NILAM PROGRAM SYSTEM

MOHAMAD AMINUR BIN HASAN

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

© Universiti Teknikal Malaysia Melaka

NILAM PROGRAM SYSTEM

MOHAMAD AMINUR BIN HASAN

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Computer Science (Database Management)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2010

© Universiti Teknikal Malaysia Melaka

BORANG PENGESAHAN STATUS TESIS

JUDUL: NILAM PROGRAM SYSTEM

SESI PENGAJIAN: 2009/2010

Saya MOHAMAD AMINUR BIN HASAN
(HURUF BESAR)

mengaku membenarkan tesis (PSM/~~Sarjana/Doktor Falsafah~~) ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis adalah hakmilik Universiti Teknikal Malaysia Melaka.
2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. ** Sila tandakan (/)

_____ SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
_____ TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
___/__ TIDAK TERHAD	

_____	_____
(TANDATANGAN PENULIS)	(TANDATANGAN PENYELIA)
Alamat tetap: No 90 Perumahan Bukit Puteri ,	Cik Siti Mastura Binti Baharudin
, 43600 UKM Bnagi, Selangor	Nama Penyelia
Tarikh: _____	Tarikh: _____

CATATAN: * Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)
** Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

© Universiti Teknikal Malaysia Melaka

DECLARATION

I hereby declare that this project report entitled

NILAM PROGRAM SYSTEM

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date: _____

(MOHAMAD AMINUR BIN HASAN)

SUPERVISOR: _____ Date: _____

(CIK SITI MASTURA BINTI BAHARUDIN)

© Universiti Teknikal Malaysia Melaka

DEDICATION

To my family especially my father Hasan Bin Baharun

To Cik Siti Mastura Binti Baharudin

To all my friend especially Ali Hanifi

To all the supporters

© Universiti Teknikal Malaysia Melaka

ACKNOWLEGEMENTS

With this opportunity I would like to thank to my supervisor, Miss. Siti Mastura Binti Baharudin for giving me help and guidance to complete this project system.

Special thank to my beloved family who always give me a lot of support no matter in financial, time, and motivation form during my developing project.

Also thank to my lecturers who giving me direct and indirect assistance during my projects.

Lastly but not least, thank to my beloved friends for their helps and support to complete this system.

© Universiti Teknikal Malaysia Melaka

ABSTRACT

The purpose of this project is to help users especially student and teacher to record reading material. This system will make the record reading more enjoyable and interesting. Usually NILAM program in school is carried out by manual and they only use books to record their record reading. Problem occurs when book are damage or lost but with this system all this problem will no more. This system build using database life cycle model to make it easier for designer. Users have to register first to use this system to avoid from unauthorized user from using this system. This system also provides a backup and recovery for database. Only admin or staff can do backup and recovery action. With this system, hopefully it can encourage the society to interest in reading.

© Universiti Teknikal Malaysia Melaka

ABSTRAK

Tujuan projek ini adalah bagi membantu pengguna-pengguna terutama pelajar dan guru bagi merekodkan bahan bacaan mereka. Program NILAM di sekolah biasanya menggunakan buku untuk merekod segala aktiviti membaca.. Masalah timbul apabila buku NILAM hilang atau rosak tetapi dengan NILAM Program System masalah ini tidak akan timbul. Pembinaan sistem ini menggunakan model kitaran hayat pangkalan data kerana ia akan lebih mudah untuk pereka system. Pengguna harus mendaftar dahulu sebelum menggunakan system ini bagi mengelakkan supaya pengguna yang tidak dikenali menembusi system. Sistem ini juga menyediakan satu bantuan simpanan dan pemulihan untuk pangkalan data. Hanya pentadbir atau kakitangan boleh lakukan bantuan simpanan dan langkah pulih semula. Dengan sistem ini, semoga ia dapat menggalakkan masyarakat supaya membaca

