

BORANG PENGESAHAN STATUS TESIS[^]

JUDUL: COMPUTER MONITORING SYSTEM

SESI PENGAJIAN: 2005

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Computer monitoring system / Nurul Eva Diana Mahady.

COMPUTER MONITORING SYSTEM

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**This report is submitted in partial fulfillment of the requirements for the
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FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

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2005

DECLARATION

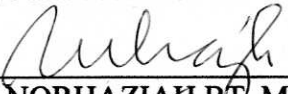
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DEDICATION

To my beloved family for their constant love
and support

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I would like to extend my thanks Kolej Universiti Teknikal Kebangsaan Malaysia for giving me a chance to apply what was learnt before and allowing me to experience real life hands-on situation.

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ABSTRAK

Tesis ini menyediakan penyelesaian kepada masalah yang timbul daripada sistem semasa yang digunakan oleh Sabah Electricity Sdn. Bhd. (SESB) dengan menggunakan pendekatan IT. Sistem semasa tidak menyediakan fungsi untuk pengguna menyimpan dan mencari maklumat penting perkakasan komputer di dalam syarikat tersebut. Ia juga tidak menyimpan rekod penyelenggaraan yang dibuat ke atas setiap perkakas. Akibat daripada ini menyebabkan perkakasan tersebut lambat diservis. Jika ini sering berlaku, syarikat akan mengalami produktiviti rendah and mungkin mengakibatkan kerugian besar kepada aset syarikat. Dengan sistem yang diusulkan, maklumat berkaitan akan dapat disimpan supaya sebarang rujukan boleh dibuat secara terus melalui sistem. Selain itu, fungsi carian yang efisien dan fleksibel disediakan. Sistem ini juga dibina sebagai peningkatan kepada sistem semasa. Kajian bukan sahaja dilakukan terhadap sistem semasa, tetapi juga kepada sistem lain yang sedia ada. Melalui kajian ini jugalah satu usul untuk membina sistem yang mampu dan efisien dibuat.

ABSTRACT

This thesis implements a solution to the problems occurred from the current system used by Sabah Electricity Sdn. Bhd (SESB) by using an IT-related approach. The current system does not allow the user to keep and search essential information on any hardware in the company. It also does not keep records on the maintenance done for each hardware. As a result, the computer hardware gets a late and poor service. If this always occur the company will encounter slow productivity and may suffer a great number of asset losses. With the proposed system, more related information can be kept so that any reference can be made directly into the system. Apart from that a search function that is efficient and flexible is provided. This system is also built as an improvement to the current system by allowing an alternative to hardware serial number identification. This is done by implementing a barcode scanning method. Many researches were done not only to the current system, but also to other existing systems having the same attributes and objectives. It is through this research that a more capable and efficient system is proposed.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	i
	DEDICATION	ii
	ACKNOWLEDGEMENTS	iii
	ABSTRAK	iv
	ABSTRACT	v
	TABLE OF CONTENTS	vi
	LIST OF TABLES	x
	LIST OF FIGURES	xii
	LIST OF APENDICES	xiv
CHAPTER	INTRODUCTION	1
I		
	1.1 OVERVIEW	1
	1.2 PROJECT BACKGROUND	1
	1.3 PROBLEM STATEMENTS	2
	1.3.1 Records are not detailed enough	2
	1.3.2 Records are not related with each other	2
	1.3.3 Data manipulation issue	3
	1.3.4 User access is restricted	3
	1.3.5 Everyone has full access to the system	3
	1.4 OBJECTIVES	4
	1.5 SCOPES	4
	1.6 PROJECT SIGNIFICANCE	6
	1.7 EXPECTED OUTPUT	6
	1.8 CONCLUSION	7
CHAPTER	LITERATURE REVIEW AND PROJECT METHODOLOGY	8
II		
	2.1 INTRODUCTION	8
	2.2 FACT AND FINDING	9
	2.2.1 How companies mishandle assets	10
	2.2.2 Study of current system	11
	2.2.3 Other existing system	13
	2.3 PROJECT METHODOLOGY	16

