**DIPLOMA IN SOFTWARE ENGINEERING**

**DIPLOMA IN COMPUTER SYSTEM DESIGN**

**FINAL PROJECT**

**INTRODUCTION**

The System Development project is one of the core modules in Diploma in Software Engineering program. The topic for the project should be relevant to Information Technology and it shall be selected in consultation with the course director. The project is providing an opportunity for participants to apply concepts, methods and skills acquired during the course to solve a problem in a real-life business or organizational situation.

The project is carried out in groups. Students are not allowed to carry out the project individually. The group size should be **2-4**.

**LEARNING OUTCOMES**

At the end of this module, students should be able to:

1. Identify project scope and Apply data collection techniques.
2. Analyze a given system.
3. Design a system to meet requirements.
4. Use Programming to convert design in to a implementation.
5. Use testing strategies to test requirements of the system.
6. Write a standard report.

**CONTENTS**

|  |  |  |
| --- | --- | --- |
| **No** | **Contents** | **Learning Outcomes** |
| 1 | Project Scope | 1 |
| 2 | Data Collection | 1 |
| 3 | System Analysis | 2 |
| 4 | Design a computerized system | 3 |
| 5 | Develop a computerized system | 4 |
| 6 | Software Testing | 5 |
| 7 | Report Writing | 6 |

**PROJECT SELECTION AND REGISTRATION**

Students are required to design a computerized system for a selected company. When students select a project, scope should be aligned with the group size. The students are allowed to carry out the project in two ways.

* Engineer software for a manual system.
* Engineer existing software to improve an existing computerized system.

After selecting a company and a project title the students are required to meet the course director for registration of the project.

**PROJECT SUCCESS PROCEDURE**

* Study previous projects in the library.
* Conduct a literature review on available solutions.
* Periodic discussions with the supervisor.
* Walk through the lecture notes before applying theories.
* Effective discussions among project members.
* Active participation in the project.

**PROJECT REPORT**

1. **REPORT STRUCTURE**

**Cover page and spine**

This should be hard bounded, preferably in navy blue leather or rexene.

**The Cover Page**

Project Title

Name of the Institute

Name of the Division

Candidates’ Names with Indices

Year of Submission

**The Spine**

Title of the project

Year of submission in letters of suitable size going from top to bottom.

**Title Page**

The title page contains the title of the project, authors, name of the program (Diploma in Software Engineering), name of supervisor, name of institution (Management Information System division, National Institute of Business Management), date and the following declaration.

“The project is submitted in partial fulfillment of the requirement of the Diploma of Computer System Design of National Institute of Business Management.”

**Declaration Page**

The page should contain the following signed declaration.

“I certify that this project does not incorporate without acknowledgement, any material previously submitted for a Diploma in any institution and to the best of my knowledge and belief ,it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my project report, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations”

**Preamble**

This section should include;

Abstract – a summary of the project carried out. (Maximum 300 words)

List of Keywords

List of Figures

List of Tables

List of Acronyms and Abbreviations

Acknowledgement

**Main Chapters**

**Chapter 1: Introduction**

The section provides introduction of the project. Main sub headings are below.

1. Introduction of the Organization.
2. Organization Structure.
3. Current Operations in Organization.
4. Users and Responsibilities Organization.
5. Problem Definition.
6. Project Objectives.
7. Proposed Solution.
8. Chapter Summery.

**Chapter 2: Methodology**

The section describes the plan which will be used to reach the solution. Main sub headings are below.

1. Introduction
2. Data Collection Method(s)
3. Software Process Model
4. Software Development Tools
5. Testing Strategies
6. Implementation Plan
7. Chapter Summery

**Chapter 3: Analysis**

The section describes the way of analyzing the problem. Main sub headings are below.

1. Introduction.
2. UML Diagram.

Use Case Diagram of Current System

Use Case Diagram of Proposed System.

Class Diagram of Proposed System.

Sequence Diagrams (Each Use case) for Proposed System.

1. ER Diagram of the Proposed System.
2. Chapter Summery

**Chapter 4: Solution Design**

The section presents the design of the proposed solution. The student should use the following components to present the system design.

1. Introduction.
2. Interface Design

Each interface should have Interface Number, Interface Name and Description.

1. Database Design

Each table should have Table Number, Table Name and Primary Key, Foreign Keys (Not Compulsory) and Description.

1. Report Layout Design

Each report layout should have Report Layout Number, Report Layout Name and Description.

**Chapter 5: Conclusion**

The section summarizes the achievements and weaknesses of the project designed and implemented briefly.

**References**

List any books, articles, lecture notes, web sites or other documents used to obtain information to carryout succeed your project.

**Appendices**

The project Schedule.

Letter Issued by the organization.

Questioners and Interview Questions …ETC

Meeting Minutes

Log Sheet

Reviewed Documents

CD with software setup and other configuration files.

1. **PROPOSAL AND FINAL REPORT FORMATTING**

Margins Top | Bottom | Right at least 1 | Left at least 1.5

Paper size and quality A4 size white paper 80gsm

Font type Times New Roman

Font size Chapter Headings 14pt

Sectional headings 13pt

Others 12pt

Line spacing 1.5

Justification All text should be fully justified

Page numbering Page numbers should appear on the footer as centered text

Pages in the preamble should be in roman numbering (I, ii..)

Pages in the main body should be in Arabic numbering (1, 2…)

**PROJECT TIME LINE**

Project proposal submission and approval week 1-week 2

Analysis Stage week 2-week 5

Design stage week 5-week 8

Implementation stage week 8-week 16

**PROJECT REGISTRATION**

The students are requested to submit a **project proposal** with approval **letter** (letter head) issued by the organization which students plan to implement the software application.

**PROJECT PROPOSAL**

**Chapter 1: Introduction**

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**FINAL PROJECT CONTINUATION**

The panel of lecturers walks through the submitted proposals by student groups. The project groups are assigned supervisors if proposals are approved by the panel. The student’s groups should be assigned supervisor to discuss project activities and progress. The log sheet should be used to record progress of each meeting with the supervisor.

**LOG SHEET**

The format of the log sheet is given below. Use separate log sheet for each meeting and keep all with the students in the group. Viva is eligibility is decided by comments given by the supervisor.

|  |  |  |  |
| --- | --- | --- | --- |
| **Meeting**  **Date** | **Students Indices**  **(participated)** | **Supervisor Comments** | **Signature of the supervisor** |
|  |  |  |  |
|  |  |  |  |

**FINAL REPORT COVERPAGE**

Sample cover page format is given below. Students are required to make changes to the text according to the project. Use same size and type.

**Hotel Reservation System**

**Diploma in Software Engineering**

**Final Project Documentation**

**2019.1F**



**School of Computing and Engineering**

**National Institute of Business Management**

**Colombo-7**

**FINAL PROJECT SUBMISSION**

Students are requested to bring a draft copy of the report (not bound) for the viva. Students are requested to refer the sample report on the NIBM LMS before finalizing the project report. Hard bound copy should be submitted only after the viva is given to the supervisor and his/her approval is obtained.

**Final Evaluation**

Proposal - 20%

Final Report - 30%

Final Software - 30%

Final Viva - 20%

Total Marks - 100%

**\*\*The Projects which are not really implemented in an organization are given maximum 60% from total marks (Based on proofs).**