

**SMK BERAPIT e-DEMERIT MANAGEMENT SYSTEM**

SIYAMLA A/P RATHAKRISHNAN

**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**SMK BERAPIT e-DEMERIT MANAGEMENT SYSTEM**

**SIYAMLA A/P RATHAKRISHNAN**

**This report is submitted in partial fulfillment of the requirements for the  
Bachelor of Computer Science (Software Development)**

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**2011**

## DECLARATION

I hereby declare that this project report entitled

### **SMK BERAPIT e-DEMERIT MANAGEMENT SYSTEM**

Is written by me with my own effort and that is no part has been

Plagiarized without citation

STUDENT : ..... *Siyamla* ..... Date : 30 / 6 / 2011

(SIYAMLA A/P RATHAKRISHNAN)

SUPERVISOR : ..... Date :   /  /  

(MADAM NOR HASLINDA BINTI ISMAIL)

## DEDICATION

*Strongly dedicated to my beloved family members, friends and my lectures with a millions thanks for your support and inspiration...*

## ACKNOWLEDGEMENTS

I would like to take this opportunity to express my gratitude to all the people who have helped, supported and guided me throughout the completion of Final Year Project (Projek Sarjana Muda (PSM)).

First and foremost, I thank to God for blessing me and giving me the strength and determination to complete this project. I would like to extend my appreciation to Madam Nor Haslinda Binti Ismail for accepting me as one of the students under her supervision and guiding me throughout the duration of the project.

Continuously my thank goes to Universiti Teknikal Malaysia Melaka (UTeM) for creating an opportunity for all final year students to carry out a final year project. Besides, my most grateful thanks to my family members who gave me lots of moral and mental support which means a lot to me.

Before the end, not forgetting also my friends especially my course mates from3-BITS, who were always there to give their support, opinion and advice for me to complete this project successfully. Lastly, I would like to thank to everyone who has contributed towards my project, either directly or indirectly. Your kindness and involvement towards the completion of my paperwork is very much appreciated.

## ABSTRACT

SMK Berapit e-Demerit Management System (SDMS) is a web based system build to manage details about the student and their demerit marks in “Sekolah Menengah Kebangsaan Berapit”. It is a computerized system where the admin, discipline teacher and class teacher can access and view it via online. There are 3 types of users that can use SDMS. First admin can manage the student details, class details, teacher details and the demerit details by using this system. Second the class teacher can manage the student details by using this system. Last but not least, discipline teacher can manage the demerit marks of the student by using this system. Besides from managing the data, this system can alert the admin, class teacher and also the discipline teacher if the student’s demerit mark had reached the maximum mark. By this the teachers will not miss to take action on the students who have behaviors problem. Other than that, by using this system the admin or the discipline teacher can send email to the student’s parents if the student had reached the maximum demerit mark. The web application is developed using PHP and JavaScript. The database for this system is built using Apache. This system can contribute toward solving some of major problems facing by the school on managing the student demerit information.

## ABSTRAK

Sistem Pengurusan e-Dimerit SMK Berapit merupakan satu sistem beraplikasi web dimana ia dibangunkan untuk menguruskan maklumat mengenai pelajar dan markah demerit yang diperolehi oleh pelajar tersebut di Sekolah Menengah Kebangsaan Berapit. Sistem berasaskan komputer ini dibangunkan untuk memudahkan para guru di Sekolah Menengah Kebangsaan Berapit mengakses maklumat melalui jaringan komunikasi "internet". Terdapat 3 jenis pengguna yang dapat menggunakan sistem ini. Pertama adalah admin sistem ini Admin boleh menguruskan maklumat pelajar, maklumat kelas, maklumat guru dan juga maklumat demerit melalui sistem ini. Kedua ialah guru kelas. Guru kelas boleh menguruskan maklumat pelajar. Akhir sekali guru disiplin. Guru disiplin boleh menguruskan markah dimerit pelajar melalui sistem ini. Selain daripada menguruskan maklumat, sistem ini boleh memberi peringatan kepada admin, guru kelas dan guru disiplin sekiranya markah demerit pelajar telah mencapai tahap maksimum. Dengan ini para guru tidak akan terlepas pandang akan pelajar yang mempunyai masalah disiplin. Selain dari itu, admin dan guru disiplin boleh menghantar e-mel kepada ibu bapa pelajar yang telah mendapat markah demerit yang maksimum. Sistem ini telah dibangunkan dengan menggunakan bahasa pengaturcaraan "PHP" dan juga "JavaScript". Pangkalan data yang digunakan adalah Apache. Sistem ini berupaya untuk mengurangkan masalah dalam pengurusan markah demerit pelajar yang dihadapi oleh pihak sekolah.