2.3.1	Initial Phase	17
2.3.2	Requirement Phase	17
2.3.3	Design Phase	17
2.3.4	Coding Phase	18
2.3.5	Testing Phase	18
2.3.6	Implementation Phase	18
2.4	PROJECT REQUIREMENTS	18
2.4.1	Software Requirement	19
2.4.2	Hardware Requirement	19
2.4.3	Other requirements	19
2.5	PROJECT SCHEDULE AND MILESTONES	19
2.6	CONCLUSION	21
CHAPTER III	ANALYSIS	22
3.1	INTRODUCTION	22
3.2	PROBLEM ANALYSIS	22
3.3	REQUIREMENT ANALYSIS	25
3.3.1	Functional Requirements	25
3.3.1.1	Scope	25
3.3.1.1.1	The Inventory Management Module	25
3.3.1.1.2	The Computer Tracking Module	26
3.3.1.1.3	Maintenance Module	26
3.3.1.1.4	Report Module	26
3.3.2	Business Flow	27
3.3.3	Use-case View	28
3.3.4	Actor	29
3.3.5	Use-case Description	30
3.3.5.1	Use-case Create Hardware Record	30
3.3.5.2	Use-case Manage Hardware Info	31
3.3.5.3	Use-case Manage Maintenance	33
3.3.5.4	Use-case Assign User	34
3.3.5.5	Use-case Create Hardware Record	36
3.3.6	Interaction Diagram	37
3.4	SOFTWARE REQUIREMENTS	41
3.5	HARDWARE REQUIREMENTS	41
3.6	NETWORK REQUIREMENTS	41
3.7	CONCLUSION	42
CHAPTER IV	DESIGN	43
4.1	INTRODUCTION	43
4.2	HIGH-LEVEL DESIGN	43
4.2.1	Raw input/data	44
4.2.2	System Architecture	44
4.2.2.1	Static Organization	46
4.2.2.2	High-level Class Diagram	46
4.2.3	User Interface Design	51
4.2.3.1	Navigation Design	52

	4.2.3.2 Input Design	53
	4.2.3.3 Output Design	55
	4.2.4 Database Design	56
	4.2.4.1 Logical Database Design	56
	4.2.5 Deployment View	59
4.3	DETAILED DESIGN	59
	4.3.1 Software Specification	59
	4.3.1.1 CSU frmHardware	59
	4.3.1.2 CSU frmUser	62
	4.3.1.3 CSU frmMaintenance	64
	4.3.1.4 CSU frmReport	67
	4.3.2 Physical Database Design	68
4.4	CONCLUSION	71
CHAPTER V	IMPLEMENTATION	72
5.1	INTRODUCTION	72
5.2	SOFTWARE DEVELOPMENT ENVIRONMENT SETUP	72
5.3	SOFTWARE CONFIGURATION MANAGEMENT	74
	5.3.1 Configuration environment setup	74
	5.3.2 Version Control Procedure	76
5.4	IMPLEMENTATION STATUS	77
5.5	CONCLUSION	79
CHAPTER VI	TESTING	80
6.1	INTRODUCTION	80
6.2	TEST PLAN	81
	6.2.1 Test Organization	81
	6.2.1.1 System Developer	81
	6.2.1.2 Client	81
	6.2.1.3 End-user	81
	6.2.2 Test Environment	81
	6.2.3 Test Schedule	82
	6.2.3.1 Unit Test for Staff Login (TEST_CMS_001)	82
	6.2.3.2 Unit Test for Inventory Management (TEST_CMS_002)	83
	6.2.3.3 Unit Test for Computer Tracking (TEST_CMS_003)	84
	6.2.3.4 Unit Test for Maintenance (TEST_CMS_004)	85
	6.2.3.5 Unit Test for Report (TEST_CMS_005)	86
6.3	TEST STRATEGY	87
	6.3.1 Classes of tests	87
6.4	TEST DESIGN	88
	6.4.1 Test Description	88
	6.4.1.1 TEST_CMS_001 StaffLogin	88
	6.4.1.2 TEST_CMS_002 Inventory Management	88
	6.4.1.3 TEST_CMS_003 Computer Tracking	89

