time of meeting)	
Tasks assigned to students	
Date of next meeting	
Signature	

Appendix C: Evaluation Rubric for Project Proposal [40 Marks]

Criteria	Marginal	Adequate	Good	Excellent
	10-25%	26-50%	51-75%	76-100%
Literature review / Existing systems [6 marks]	The presented evidence is of low relevance with questionable accuracy.	The evidence is relevant, accurate and covers several aspects of the project.	Good coverage with relevant and accurate support.	Evidence is with higher degree of relevance and originality.
Problem understanding [4 marks]	Very little understanding regarding problem domain.	Some understanding regarding problem domain. Need clarification about some aspects of the problem domain.	Good understanding regarding problem domain. Need little clarification.	Excellent understanding regarding problem domain.
Problem statement [4 marks]	The project problem statement is unclearly described.	The project problem statement is somehow unclearly described.	The project problem statement is almost clearly described.	The project problem statement is clearly described.
Validity of the proposed solution [2 marks]	Solution is ambiguous.	Solution solves about 50% aspects of problem statement effectively.	Solution solves problem about 75% aspects of problem statement effectively.	Solution solves problem in most effective manner using proper techniques.
Motivation behind tools and technologies [4 marks]	Very little understanding of the suitable tools and technologies applicable to the problem domain.	Some understanding of the suitable tools and technologies applicable to the problem domain.	Good understanding of the suitable tools and technologies applicable to the problem domain.	Excellent understanding of latest tools and technologies applicable to the problem domain.

Innovative idea [2 marks]	Presented solution is a replica of the existing solution with about 25% new features.	Presented solution is a replica of the existing solution with about 50% new features.	Presented solution is a replica of the existing solution with about 75% new features.	Presented solution is a novel idea.
Social/professional benefits [4 marks]	Social and professional impact is marginally discussed.	Social and professional impact is adequately discussed.	Social and professional impact is discussed in detail.	Social and professional impact is discussed in detail with references.
Document format [4 marks]	Poorly formatted with many grammatical mistakes.	Partially formatted with some grammatical mistakes.	Well formatted with few grammatical mistakes.	Well formatted with almost no grammatical mistakes.
Communication skills [4 marks]	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely.	Handle difficult questions with ease and confidence. Illustrative explanation.
Organization and preparation [4 marks]	Bare organization and preparation. Lack of confidence and familiarity in some parts of the presentation.	Basic organization and preparation. Confident in only some parts of the presentation.	Good organization and preparation. Confident in most parts of the presentation.	Excellent organization and preparation. Confident and relaxed in the whole presentation.
Attire [2 marks]	Barely acceptable attire.	Appropriate attire.	Good attire.	Excellent attire.

Appendix D: Evaluation Rubric for Project Progress [40 Marks]

Criteria	Marginal	Adequate	Good	Excellent
	10-25%	26-50%	51-75%	76-100%
Requirements elicitation process [2 marks]	Unclearly defined and not properly followed.	Suitable process is defined but not followed.	Suitable process is defined but partially followed.	Suitable process is defined and followed with evidence.
Definition of user interactions (use cases, use case diagram etc.) [2 marks]	Incorrectly defined with low coverage.	Incorrectly defined with high coverage.	Correctly defined with low coverage.	Correctly defined with high coverage.
Description of functional requirements (Correct: Unambiguous, Complete, Verifiable and Consistent) [2 marks]	Incorrectly defined with low coverage.	Incorrectly defined with high coverage.	Correctly defined with low coverage.	Correctly defined with high coverage.
Description of non-functional requirements (Correct: Unambiguous, Complete, Verifiable and Consistent) [2 marks]	Incorrectly defined with low coverage.	Incorrectly defined with high coverage.	Correctly defined with low coverage.	Correctly defined with high coverage.
Selection of software architecture [2 marks]	Architecture is not suitable.	Architecture partially defined and represented.	Suitable architectural pattern is defined and clearly represented.	Suitable architectural pattern is defined and clearly represented with proper justification.
Design methodology [2 marks]	Not suitable without justification.	Not suitable with justification.	Suitable without justification.	Suitable with justification.
Data representation diagrams (ERD,	Not suitable without justification.	Not suitable with justification.	Suitable without justification.	Suitable with justification.

