

**SISTEM PENEMPATAN PETUGAS PEPERIKSAAN (e-SPPP)**

MOHD SHAHRUL BIN ABU BAKAR

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI

*GRADE:*



A-

B+

B

B-

**BORANG PENGESAHAN STATUS TESIS\***

JUDUL: **SISTEM PENEMPATAN PETUGAS PEPERIKSAAN (e-SPPP)**

SESI PENGAJIAN: **2009/2010**

Saya **MOHD SHAHRUL BIN ABU BAKAR**  
(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)

Alamat tetap: No 20 Jalan Besar,  
Felda Padang Piol ,  
27040 Jerantut,  
Pahang Darul Makmur .

Tarikh : \_\_\_\_\_

\_\_\_\_\_  
(TANDATANGAN PENYELIA)

PN. NORHASLINDA BINTI ISMAIL  
Nama Penyelia

Tarikh : \_\_\_\_\_

CATATAN: \* Tesis dimaksudkan sebagai Laporan Akhir Projek Sarjana Muda (PSM)

\*\* Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

**SISTEM PENEMPATAN PETUGAS PEPERIKSAAN (e-SPPP)**

**MOHD SHAHRUL BIN ABU BAKAR**

**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  
2010**

## DECLARATION

I hereby declare that this project report entitled  
**SISTEM PENEMPATAN PETUGAS PEPERIKSAAN (e-SPPP)**

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

STUDENT : \_\_\_\_\_ Date: \_\_\_\_\_  
(MOHD SHAHRUL BIN ABU BAKAR)

SUPERVISOR: \_\_\_\_\_ Date: \_\_\_\_\_  
(MRS. NORHASLINDA BINTI ISMAIL)

## DEDICATION

To my beloved parents, Hj Abu Bakar bin Hj Ismail and Hjh Salasiah binti Hj Bustami, my precious supervisor, Mrs. Norhaslinda binti Ismail, my lecturers, my all friends and all 3 BITS students for giving assistant and support to complete this project successfully.

## ACKNOWLEDGEMENTS

Alhamdulillah, praise to Allah s.w.t, I am very pleased and grateful of being able to finish my final project. First and foremost, I would like to thank my beloved parents and my family for their support and motivation throughout my project.

I would like to express my gratitude to my supervisor, Miss Nohaslinda Ismail, who expertise, understanding, and patience, added considerable to my success of completing this thesis. I appreciate him vast knowledge and skill in many areas and him assistant in writing and completing this report.

I'm also appreciate to my all friend inside and outside UTeM for their exchanges of knowledge, skills, and venting of frustration while completing my final project program which helped enrich the experience. Although, I would like to thanks for many people that have contributed and helped to complete this project. I take sole responsibility for errors. Wassalam.

## ABSTRACT

Sistem Penempatan Petugas Peperiksaan (e-SPPP) is system that provides the examination supervisor to manage the examination monitor placement for the examination. This system will store the information about the examination monitor. The supervisor also can manage the examination monitor schedule based on examination process. This system will show the settlement center that will which places of the examination monitor. This system easily helps the supervisor not manually to send the information about examination placement place to the center.

## ABSTRAK

Sistem Penempatan Petugas Peperiksaan (e-SPPP) adalah sebuah system yang membantu penyelia kawasan peperiksaan menetapkan penempatan untuk pengawas peperiksaan. Sistem ini akan menyimpan maklumat mengenai sekolah, pengawas, peperiksaan, penyelia kawasan dan pusat penempatan untuk pengawas peperiksaan. Sistem ini akan membantu penyelia untuk menetapkan penempatan pengawas mengikut keperluan yang telah disediakan oleh pusat. Sistem ini juga dapat membantu penyelia kawasan daripada menghantar maklumat penempatan secara manual ke jabatan pendidikan negeri.



## TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	<b>DECLARATION</b>	<b>ii</b>
	<b>DEDICATION</b>	<b>iii</b>
	<b>ACKNOWLEDGEMENTS</b>	<b>iv</b>
	<b>ABSTRACT</b>	<b>v</b>
	<b>ABSTRAK</b>	<b>vi</b>
	<b>TABLE OF CONTENTS</b>	<b>vii</b>
	<b>LIST OF TABLE</b>	<b>xi</b>
	<b>LIST OF FIGURE</b>	<b>xiii</b>
<b>CHAPTER I</b>	<b>INTRODUCTION</b>	
	1.1 Project Background	1
	1.2 Problem Statements	2
	1.3 Objectives	3
	1.4 Scopes	3
	1.5 Project Significance	5
	1.6 Expected Output	6
	1.7 Conclusion	6