© Universiti Teknikal Malaysia Melaka

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	i
	DEDICATION	ii
	ACKNOWLEDGEMENTS	iii
	ABSTRACT	iv
	ABSTRAK	v
	TABLE OF CONTENTS	vi
	LIST OF TABLES	x
	LIST OF FIGURES	xi
	LIST OF APPENDICES	xiii
	LIST OF ABBREVIATION	xiv
	LIST OF ATTACHMENTS	xv
CHAPTER 1	**INTRODUCTION**	
	1.1 Project Background	1
	1.2 Problem Statement	2
	1.3 Objective	2
	1.4 Scope	3
	1.5 Project Significance	3
	1.6 Expected Output	4
	1.7 Conclusion	4
CHAPTER II	**LITERATURE REVIEW AND PROJECT METHODOLOGY**	

© Universiti Teknikal Malaysia Melaka

	2.1	Introduction	5
	2.2	Fact and Finding	6
		2.2.1 Domain	6
		2.2.2 Existing System	6
		2.2.2.1 NILAM Program	7
		2.2.2.2 NILAM Program System by Education Technology Division	8
		2.2.3 Technique	9
	2.3	Project Methodology	10
		2.3.1 DBLC Model	10
		2.3.2 RAD Model	13
		2.3.3 Approach	14
	2.4	Project Requirement	15
		2.4.1 Software Requirement	15
		2.4.1.1 Equipment Tools	15
		2.4.1.2 Operating System	15
		2.4.1.3 Database Management	15
		2.4.2 Hardware Requirement	16
		2.4.3 Other Requirement	16
	2.5	Project Schedule and Milestone	17
	2.6	Conclusion	21
CHAPTER III	**ANALYSIS**		
	3.1	Introduction	22
	3.2	Problem Analysis	23
	3.3	Requirement Analysis	24
		3.3.1 Data Requirement	24
		3.3.2 Functional Requirement	27
		3.3.3 Non- functional Requirement	29
		3.3.3.1 Operational Requirement	29
		3.3.3.2 Security Requirement	30
		3.3.3.3 Performance Requirement	30
		3.3.4 Other Requirement	30
		3.3.4.1 Software Requirement	30

© Universiti Teknikal Malaysia Melaka

		3.3.4.2 Hardware Requirement	31
	3.4	Conclusion	31
CHAPTER IV	**DESIGN**		
	4.1	Introduction	32
	4.2	High-Level Design	33
		4.2.1 System Architecture	33
		4.2.2 User Interface Design	34
		4.2.2.1 Navigation Design	45
		4.2.2.2 Input Design	46
		4.2.2.3 Output Design	47
		4.2.3 Conceptual and Logical Database Design	48
		4.2.3.1 Conceptual Design	48
		4.2.3.2 Logical Design	50
	4.3	System Architecture	54
		4.3.1 Software Design	55
		4.3.2 Physical Database Design	56
	4.4	Conclusion	59
CHAPTER V	**IMPLEMENTATION**		
	5.1	Introduction	60
	5.2	Software Development Environment Setup	61
		5.2.1 Database Development Setup	62
	5.3	Database Implementation	64
	5.4	Software Configuration Management	65
		5.4.1 Configuration Environment Setup	66
		5.4.2 Version Control Procedure	66
	5.5	Implementation Status	67
	5.6	Conclusion	68

© Universiti Teknikal Malaysia Melaka

CHAPTER VI	**TESTING**		
	6.1	Introduction	69
	6.2	Test Plan	69
		6.2.1 Test Organization	70
		6.2.2 Test Environment	70
		6.2.3 Test Schedule	72
	6.3	Test Strategy	72
		6.3.1 Classes of Test	74
	6.4	Test Design	75
		6.4.1 Test Description	76
		6.4.2 Text Data	79
	6.5	Text result and Analysis	80
	6.6	Conclusion	81
CHAPTER VII	**PROJECT CONCLUSION**		
	7.1	Observation on Weaknesses and Strengths	82
	7.2	Proposition for Improvement	83
	7.3	Contribution	83
	7.4	Conclusion	83
REFERENCES			84
APPENDICES			85