	6.4.1.4 TEST_CMS_004 Maintenance	90
	6.4.1.5 TEST_CMS_005 Report	90
	6.4.2 Test Data	91
6.5	TEST RESULTS AND ANALYSIS	92
	6.5.1 Staff Login (TEST_CMS_001)	92
	6.5.2 Inventory Management (TEST_CMS_002)	92
	6.5.3 Computer Tracking (TEST_CMS_003)	93
	6.5.4 Maintenance (TEST_CMS_004)	93
	6.5.5 Report (TEST_CMS_005)	93
6.6	CONCLUSION	94
CHAPTER VII	PROJECT CONCLUSION	95
	7.1 OBSERVATION ON WEAKNESSES AND STRENGTHS	95
	7.2 PROPOSITIONS FOR IMPROVEMENT	96
	7.3 CONTRIBUTION	96
	7.4 CONCLUSION	97
	REFERENCES	99
	BIBLIOGRAPHY	100
	APPENDICES	101

LIST OF TABLES

TABLE	TITLE	PAGE
2.1	Project Schedule and Milestones for PSM I	19
2.2	Project Schedule and Milestones for PSM 2	20
4.1	Current System's Raw Data	44
4.2	Data Dictionary for Table Hardware	68
4.3	Data Dictionary for Table Allocation	68
4.4	Data Dictionary for Table Computer Name	69
4.5	Data Dictionary for Table Department	69
4.6	Data Dictionary for Table History	69
4.7	Data Dictionary for Table IPInfo	70
4.8	Data Dictionary for Table Maintenance	70
4.9	Data Dictionary for Table Supplier	70
4.10	Data Dictionary for Table Type	71
5.1	Environment Setup	74
5.2	Version Control	76
5.3	Implementation Status	77
6.1	Hardware Specification and Network Environment	82
6.2	Unit Test for Staff Login	82
6.3	Unit Test for Inventory Management	83
6.4	Unit Test for Computer Tracking	84
6.5	Unit Test for Maintenance	85
6.6	Unit Test for Report	86
6.7	TEST_CMS_001 Staff Login	88
6.8	TEST_CMS_002 Inventory Management	88

6.9	TEST_CMS_003 Computer Tracking	90
6.10	TEST_CMS_004 Maintenance	90
6.11	TEST_CMS_005 Report	91
6.12	Staff Login (TEST_CMS_001)	92
6.13	Inventory Management (TEST_CMS_002)	92
6.14	Computer Tracking (TEST_CMS_003)	93
6.15	Maintenance (TEST_CMS_004)	93
6.16	Report (TEST_CMS_004)	93

LIST OF FIGURES

FIGURE	TITLE	PAGE
2.1	Hardware Asset Tracker Interface	13
2.2	Inventory Manager Lite Interface	14
3.1	Activity Diagram of Current System	23
3.2	Overview of Computer Monitoring System	26
3.3	Activity Diagram for CMS (Inventory Management Module)	27
3.4	Activity Diagram for CMS (Computer Tracking Module)	27
3.5	Activity Diagram for CMS (Maintenance Module)	28
3.6	Global View of Use-Case Model	29
3.7	Sample User Interface for Create Hardware Record	31
3.8	Sample User Interface for Manage Hardware Info	32
3.9	Sample User Interface for Manage Maintenance	34
3.10	Sample User Interface for Assign User	35
3.11	Sample User Interface for Create User Access	37
3.12	Interaction Diagram for Create Hardware Record	37
3.13	Interaction Diagram for Manage Hardware Info	38
3.14	Interaction Diagram for Manage Maintenance	39
3.15	Interaction Diagram for Assign User	40
3.16	Interaction Diagram for Create User Access	41
4.1	System Software Architecture Overview	45
4.2	CMS Packages	46
4.3	Class Diagram for Create Hardware Record	47
4.4	Class Diagram for Manage Hardware Info	48