<b>CHAPTER II</b>	<b>LITERATURE REVIEW AND METHODOLOGY</b>	
2.1	Introduction	7
2.2	Fact and Finding	8
	2.2.1 Domain	8
	2.2.2 Existing System	8
	2.2.3 Comparison Existing System	13
	2.2.4 Technique	13
	2.2.4.1 Interview	13
	2.2.4.2 Review	14
2.3	Project Methodology	14
2.4	Project requirement	16
	2.4.1 Software requirement	17
	2.4.2 Hardware requirement	17
2.5	Project Schedule	18
2.6	Conclusion	19
<b>CHAPTER III</b>	<b>ANALYSIS</b>	
3.1	Introduction	20
3.2	Project Analysis	21
	3.2.1 Background of current system	21
	3.2.2 Analysis of to-be develop the system	22
	3.2.3 Problem statement	23
3.3	Requirement Analysis	24
	3.3.1 Data requirement	24
	3.3.2 Functional requirement	27
	3.3.2.1 Use case diagram	29
	3.3.2.2 Use case description	29
	3.3.3 Non-functional requirement	34
	3.3.4 Other requirement	35
	3.3.4.1 Software requirement	35
	3.3.4.2 Hardware requirement	38

3.4	Conclusion	39
<b>CHAPTER IV DESIGN</b>		
4.1	Introduction	40
4.2	High-Level Design	40
4.2.1	System architecture	41
4.2.2	User interface design	42
4.2.2.1	Navigation design	46
4.2.2.2	Input design	47
4.2.2.3	Output design	50
4.2.3	Database design	51
4.2.3.1	Conceptual database design	51
4.2.3.2	Logical database design	54
4.2.3.3	Normalization	57
4.3	Detailed Design	57
4.3.1	Software design	58
4.3.1.1	Login	58
4.3.1.2	School info/data	58
4.3.1.3	Teacher info/data	59
4.3.1.4	Supervisor info/data	60
4.3.1.5	Placement	61
4.3.2	Physical database design	61
4.3.2.1	Data definition language	62
4.4	Conclusion	65
<b>CHAPTER V IMPLEMENTATION</b>		
5.1	Introduction	66
5.2	Software Development Environment Setup	67
5.3	Software Configuration Management	68
5.3.1	Configuration management setup	69
5.3.2	Version control procedure	69

5.4	Implementation Status	70
5.5	Conclusion	72
<b>CHAPTER VI</b>	<b>TESTING</b>	
6.1	Introduction	73
6.2	Test Plan	74
	6.2.1 Test organization	74
	6.2.2 Test environment	75
	6.2.3 Test schedule	76
6.3	Test Strategy	77
	6.3.1 Classes of test	77
6.4	Test Design	78
	6.4.1 Test description	78
	6.4.2 Test data	85
	6.4.2.1 System test data	86
	6.4.2.2 Integration test data	86
6.5	Test Result and Analysis	86
6.6	Conclusion	88
<b>CHAPTER VII</b>	<b>PROJECT CONCLUSION</b>	
7.1	Observation on Weakness and Strengths	89
	7.1.1 System Strength	89
	7.1.2 System Weakness	90
7.2	Proposition for Improvement	90
7.3	Contribution	91
7.4	Conclusion	92
	<b>REFERENCE/BIBLIOGRAPHY</b>	93
	<b>APPENDICES</b>	94

## LIST OF TABLES

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
1.1	System User	3
1.2	Modules	4
2.1	Comparison of Existing System	13
2.2	Software Requirements	17
2.3	Hardware Requirements	17
2.4	Phase, Duration Taken and the Milestone Procedure	18
3.1	Data Requirement for Login	25
3.2	Data Requirement for Teacher	25
3.3	Data Requirement for School	26
3.4	Data Requirement for Supervisor	26
3.5	Functional Requirements	27
3.6	User Authentication Use Case Description	29
3.7	Manage School Use Case Description	30
3.8	Manage Teacher Use Case Description	31
3.9	Manage Supervisor Use Case Description	32
3.10	Manage Placement Use Case Description	33
3.11	Description of Software Requirement	35
3.12	Description of Hardware Requirement	38
3.13	Description of Network Requirement	38
4.1	Input Design for e-SPPP	48
4.2	Output Design for e-SPPP	50
4.3	Logical Database Design (Table Login)	54