© Universiti Teknikal Malaysia Melaka

LIST OF APPENDICES

APPENDICES	TITLE	PAGE
A	LOG BOOK	85
B	PROPOSAL	91

© Universiti Teknikal Malaysia Melaka

LIST OF TABLES

TABLE	TITLE	PAGE
3.1	Data Requirement for student	24
3.2	Data Requirement for staff or admin	25
3.3	Data Requirement for record	26
3.4	Data Requirement for forum	26
3.5	Data Requirement for achievement	26
3.6	Data Requirement for manage	27
3.7	Data Requirement for hold	27
3.8	Data Requirement for achieve	27
4.1	Input Design Table	46
4.2	Output Design Table	47
4.3	Data Dictionary for table staff or admin	50
4.4	Data Dictionary for table student	51
4.5	Data Dictionary for table record	51
4.6	Data Dictionary for table forum_topics	52
4.7	Data Dictionary for table forum_posts	52
4.8	Data Dictionary for table manage	53
4.9	Data Dictionary for table hold	53
4.10	Data Dictionary for table article	53
4.11	Data Dictionary for table suggestion	53
4.12	Data Dictionary for table achievement	54

© Universiti Teknikal Malaysia Melaka

4.13	Data Dictionary for table achieve	54
5.1	Version control Procedure	67
5.2	Implementation Status	68
6.1	Developer machine configuration	71
6.2	Environment setup	71
6.3	Test schedule of NPS	72
6.4	Test cases for login module	76
6.5	Test cases for registration module	77
6.6	Test cases for insert or update record	77
6.7	Test cases for simple calculation	78
6.8	Test cases for backup module	78
6.9	Test cases for recovery	78
6.10	Test data for system authentication	79
6.11	Test result and analysis	80

© Universiti Teknikal Malaysia Melaka

LIST OF FIGURES

DIAGRAM	TITLE	PAGE
2.1	NILAM book record	7
2.2	NILAM ETD System	9
2.3	Database life cycle model	11
2.4	RAD Model	13
2.5	Duration of each activity	17
2.6	Project Schedule for PSM I	19
2.7	Project Schedule for PSM II	20
2.8	Database Life Cycle Model	18
3.1	DFD diagram	28
4.1	NILAM Program 3-Tier System Architecture	33
4.2	Log In interface	34
4.3	Staff registration interface	35
4.4	Student registration interface	37
4.5	Student menu	39
4.6	Staff menu	40
4.7	Student record reading	41
4.8	Student suggestion	42
4.9	View record student	43
4.10	Achievement student	43
4.11	Upload article	43

© Universiti Teknikal Malaysia Melaka

4.12	**NILAM System navigation design**	**45**
4.13	**Entity Relational Diagram**	**49**
5.1	**Software Environment Development Setup**	**61**
5.2	**Configuration database connection step 1**	**62**
5.3	**Configuration database connection step 2**	**63**
5.4	**Accessing the database**	**64**
5.5	**Database nilam_program in PHPMyadmin**	**64**

© Universiti Teknikal Malaysia Melaka

LIST OF ABBREVIATIONS

NILAM	-	***Nadi Ilmu Amalan Membaca***
NPS	-	**NILAM Program System**
ERD	-	**Entity Relational Diagram**
RAD	-	**Rapid Application Development**
DBLC	-	**Database Life Cycle**
ETD	-	**Educational Technology Division**
GUI	-	**Graphical User Interface**
SSDAM	-	**Structured System Design and Analysis Method**

© Universiti Teknikal Malaysia Melaka

LIST OF ATTACHMENTS

ATTACHMENT	TITLE	PAGE
1.1	Log book	85
1.2	Proposal	91

© Universiti Teknikal Malaysia Melaka

CHAPTER I

INTRODUCTION

1.1 Project Background

Usually students will give a "program nilam" book for each one of them. They are responsible to write a summary of book when their done with their reading then past up the book to their teacher to check it. This maybe takes time for students and teachers. With this NILAM Program System, there is no limit time for them. They also can to record just from home and teacher can get the data on that time and check on that time. Sometime, some student will miss their book and damaged it so it will be difficult for them to record their reading but with this system, they don't have to worry about that anymore. This is one of the strategy to grow interest in reading by organized and arranged among Malaysians, especially schoolchildren until existence reading habit and culture reading among Malaysians because nowadays almost all people have internet connection and they really into internet so with this system they can easily record and manage while using an internet .