JSON schema etc.) [2 marks]				
Process flow (activity diagrams) [2 marks]	Incorrect without description.	Incorrect with description.	Correct without description.	Correct with description.
Design models (class, sequence diagrams etc.) [2 marks]	Incorrect without description.	Incorrect with description.	Correct without description.	Correct with description.
40% project implementation (based on no. of modules to be implemented) [8 marks]	Implementation is 25% of the required 40%.	Implementation is 50% of the required 40%.	Implementation is 75% of the required 40%.	Implementation is 100% of the required 40%.
User interface design [2 marks]	Look and feel of user interface is poor according to HCI standards.	Look and feel of user interface is satisfactory according to HCI standards.	Look and feel of user interface is good according to HCI standards.	Look and feel of user interface is excellent according to HCI standards.
Document format [2 marks]	Poorly formatted with many grammatical mistakes.	Partially formatted with some grammatical mistakes.	Well formatted with few grammatical mistakes.	Well formatted with almost no grammatical mistakes.
Communication skills [4 marks]	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely.	Handle difficult questions with ease and confidence. Illustrative explanation.
Organization and preparation [4 marks]	Bare organization and preparation. Lack of confidence and familiarity in some parts of presentation.	Basic organization and preparation. Confident in only some parts of the presentation.	Good organization and preparation. Confident in most parts of the presentation.	Excellent organization and preparation. Confident and relaxed in the whole presentation.
Attire [2 marks]	Barely acceptable attire.	Appropriate attire.	Good attire.	Excellent attire.

Appendix E: Evaluation Rubric for Final Project [90 Marks]

Criteria	Marginal	Adequate	Good	Excellent
	10-25%	26-50%	51-75%	76-100%
Software Testing (testing methodology, test case design etc.) [4 marks]	Software verification and validation has been applied on about 25% of the project implementation.	Software verification and validation has been applied on about 50% of the project implementation.	Software verification and validation has been applied on about 75% of the project implementation.	Software verification and validation has been applied on about 100% of the project implementation.
Coding standards / conventions [8 marks]	Very little understanding of the usage of coding standards.	Some understanding and usage of coding standards.	Good understanding and usage of coding standards.	Excellent understanding and usage of coding standards.
Understanding of implemented algorithms/APIs/DB schema etc. [8 marks]	Poor understanding of implementation.	Some understanding of implementation.	Good understanding of implementation.	Excellent understanding of implementation.
Used suitable tools and technologies [8 marks]	Very little understanding of the suitability of the used technology.	Some understanding of the suitability of the used technology.	Good understanding of the suitability of the used technology.	Excellent understanding of the suitability of the used technology.
Implementation according to the proposed solution [32 marks]	25% implementation is according to proposed solution.	50% implementation is according to proposed solution.	75% implementation is according to proposed solution.	100% implementation is according to proposed solution.
Team coordination [6 marks]	Poor team coordination and poor work division.	Poor team coordination and work division is satisfactory.	good team coordination and work division is satisfactory.	Excellent in team coordination and work division.
User interface design [8 marks]	Look and feel of user interface is poor according to HCI standards.	Look and feel of user interface is satisfactory according to HCI standards.	Look and feel of user interface is good according to HCI standards.	Look and feel of user interface is excellent according to HCI standards.
Document format [6 marks]	Poorly formatted with many grammatical mistakes.	Partially formatted with some grammatical mistakes.	Well formatted with few grammatical mistakes.	Well formatted with almost no grammatical mistakes.

Communication skills [4 marks]	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely.	Handle difficult questions with ease and confidence. Illustrative explanation.
Organization and preparation [4 marks]	Bare organization and preparation. Lack of confidence and familiarity in some parts of the presentation.	Basic organization and preparation. Confident in only some parts of the presentation.	Good organization and preparation. Confident in most parts of the presentation.	Excellent organization and preparation. Confident and relaxed in the whole presentation.
Attire [2 marks]	Barely acceptable attire.	Appropriate attire.	Good attire.	Excellent attire.

Appendix F: Evaluation Rubric Followed by Supervisor [30 Marks]

Criteria	Marginal	Adequate	Good	Excellent
	10-25%	26-50%	51-75%	76-100%
Understanding of implemented algorithms/APIs/DB schema etc. [5 marks]	Poor understanding of the implementation.	Some understanding of the implementation.	Good understanding of the implementation.	Excellent understanding of the implementation.
Project ownership [5 marks]	No ownership. Depend solely on the input from the supervisor to make progress.	Limited ownership. Mainly depend on the input from the supervisor to make progress.	Good ownership. Contribute in discussion during meetings.	Excellent ownership. Self-initiatives to make the progress.
Document format [5 marks]	Poorly formatted with many grammatical mistakes.	Partially formatted with some grammatical mistakes.	Well formatted with few grammatical mistakes.	Well formatted with almost no grammatical mistakes.
Team coordination [5 marks]	Poor team coordination and poor work division.	Poor team coordination and work division is satisfactory.	Good team coordination and work division is satisfactory.	Excellent in team coordination and work division.
Communication skills [5 marks]	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely.	Handle difficult questions with ease and confidence. Illustrative explanation.
Professional ethics [5 marks]	Demonstrate poor discipline, punctuality, and manners.	Demonstrate limited discipline, punctuality, and manners.	Demonstrate good discipline, punctuality, and manners.	Demonstrate excellent discipline, punctuality, and manners.