4.4	Logical Database Design (Table Teacher)	54
4.5	Logical Database Design (Table School)	55
4.6	Logical Database Design (Supervisor)	56
4.7	Logical Database Design (Task)	56
4.8	Create Table Login	62
4.9	Create Table Teacher	63
4.10	Create Table School	64
4.11	Create Table Supervisor	64
5.1	Version Control Procedure	70
5.2	Implementation Status	71
6.1	Roles and Responsibilities in Testing	74
6.2	Test Environment Specification	75
6.3	Test Schedule	76
6.4	Test Cases for Login Module	79
6.5	Add New School Test Description	79
6.6	Delete School Data Test Description	79
6.7	Edit School Data Test Description	80
6.8	Search School Data Test Description	80
6.9	Add New Teacher Test Description	80
6.10	Delete Teacher Data Test Description	81
6.11	Edit Teacher Data Test Description	81
6.12	Search Teacher Data Test Description	82
6.13	Add New Supervisor Test Description	82
6.14	Delete Supervisor Data Test Description	82
6.15	Edit Supervisor Data Test Description	83
6.16	Search Supervisor Data Test Description	83
6.17	Supervisor Placement Test Description	83
6.18	Examinator/Teacher Placement Test Description	84
6.19	View Placement Test Description	84
6.20	Send SMS Test Description	85
6.21	Test Result	86

## LIST OF FIGURES

<b>FIGURE</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Main Interface of SPPP	9
2.2	Data Sekolah Interface	10
2.3	Penempatan Pengawas Interface	10
2.4	Main Interface of SPOku	11
2.5	Main Interface of SONIA	12
2.6	V-Shape Model	16
3.1	Flow Chart for Current System	22
3.2	Use Case Diagram for e-SPPP	29
4.1	System Architecture in e-SPPP	41
4.2	Main Page of e-SPPP	43
4.3	Login Page of e-SPPP	44
4.4	Login Register for Supervisor of e-SPPP	44
4.5	Admin Menu Form of e-SPPP	45
4.6	Supervisor Menu Form of e-SPPP	46
4.7	Navigation Design of e-SPPP	47
4.8	ERD of e-SPPP	53
5.1	Software Environment Setup	67
5.2	Sequence of Installation Tools for e-SPPP	69
A1	Register page	94
A2	Login Page	94
A3	Supervisor Main Menu	95
A4	Page School data	95

A5	Page Teacher data	96
A6	Page Supervisor data	96
A7	Set Placement page	97
A8	Select Supervisor page	97
A9	Set placement page	98
A10	Set placement for Teacher page	98
A11	Admin Main Menu	99
A12	Manage School data page	100
A13	Manage Teacher data page	101
A14	Manage Supervisor data page	101
A15	Select report page	102
A16	Select Teacher to send sms	102
A17	Sms send page	103
B1	Gant Chart	104
C1	Use case diagram	105
D1	e-SPPP navigation	106



## CHAPTER I

### INTRODUCTION

#### 1.1 Project Background

Sistem Penempatan Petugas Peperiksaan (e-SPPP) is the enhanced system from the current system. After some research was done, the current system is seemed to be outdated. It use Microsoft Access as their Graphic User Interface (GUI) and database and many bugs can be found while using it. This is quite difficult to store the large information. With this the security for the data is not very secure. This system will provide the examination supervisor to manage the examination monitor placement for the examination. This current system is only applied in Pahang state education department. The current system is a standalone system and it is quite simple system that means admin/clerk and supervisor use the same system to do their work. Admin/clerk must used the system first to manage the school, teacher and supervisor information. Once admin/clerk was done their work, supervisor will take over the process to set the placements. With this process it is quite difficult for admin/clerk and supervisor to manage the process. So, this new system will make it easier for the work of data and management process. Due to the system is a client-server system, the supervisor no need to rush or go to the state education department to send the data. They can access from the web to use the system then automatically update the system that will use by the admin in the education state department.

## 1.2 Problem Statements

The system will be developed based on the problems that occur from the current system. The problems are stated below:

**i. Current system is outdated and need enhancement**

The current system uses the Microsoft Access for the GUI and database. There is also many errors can be found when using the system. The interface of the current system is not user-friendly.

**ii. Current system does not have enough security measurement**

The current system did not provide complete requirements of user needed. It does not have a common login module that is essentials for security purpose.

**iii. Work of managing and maintaining data is hard**

Supervisor must send the placement via own way, that means supervisor must go to the center to send the data. Even the current system is not enough to maintain the data as it contains a lot of bugs everywhere.

**iv. Current method cannot search record efficiently**

Searching for the data can be hard work. Current system searching method is limited. There is no error handling when searching method used.

### 1.3 Objectives

This system is developed to fulfill the objectives, which are:

**i. To upgrade the current system from stand alone to web base system**

Current system is still using Microsoft Access as a GUI and database. The current system will be upgraded by using web based to the system so that the supervisor can easily manage the placement.