Before use this system, user or student have to register to get their own password and user name. After that they can log on into this system and record their reading content. They also can use a forum to share their opinion with other. Meanwhile, teacher will monitor their own student.

© Universiti Teknikal Malaysia Melaka

1.2 Problem Statements

i. Current program book easy to get damage or lost.

When books that given by school to students get damage it no longer useful to them because it cannot record it anymore .

ii. Current system lack of data security

The data that is recorded by using current system is easily to lose. It also can be abused by unauthorized user from view the data. The data is hard to be backed up and it will cause a problem if the current data lost

iii. Current system hard to analyze the data

The data that was recorded is hard to be analyzed because it was written on the papers or books.

1.3 Objectives

i. To make it easier for student to record their reading.

ii. To make it easier for teacher to view their student record reading.

iii. To make the management of this program more efficient.

iv. To make student well-read because student nowadays more interested using internet.

v. Encourage school to continue generate creative and innovative idea to seedling reading habit.

vi. To make this NILAM Program which conduct by government is successful.

vii. To make this system more secure that other system

© Universiti Teknikal Malaysia Melaka

1.4 Scope

There will be two user, student and teacher. Teacher will be a staff and one of them will be an administrator. Students have to register their name to get their own id same goes to teachers or staff. Student can record all their reading and can edit or view their own record. Teachers or staff can manage their student and can delete them too. An administrator can do all teacher work and also can delete the teacher. Admin will monitories the whole system to make it fluent.

1.5 Project Significance

Project significance describes the benefits that the users get from this project. The benefits that the users get briefly explained below.

i. Administrator / teacher:

This system will help the administrator to monitor the students and also the staff that will use this system. They also can manage their own staffs and students.

ii. Staffs / teachers :

This will help the staff do their job faster and systematic since the system will be provided by many functions that can help to do their job such as scoring their own students.

iii. Students

They easily can do record anytime and anywhere as long there is internet connection. They also can share their opinion through the forum that provided.

© Universiti Teknikal Malaysia Melaka

1.6 Expected Output

The expected output of this project is system based that will integrate with MySQL database management system which can help organize and store data safely in database. It is to ensure safety of data. The system also can provide function to help teacher to manage their student's record process and give they score to give reward to students based on information stored in database.

1.7 Conclusion

In this chapter, covers about background of this project, problems statements, objective, scope, project significance and expected output. This chapter also states the detail objective, what are project significance and the scope of the project. For next chapter, it will cover the literature reviews and project methodology that is going to be used during developing the project

© Universiti Teknikal Malaysia Melaka

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter, it describes about the literature reviews to the handling and processing of problem management. The chapter mainly contains information on the definition of and its benefits in the organizations.

The purpose of this chapter is to present a selected literature review, which is very important for the research. By doing literature review may give a general ideal to improve overall performance to my system. This chapter also describes and explains on the literature review carried out by the system and also the methodology that be used in developing this system. This chapter highlights the project that will be developing to assure the system is far more effective. Besides that, previous research will be discussed in this section by comparing at least three systems. Furthermore, the methodologies also being discussed in part of used in other research this is related to this development by comparing those systems.

The project methodology for this project starts from defining the project goal until the closure of the project. The methodology the have been chosen for this project is The System Development Life Cycle (SDLC) and The Database Life Cycle (DBLC).

© Universiti Teknikal Malaysia Melaka