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PROJECT NAME



Student Name 1

Student Name 2

Student Name 3

Student Name 4

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Do not use Ms/Mr/Sir , can use Dr./Prof./Engr.

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Supervised By

Supervisor Name

*Submitted for the partial fulfillment of BS Software Engineering degree to the
Faculty of Engineering & CS*

NATIONALUNIVERSITY OF MODERN LANGUAGES

ISLAMABAD

MAY, 2020

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Center aligned, **Date** must be at last line of the
page.

ABSTRACT

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The abstract should consist of three to four paragraphs. First paragraph will provide project overview. Also discuss about existing systems. Next paragraph should deal with project methodology explaining what has been done and how it has been done. In the last paragraph testing, validation and achievements should be discussed.

CERTIFICATE

Font style: Time New Roman, Font size: 16
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Center aligned

Dated: _____

Final Approval

It is certified that project report titled ‘**Your title here**’ submitted by **Student 1, Student 2** and **Student 3** for the partial fulfillment of the requirement of “**Bachelors Degree in Software Engineering**” is approved.

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COMMITTEE

Dr. Muhammad Noman Malik
DEAN FE&CS

Signature: _____

Dr. Muzafar Khan
Head Software Engineering

Signature: _____

Mr. Naveed Ahmed
Head Project Committee

Signature: _____

Mr. Aaqib Adeel
Supervisor

Signature: _____

DECLARATION

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We hereby declare that our dissertation is entirely our work and genuine / original. We understand that in case of discovery of any PLAGIARISM at any stage, our group will be assigned an F (FAIL) grade and it may result in withdrawal of our Bachelors degree.

Group Members

Signature

1. Student Name 1
2. Student Name 2
3. Student Name 3



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PLAIGRISM CERTIFICATE

This is to certify that the project entitled “**Project Title**”, which is being submitted here with for the award of the “**Degree of Bachelors**” in “**Software Engineering**”. This is the result of the original work by **Student Name 1, Student Name 2** and **Student Name 3** under my supervision and guidance. The work embodied in this project has not been done earlier for the basis of award of any degree or compatible certificate or similar title of this for any other diploma/examining body or university to the best of my knowledge and belief.

Turnitin Originality Report

Processed on 30-May-2020 10:14 PKT

ID: XXXXXXXX

Word Count: 99999

Similarity Index

X%

Similarity by Source

Internet Sources: X%

Publications: X%

Student Papers: X%

Date: 20/05/2020

Supervisor Name

TURNITIN ORIGINALITY REPORT

“Project Title” by Student Name 1, Student Name 2, and Student Name 3

From **Supervisor Name**

Processed on 30-May-2020 10:14 PKT

ID: XXXXXXXXX

Word Count: 99999

Similarity Index

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Similarity by Source

Internet Sources: X%

Publications: X%

Student Papers: X%

SOURCES:

ACKNOWLEDGMENT



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(Optional)

Students may acknowledge the persons who supported them in the project work but should be very brief and precise.

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Captions should be exactly same as in text
Screen shots and photographs should be avoided


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CHAPTER NUMBER (e.g. 1)

CHAPTER TITLE (e.g. Introduction)



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APPENDICES

Appendices should be appended at end of the project as Appendix – I, Appendix – II, and so on. There should be separate appendices for the material collected during system study (sample forms, sample reports, etc.), extra information (conversions tables, data dictionary, definitions of terms, or any material that would help in understanding some content of the report/thesis), and user manual of the system.

REFERENCES

The list of books, articles and other sources should be listed at last page of report. All references must be used/cited in the text. All references should be written as per IEEE format. The general format is as follows:

Book

1. W.K. Chen. *Linear Networks and Systems*. Belmont, CA: Wadsworth, 1993, pp. 123-35.

Book Chapters

2. J.E. Bourne. "Synthetic structure of industrial plastics," in *Plastics*, 2nd ed., vol. 3. J.Peters, Ed. New York:McGraw-Hill, 1964,pp. 15-67.

Article in a Journal

3. G. Pevere. "Infrared Nation." *The International Journal of Infrared Design*, vol. 33, pp. 56-99, Jan. 1979.

Articles from Conference Proceedings (Published)

4. D.B. Payne and H.G. Gunhold. "Digital Sundials and broadband technology," in *Proc. IOOC-ECOC*, 1986,PP. 557-998.

Papers Presented at Conferences (Published)

5. B. Brandli and M. Dick. "Engineering names and concepts," presented at the 2nd Int. Conf. Engineering Education, Frankfurt, Germany, 1999.