4.5	Class Diagram for Manage Maintenance	49
4.6	Class Diagram for Assign User	50
4.7	Class Diagram for Create User Access	51
4.8	CMS Main Menu	52
4.9	Navigation Design	53
4.10	Input Design using Combo-box	53
4.11	Input Design for Hardware	54
4.12	Input Design for Maintenance	54
4.13	Input Design for Computer Name	55
4.14	Department Report	55
4.15	Hardware Report	56
4.16	Entity Relationship Diagram for CMS	57
4.17	Business Rule for CMS	58
4.18	Deployment Diagram for CMS	59
5.1	Environment Architecture (Star Topology)	73

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	GANTT CHART	101
B	USER MANUAL	102

CHAPTER I

INTRODUCTION

1.1 Overview

As the name implies, this chapter discusses the overall introduction to the system development and the project background in basic. The problems are analyzed and stated to uncover what steps to be done that will curb these problems and later be implemented into the system.

This system is proposed to achieve certain objectives which will be explained later. The scope is also identified to ensure that the system is working within a certain constraints and bordered outline. It also justifies the targeted system audience so that these groups of users can fully benefit from the system.

1.2 Project Background

To achieve success in developing a system that fully meets its requirements, an analysis on the problem in the current system needs to be done. These are the factors that contribute to the awareness of comprehending a more satisfied system. The system to be built is named **Computer Monitoring System**.

This system keeps hardware information record in the company, other essential data related to it, and analyzes the data into another form of data to monitor

each hardware usage. There are a lot of lack nesses in data accessing and archiving of the current system, and these are the main cause of why the system is proposed.

The current system is unable to track user access since it doesn't provide a function to observe which user modified a data. Knowing which person had access to a data is important to prevent misleading data insertion. The importance of a secure system that bans unauthorized access also leads to the development of this project.

1.3 Problem Statements

1.3.1 Records are not detailed enough

The current system keeps information on the computer hardware existing in the department. However it provides data record on the surface; not detailed enough to provide sufficient information to the users. For example, the system does not state from where the hardware was bought. This complicates the user if there is any fault in the hardware and servicing needs to be made by the vendors. Another different record on suppliers has to be checked, which is not integrated with the hardware information record.

1.3.2 Records are not related with each other

Hardware information record and other record such as vendor and maintenance record are placed in different files. This means they are not related. Should there be any reference to be made on the particular hardware, the current system could not track which information is specified to that hardware. The staffs have to check manually to do this task.

1.3.3 Data manipulation issue

When any information is recorded, it should be able to be modified into a form based on the user needs. This is what the current system is lack of, i.e. not allowing data manipulation. For example the system saves the hardware date of purchase but cannot count its lifespan on current date. The current system also does not provide a function for a specific hardware item to be searched. This may bring some difficulties since the system involves a big database.

1.3.4 User access is restricted

In the current system, only one user can enter the system at a time. It would consume a lot of time if only one user has to enter a lot of hardware record. To some extent this might burden only one particular user and causes workload imbalance among the staffs assigned to the system.

1.3.5 Everyone has full access to the system

Any person can enter the current system. This allows unauthorized user to access the data and violate the information in the database. In this project, the information to be recorded is more specific yet reasonable. It does not only cover the major information but a more detail data on that information. All information should be integrated so that any data can be accessed through other records, as long as they are associated with each other. Let's say a user wants to retrieve the maintenance record on hardware A. Not only the data can be achieved under a maintenance page, but also can be reached through hardware page based on the hardware A's serial number.

A search function should be built to allow a staff to search for certain hardware. This search may be done in different key name such as serial number or other related information like the name of the vendor.

A system that can be accessed simultaneously is essential to even the tasks among staffs when it comes to inserting records into the system. Not only that, it will also allow staffs to retrieve any information from their workstation since the database will be placed in a secured server. When two users are entering the same data at the same time, a warning message will be notified to both of them. A login menu is done to prevent unauthorized user access.

1.4 Objectives

The current system will be upgraded to achieve certain objectives. The objectives of the proposed system are:

- i) To keep all asset information systematically and in order by allowing data record based on its major facts and later has smaller divisions.
- ii) To enhance the current system typing in the key name of any data to search for specific information.
- iii) To be able to monitor the hardware usage to make sure that it is still usable and in a good condition.