## TABLE OF CONTENTS

<b>CHAPTER</b>	<b>SUBJECT</b>	<b>PAGE</b>
	<b>DECLARATION</b>	<b>i</b>
	<b>DEDICATION</b>	<b>ii</b>
	<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
	<b>ABSTRACT</b>	<b>iv</b>
	<b>ABSTRAK</b>	<b>v</b>
	<b>TABLE OF CONTENTS</b>	<b>vi</b>
	<b>LIST OF TABLES</b>	<b>ix</b>
	<b>LIST OF FIGURES</b>	<b>xi</b>
	<b>LIST OF ATTACHMENT</b>	<b>xii</b>
<b>CHAPTER 1</b>	<b>INTRODUCTION</b>	
	1.1 Project Background	1
	1.2 Problem Statement	2
	1.3 Objective	3
	1.4 Project Scope	3
	1.5 Project Significant	5
	1.6 Excepted Output	5
	1.7 Conclusion	5



## **CHAPTER 2 LITERATURE REVIEW AND PROJECT METHODOLOGY**

2.1	Introduction	6
2.2	Facts and Finding	7
	2.2.1 Domain	7
	2.2.2 Existing System	8
2.3	Project Methodology	9
2.4	Project Requirement	11
	2.4.1 Software Requirement	12
	2.4.2 Hardware Requirement	13
	2.4.3 Other Requirement	13
2.5	Project Schedule and Milestones	14
2.6	Conclusion	17

## **CHAPTER 3 ANALYSIS**

3.1	Introduction	18
3.2	Problem Analysis	19
	3.2.1 Current System Analysis	19
	3.2.1.1 Manual and Paper-Based System	19
	3.2.1.2 Excessive Manual Record	20
	3.1.2.3 Flow Chart	20
3.3	Requirement Analysis	21
	3.3.1 Data Requirement	21
	3.3.1.1 Description of Existing Data Dictionary	22
	3.3.2 Functional Requirement	27
	3.3.2.1 Data Flow Diagram for SDMS	27
	3.3.3 Non-Functional Requirement	31
	3.3.3.1 Usability Requirement	31

5.6	Conclusion	61
-----	------------	----

## **CHAPTER 6 TESTING**

6.1	Introduction	62
6.2	Test Plan	63
6.2.1	Test Organization	64
6.2.2	Test Environment	64
6.2.3	Test Schedule	65
6.3	Test Strategy	67
6.3.1	Classes of Test	68
6.3.1.1	Unit Testing	68
6.3.1.2	Security Test	69
6.3.1.3	Integration Testing	69
6.3.1.4	User Acceptance Testing	70
6.3.1.5	System Testing	70
6.4	Test Design	71
6.4.1	Test Description	71
6.4.1.1	Unit Testing	71
6.4.1.2	Integration Testing/ System Testing	76
6.4.2	Test Data	80
6.5	Test Result and Analysis	81
6.6	Conclusion	82

## **CHAPTER 7 PROJECT CONCLUSION**

7.1	Observation on Strengths and Weakness	83
7.1.1	Strength of SDMS system	84
7.1.2	Weakness of SDMS system	84
7.2	Proposition for Improvement	85
7.3	Contribution	85
7.4	Conclusion	86

3.3.3.2 Standards	32
3.3.3.2.1 System Terminology	32
3.3.3.3 Flexibility and Extensibility	32
3.3.3.3.1 Supportability	32
3.4 Conclusion	32

## **CHAPTER 4 DESIGN**

4.1 Introduction	33
4.2 High-Level Design	34
4.2.1 System Architecture	34
4.2.1.1 Architectural Description	35
4.2.2 User Interface Design	35
4.2.2.1 Navigation Design	38
4.2.2.2 Input Design	41
4.2.3 Database Design	45
4.3 Detail Design	46
4.3.1 Software Design	47
4.3.2 Physical Database Design	48
4.4 Conclusion	48