**ii. To give a system that more systematic and user friendly compare with current system**

User can easily manage the record whenever they want in every where as long as that places have an internet connection.

**iii. To be able to search record faster and more efficiently**

The searching method in the current system is not user friendly. The user does not know the key to search in the current system. This is the weakness that can be improved.

### 1.4 Scopes

Scope for this system is divided by two that is system user and system service.

#### 1.4.1 System users

**Table 1.1 System Users**

Users	Description
<b>Admin</b>	Admin can add, edit, delete, and search the module function in the system.

<b>Supervisor</b>	<ul style="list-style-type: none"> <li>- Supervisor will set the placement for the examination monitor</li> <li>- Supervisor will choose the school that they have to monitor.</li> </ul>
-------------------	---

#### 1.4.2 Modules

**Table 1.2 Modules**

<b>Modules</b>	<b>Description</b>
<b>Login</b>	<ul style="list-style-type: none"> <li>- Used to identify admin and supervisor that used the system. Only authorized staff and supervisor can access the system</li> </ul>
<b>School Data</b>	<ul style="list-style-type: none"> <li>- Admin can manage the school information</li> </ul>
<b>Teacher Data</b>	<ul style="list-style-type: none"> <li>- Admin can manage the teacher information whose have been appointed to be examination monitor.</li> </ul>
<b>Supervisor Data</b>	<ul style="list-style-type: none"> <li>- Admin can manage the supervisor information whose have been appointed as a examination area supervisor.</li> </ul>

<b>Placement</b>	<ul style="list-style-type: none"> <li>- The supervisor will set the placement for the examination monitor.</li> </ul>
<b>Report</b>	<ul style="list-style-type: none"> <li>- Admin will use report to inform the school about their examination placement</li> </ul>

### 1.5 Project Significance

**i. Provide an effective way to manage the data.**

All the data will be stored in the database. So it is less likely to have data anomalies because database management enforces reduction of data redundancy.

**ii. Provide online services so that it can be access in anytime.**

The system also provided a web-based system. The user can use the system in anytime as long that they have an internet connection.

**iii. Provide high security environment.**

The system will provide a login module and access log report. It can prevent unauthorized user from using the system. The current system does not have any security applied to their system.

## **1.6 Expected Output**

Sistem Penempatan Petugas Peperiksaan (e-SPPP) is developed to give the system more systematic and user friendly compare with current system. When the system is already done and enable to use, the users can get more benefit with its function. For example, supervisor does have to go to the center to send the placement again. The system will give a report about the examination placement place. This system hopefully can cover the current system weakness and enhance from it.

## **1.7 Conclusion**

This chapter contains the detail description of the proposed project which is e-SPPP. From this chapter, the problem from the current system was identified and the main objective and the scope of the project were clearly defined. In this chapter, the possible solution is suggested

Chapter 2 will discuss on the literature review and the methodology that will be used to develop this system. Literature review will describe all the research and findings related to this project and the methodology will cover on the selected approach to develop this project.

## **CHAPTER II**

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

#### **2.1 Introduction**

This chapter will discuss the analysis and existing or similar application that is related to the project. Literature review will focus on the research of the existing and future application. Literature review is a process of searching, collecting, analyzing and drawing conclusion from all debates and issue raised in relevant body of literature. It describes all the analysis and findings which are related research, case study and other findings that are related to this project. In addition, it also consist the knowledge of the project elements such as domain specification, techniques and how these elements related and combined to each other.

Methodology is the key of succeeding in finishing a project within time and being able to satisfy user's requirements. It is also a description of the selected approach that will be used when developing the project. Every step in the selected methodology will be justified to suit every task. Since there are many kind of methodology, it is vital to select appropriate methodology that will be used.

## **2.2 Facts and findings**

This section will discuss the researches that have been done from the point of domain, existing application and technique used, which are related to this project.

### **2.2.1 Domain**

The domain of this project is about the monitoring examination placements. The supervisor easily can manage the examination monitor information. This system also can manage the school and teacher information.

### **2.2.2 Existing System**

#### **2.2.2.1 Case Study :Sistem Penempatan Petugas Peperiksaan-SPM (SPPPD-2010)**

This SPPPD system is currently used by the supervisor to manage the examination monitor. This system basically contains all the information about school, teacher who does apply to be examination monitor and also the supervisors who were appointed. It's also can generate and print the reports about the school and their examination monitor.

The systems are a standalone system and were developed by using Microsoft Access as a GUI and database. This is quite difficult to store the large information. With this the security for the data is not very secure.

The weaknesses of these systems are that it has no security system such as user authentication and access level. This feature is important to ensure that