Note: For details refer to [IEEE Citation Style Guide](#)

Appendix H: Possible Organization of the Final Report

Chapter 1	Introduction
1.1	Introduction (You can add before motivation some other headings necessary to support your onwards headings)
1.2	Motivation
1.3	Problem statement
1.4	Goals and Objectives
1.5	5 Scope of the study
1.6	Process model (Choice of model for your project and why you have chosen)
1.7	Nature of the project (Like web, android, IOT, AI, Machine learning etc. give some meaningful heading)
1.8	Overview/Organization of the report
Chapter 2	Background and Existing Work
2.1	Introduction
2.2	Explanation of important constructs of the application domain (Explain the domain knowledge with different headings)
2.3	Existing studies/systems
2.4	Comparison of existing systems
2.5	Summary
Chapter 3	Requirements Specification
3.1	Introduction
3.2	Interface Requirements (Interface requirements state the mandatory things that we need to have to interface the different components of the system with themselves to make these communicate easily and compile the whole system. In this section, we also need to know what we need to have to get the system communicating with the other environment. Since project contains hardware and software both and including an online interface as well as mobile application platform. Therefore, the section should be divided into the respective categories.) 3.2.1 Hardware Interface Requirements 3.2.2 Software Interface Requirements
3.3	Functional requirements
3.4	Use case model (along with diagram)
3.5	Use cases (Use case description) 3.5.1 Use case 1 3.5.n Use case n
3.6	Non-functional requirements (which are necessary for your system)

	<p>3.6.1 Performance</p> <p>3.6.2 Reliability</p> <p>3.6.3 Security</p> <p>3.6.4 Consistency etc.</p>
3.7	<p>Resource requirements (Resources for a project include:) Equipment (H/W & S/W tools & technologies as per your project with justification/reason) Funds (Optional) Human effort (Task division/breakdown & Man months)</p>
3.8	Database Requirements
3.9	<p>Project Feasibility (only write which are applicable to your project) Feasibility study of the project is performed to analyze whether the project is feasible within the time and budget.</p> <p>3.9.1 Technical Feasibility (e.g. Technically this project is feasible as it provides desired features via using all its components and processing their data. It does not require a very high machine to run on. It also covers all the aspects of usage, i.e. desktop application, mobile application.)</p> <p>3.9.2 Operational Feasibility (Operational feasibility includes the process and algorithm; the system will go through to solve the problem and perform its operation.)</p> <p>3.9.3 Legal & Ethical Feasibility (e.g. The proposed system is legally and ethically feasible as: It does not break any rule and regulation of state. It is purely designed for the assistance of people, so, there is no way that it could harm them. Components data is secure and can be used only by the systems components.</p>
3.10	Summary
Chapter 4	System Modelling
4.1	Introduction
4.2	System design
4.3	<p>Design approach (Generally, there are two basic design approaches in software engineering.) Top Down Design Approach Bottom Up Design Approach You need to mention about which approach you have adopted to develop the system.</p>
4.4	<p>Interface design 4.4.1 High fidelity prototype (Insert the mockups of your project / screenshots of user interface)</p>
4.5	<p>4+1 view Model of Architecture (give all views and their diagrams which are applicable to your project)</p>

	4.5.1 Logical view (Class diagram) 4.5.2 Process view (Activity diagram, state diagram, sequence diagram) 4.5.3 Development view (Component diagram) 4.5.4 Physical view (Deployment diagram)
4.6	Entity relationship diagram
4.7	Summary
Chapter 5 Implementation	
5.1	Introduction
5.2	Modules of your FYP (Module by module specify algorithms used and implementation details; include details of any library/framework/ API/ service whatever used.)
5.3	H/W module details (If applicable)
5.4	Summary
Chapter 6 Result/Testing, Analysis and Validation	
6.1	Introduction
6.2	It is the most important part of your work. You are responsible to test/validate all your results/achievements in a scientific manner. Be specific and avoid using general terms (e.g. very efficient or user friendly). Achievements are briefly highlighted. Explain in detail your testing setup/arrangements and results. Remember that in scientific work 100% results are not expected or achieved. (Multiple sections are possible)
6.3	Summary
Chapter 7 Conclusion and Future Work	
7.1	Introduction
7.2	Here the complete project is briefly reviewed and compared with the proposed objectives. Achievements are briefly highlighted. Limitations / claims / future recommendations extracted out of one year's work are to be given. Do not use generalized statements like "there is always room for improvements". (Multiple sections are possible)
7.3	Summary