## **CHAPTER 5 IMPLEMENTATION**

5.1 Introduction	49
5.2 Software Development Environment Setup	50
5.3 Database Implementation	51
5.3.1 Database Access and Loading	51
5.4 Software Configuration Management	54
5.4.1 Configuration Environment Setup	54
5.4.2 Version Control Procedure	59
5.5 Implementation Status	60

**REFERENCES**

List of References

87

## LIST OF TABLE

TABLE	TITLE	PAGE
1	Phases & Activities of Prototyping Method	11
2	Type of Software Used	12
3	Type of Hardware Used	13
4	Milestone	14
5	Table Database user_det	22
6	Table Database class_det	23
7	Table Database condition_det	24
8	Table Database demerit_det	24
9	Table Database demerit_stud_mark_det	25
10	Table Database view_disp_teacher	25
11	Table Database view_student_details	25
12	Table Database alert_detail	26
13	List of Form Name or GUI	35
14	List of Object Name in Main Page	41
15	List of Object Name Use in Register New Student Form	42
16	List of Object Name Use in Manage Student Form	43
17	List of Object Name in Add Demerit Admin And Discipline Teacher	44
18	SDMS System Product Version	59

19	SDMS System Implementation Status	60
20	Test Organization	64
21	Test Environment Specification	65
22	Test Schedule	66
23	Black Box & White Box Testing Classes	68
24	Test Case for Login Module	71
25	Test Case for Register Class	72
26	Test Case for Register Student	72
27	Test Case for Register Teacher	73
28	Test Case for Demerit Rules	74
29	Test Case for Demerit Condition	75
30	Test Case for Searching	75
31	Test Result and Analysis for Login Module	76
32	Test Result and Analysis for Registration Module	78
33	Test Result and Analysis for Searching Module	79
34	Test Data for SDMS	80
35	Test Result and Analysis	81

## LIST OF FIGURES

DIAGRAM	TITLE	PAGE
1	Demerit System 2011	8
2	Borang Salah Laku	9
3	Current Demerit Management Flow Chart	21
4	Data Model Using Star Schema	22
5	DFD Level 0	28
6	DFD Level 1: Registration Process	29
7	DFD Level 2: Manage User Process	29
8	DFD Level 3: Demerit Management Process	30
9	DFD Level 4: Email Process	30
10	DFD Level 5: Report Process	31
11	Structuring Chart	35
12	Navigation of Main Page of SDMS	38
13	Navigation of Admin Page SDMS	39
14	Navigation of Discipline Teacher Page of SDMS	40
15	Navigation of Class Teacher Page of SDMS	40
16	Interface Main Page	41
17	Interfaces for Register New Student	42
18	Interface for Manage Student for Administrator View	43

19	Interface for Add Demerit Mark Admin and Discipline Teacher	44
20	The complete database diagram of SDMS	45
21	DFD level 0 of SDMS	47
22	Software Development Environment System	50
23	Connection for the Database	51
24	Add New Student into the System	52
25	JavaScript for verification	53
26	License Agreement of Adobe Dreamweaver CS3	55
27	Installation Complete of Adobe Dreamweaver CS3	56
28	Welcome Form of AppServ	57
29	Component Selection of AppServ	58
30	Configuration Server Information AppServ	58



**LIST OF ATTACHEMENT**

<b>ATTACHMENT</b>	<b>TITLE</b>	<b>PAGE</b>
1.0	User Manual	90

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Project Background**

Nowadays a lot of mistakes are be done by school student. The school rules and regulations are prepared with the cooperation of the school disciplinary board and the parent-teacher-association. They are based on the guidelines given by the Ministry of Education. So I would like to develop a system to manage the demerit given to students who break the school rules and regulations.

The system that I'm going to develop is SMK Berapit e-Dimerit Management System (SDMS) to be used in "Sekolah Menengah Kebangsaan Berapit". This system will be used to record the information of the students, their demerit marks and their mistakes. By using this system, the discipline teacher does not need to write down the student's detail each time they make mistakes. Next by using this system the discipline teacher does not need to calculate the amount of total demerit each student has gain

because the system will calculate it for the teacher automatically when the teacher add demerit marks into the system. Other than that, the class teacher can view all the details about the student's demerit marks whenever they want. This can help them to observe the students attitude all the time.