1.5 Scopes

The system Computer Monitoring System can be used by the personnel responsible for computer asset record in the Information System Department (ISD) at Sabah Electricity Sdn. Bhd. (SESB). This can either be a technician, an operator or a clerk.

Since the system is able to be accessed simultaneously, many users can log in at a time as long as it does not exceed ten users at a time. A user name will be provided by the admin to each user. It uses a web-based platform and has a client server in which the databases are kept at. The management section can also view these data, and cannot make any changes to the records. The modules included are:

- i) Applied the CRUDE concept; the system can add, retrieve, update and delete data on user requirement.
- ii) A search function for each class such as based on serial number, maintenance record number, department name, etc.
- iii) Monitor the usage of the hardware i.e. number of years it has been used since last purchased, by allowing a calculation function to be implemented into the system.
- iv) Maintenance record so that each hardware 'health' can be observed. The number of times it has been serviced for any faults and viruses affect whether the hardware should be changed with a new one.
- v) Vendor information to easily keep track of responsible vendor should there be servicing/ repairing.
- vi) A dedicated page to track person currently using a specific hardware so that any reference to be made regarding the hardware can be made to the user later on. This also allows the person to be notified if the computer needs to be serviced or changed to a new operating system.

The project to be done is conducted as a whole, which means it does not require outside assistance and is not a module to the existing system.

1.6 Project Significance

The system importance benefits the users which are the staffs assigned to using the system. They do not longer will meet the problem of tasks that are split imbalance since the current system only allows one user access at one time. It will also bring benefit to the whole company of SESB since it is used to record all of the computer hardware information in every department.

Manual insertion is no longer the sole solution, and barcode scanning concept has conveyed a faster way to detect the hardware itself. It suits very well with the company since the installment does not require a big expenditure, yet guarantee an effective solution. The fast pace of working environment in the office makes it require for a system that can be accessed on pronto.

Maintenance record as one of the module serves as a platform for user to keep track whether the hardware is still usable or not. Instead of having to check the hardware all over again, user can now view the hardware status through a click of a button. All these are the factors that contribute to the development of the proposed system.

1.7 Expected Output

The system should be able to store the following information:

- i) Hardware information such as serial number and model, and other data linked to it such as date of purchase and asset number.
- ii) Contains maintenance record on a certain hardware to check for servicing.
- iii) Reports to contain generated report on the hardware, maintenance record, etc.

- iv) Other related information to hardware record including type of hardware, suppliers, computer name, allocated users and department.

Other than that, the system can also monitor user access. The system keeps record on which user modifies which record, the date and time of data modification and what action was taken either newly created, edited or deleted. This means there is a different database to record the hardware history after the user accesses it.

1.8 Conclusion

Based on what have been explained, the system proposed is hoped to meet its full objectives and is the best solution to the current system. Using a searching function allows the system to act as a stepping stone towards producing a system that is more effective and retrievable. This implemented technology allows the system to be accessed not only in one way which may restrict the system to be optimized to its full potential.

The next activity to be taken is to do a literature review on past studies and systems to discover the need for the proposed system to be developed. The project methodology is also covered in the next chapter.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter, facts and findings are covered on the existing system similar to the project to be developed. The weaknesses of these systems, along with the current system used in the company, lead to the proposal of a more satisfying and robust system. These discoveries are seconded by statements from trusted materials.

Deciding the project methodologies ensue which comprises of the phases involved throughout the whole system process. The method taken uses Object Oriented Analysis and Design (OOAD) approach and Unified Modeling Language (UML) methodology is used. The phases involved are Initial Phase, Requirement Phase, Design Phase, Coding Phase, Testing Phase and Implementation Phase.

Next discusses the projects requirements which are software requirements, followed by hardware requirements and other related requirements. These are all the tools that is needed to implement the system from scratch to the final product.

Another matter covered is the time schedule for the whole system development life cycle and project milestones in each activity to be done. Every system is done under time constraint. Therefore each phase is allocated to an appropriate time frame.