Besides that by using this system the discipline teacher will get an alert when they log into each time the student's had reach the maximum demerit marks. The discipline teacher or admin of the system can send email to the parents each time the student had reached the maximum marks.

## **1.2 Problem statement**

1. First is by using the manual system the discipline teacher needs to record the details of the student and their mistakes in a form each time the student break the school rules.
2. Secondly the discipline teacher needs to do the entire of the total calculation of demerit of the student each time they add the demerit marks.
3. Thirdly the discipline teacher needs to walk in to the office each time they want to give demerit to the student to take the form.
4. Next the class teacher will not be given any updates on the demerit marks of the student. If the class teacher wants to know about the demerit marks then, they need to seek for discipline teacher's help to know about it.
5. Finally by using the manual system, there will be no any alert given to the discipline teacher if the student's demerit mark reach the maximum level.

### 1.3 Objective

The objective of the SMK BERAPIT e- DIMERIT System (SDMS) is as below:

- i. To build an automation system for “Sekolah Menengah Kebangsaan Berapit”. (SMK Berapit)
- ii. To upgrade the current system that being used in SMK Berapit.
- iii. To make the information is managed with more systematically.
- iv. To make the data been stored with more safely.
- v. To make the discipline teacher work burden less.
- vi. To give an easy access to the class teacher to know their student’s behavior in school by knowing the demerit marks and their mistakes.

### 1.4 Project Scope

#### 1. Users

##### a) SMK Berapit class teacher

- The class teacher must have id and password to use this system.
- They can register new student and update student’s information.
- They can delete student.
- They can view the student demerit marks.

##### b) SMK Berapit discipline teacher

- Discipline teacher must have password and id to use this system.
- They can add the student’s demerit marks.
- They can view the student’s information.
- They can edit the student’s demerit marks.
- 

#### 2. Modules

##### a) Registration

- Class teacher and discipline teacher can access this module.
- Only who has register to this system can use the system.

#### b) Update & Delete

- *This process can be made by the class teacher and discipline teacher.*
- Class teacher can update the information that has been registered before.
- Class teacher can delete the details of the student

#### c) Searching

- The class teacher can search for the student's information to view their marks.
- The discipline teacher can search the student information to add the demerit marks.
- Searching will be made upon student's identification number.

#### d) Calculation

- The system can calculate the total mark of demerit for the student

#### e) Status

- The system will show level of the demerit marks the student have.

#### g) Alert

- The system will alert the discipline teacher once the demerit marks for the student reach the maximum level.

### **1.5 Project Significant**

- This system allows the class teacher to make registration for the students via online.
- The class teacher can view the student's record via online 24hours.
- The discipline teacher can update the demerit mark for the student.

### **1.6 Excepted output**

- The teacher can register them self via online.
- The teacher can view student information via online.
- The discipline teacher can use the system to record the student's mistakes and demerit marks.

### **1.7 Conclusion**

This is the conclusion of SMK BERAPIT e-DIMERIT System (SDMS). I would like to develop this system for "Sekolah Menengah Kebangsaan Berapit" because there is a lot of problem may occur by using the current system that is being used in this school.

## **CHAPTER 2**

### **LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling, of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant. Literature review also shows the research that related to the project's topic. Thus, another meaning of literature review is a critical look of existing research that significant to the work that we are

carrying out. Literature review is important because it shows the target of the project.

This chapter contains all the research that has been done on the previous system and existing system on the internet including reviews on the features, capabilities and so on. All the weaknesses on the current or existing system were identified in order for this project to overcome those complications, thus the strength of the existing system were identified and studied for it can be implemented in the upcoming system.

The methodology consists of several phases as a guideline that are to be achieved. The project requirements such as software and hardware for the project development have been identified. The project milestone from the start until the delivery phases are also briefed and listed in this chapter. The milestone and Gantt chart are important as a guideline to ensure the project is completed according to the schedule and plan.

## **2.2 Facts and Finding**

Fact and finding is the method used to state the approach which are related to pass research, references and other finding that related to the project title.

### **2.2.1 Domain**

The domain for SDMS is an ICT in demerit management process. ICT or Information Communication Technologies represent one of the current applications of technology towards education. This system is categorized in this domain