

## BORANG PENGESAHAN STATUS TESIS\*

JUDUL: MALACCA e-PREGNANCY SYSTEM (MePS)

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
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**MALACCA e-PREGNANCY SYSTEM (MePS)**

**FARAHIDHA BT ROSLI**

**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  
2007**

## DECLARATION

I hereby declare that this project report entitled  
**MALACCA e-PREGNANCY SYSTEM (MePS)**

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

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(ROSMIZA WAHIDA ABDULLAH)

## **DEDICATION**

Special dedicated to my beloved husband and son.  
For my project supervisor, Mrs Rosmiza Wahida Abdullah  
And lastly to my entire friends who have encouraged, guided and inspired me  
throughout my journey of education.

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I do not forget to mention and extend thanks to all my friends who have helped me in some way or other made this project documentation possible. Thank you very much for everything.

## ABSTRACT

Malacca E-Pregnancy System (MePS) a distributed network information system designed and developed for the Malacca government clinics is described. This system provides interaction and access to patient records for doctors, nurses and pregnant mothers. Information can be accessed anywhere in the government clinics where it is connected to the central server. This is very useful for check ups and updates and examples are given of how this system can speed up efficiency of the administration process. MePS is developed using PHP programming language, MySQL to create system database and Macromedia Dream weaver MX to develop user and system interface. The system has been divided into seven chapters in this report. The chapters start from Introduction, Literature Review and Project Methodology, Analysis, Design, Implementation, Testing and Project Conclusion.

## ABSTRAK

Malacca e-Pregnancy System (MePS) suatu rangkaian sistem maklumat direkabentuk dan dibangunkan teragih untuk klinik-klinik kerajaan di Melaka. Sistem ini menyediakan interaksi dan akses untuk rekod-rekod pesakit untuk para doktor, jururawat dan ibu-ibu hamil. Maklumat boleh diakses di mana saja di klinik kerajaan di mana ia adalah bertalian pelayan pusat. Ini sangat berguna untuk pemeriksaan dan kemaskini dan contoh-contoh diberikan bagaimana sistem ini boleh mempercepatkan kecekapan proses pentadbiran. MePS dibangunkan dengan menggunakan teknologi sumber terbuka iaitu bahasa pengaturcaraan PHP dan perisian pangkalan data MySQL. Manakala antaramuka sistem dibangunkan dengan menggunakan perisian Macromedia Dreamweaver MX. . Sistem ini terbahagi kepada 7 bahagian dimana bahagian pertama ialah Pengenalan, Kajian Literasi dan Metodologi Projek, Analisis, Rekabentuk, Pembangunan, Pengujian dan Kesimpulan Projek.



## TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	<b>TESIS STATUS FORM</b>	<b>i</b>
	<b>DECLARATION</b>	<b>ii</b>
	<b>DEDICATION</b>	<b>iii</b>
	<b>ACKNOWLEDGEMENT</b>	<b>iv</b>
	<b>ABSTRACT</b>	<b>v</b>
	<b>ABSTRAK</b>	<b>vi</b>
	<b>TABLE OF CONTENTS</b>	<b>vii-x</b>
	<b>LIST OF TABLE</b>	<b>xi-xii</b>
	<b>LIST OF FIGURE</b>	<b>xiii-xiv</b>
	<b>LIST OF ATTACHMENT</b>	<b>xv</b>
CHAPTER	INTRODUCTION	PAGE
<b>I</b>	1.1 Background	1
	1.2 Problem Statement	2-3
	1.3 Objective	3
	1.4 Scope	3-4
	1.5 Project Signification	4
	1.6 Expected Output	5
	1.7 Conclusion	6
CHAPTER	LITERATURE REVIEW AND PROJECT METHODOLOGY	
<b>II</b>	2.1 Introduction	7
	2.2 Fact and findings	8



2.2.1	Domain	8
2.2.2	Existing System	9
2.2.3	Technique	11
2.3	Project Methodology	11
2.4	Project Requirement	14
2.4.1	Software Requirement	14
2.4.2	Hardware Requirement	15
2.4.3	Other Requirement	15
2.5	Project Schedule and Milestone	16
2.6	Conclusion	17

**CHAPTER****III****ANALYSIS**

3.1	Introduction	19
3.2	Problem Analysis	19
3.2.1	Background/Overview of current system	19
3.2.2	Problem Statement	21
3.3	Requirement Analysis	23
3.3.1	Functional Requirement	23
3.3.1.1	Scope	23
3.3.2	Use Case View	31
3.3.3	Actors	33
3.3.4	Use Case Description	34
3.3.5	Interaction Diagram	50
3.3.6	Software Requirement	57
3.3.7	Hardware Requirement	60
3.3.8	Other Requirement	61
3.4	Conclusion	62

**CHAPTER****IV****DESIGN**

4.1	Introduction	63
-----	--------------	----

4.2	High-Level Design	64
4.2.1	Raw Data	64
4.2.2	High Level Logical View/Architecture	65
4.2.2.1	Static Organization	66
4.2.2.2	High Level Class Diagram	68
4.2.3	User Interface Design	69
4.2.3.1	Navigation Design	69
4.2.3.2	Input Design	70
4.2.3.3	Output Design	71
4.2.4	Database Design	71
4.2.4.1	Logical Database Design	71
4.2.5	Deployment View	73
4.3	Detail Design	74
4.3.1	Software Specification	74
4.3.2	Physical Database Design	76
4.4	Conclusion	76

**CHAPTER****V****IMPLEMENTATION**

5.1	Introduction	77
5.2	Software Development Environment setup	78
5.3	Software Configuration Management	80
5.3.1	Configuration Environment setup	81
5.3.2	Version Control Procedure	82
5.4	Implementation Status	83
5.5	Conclusion	84

**CHAPTER****VI****TESTING**

6.1	Introduction	85
6.2	Test Plan	86
6.2.1	Test Organization	86
6.2.2	Test Environment	88

6.2.3	Test Schedule	89
6.3	Test Strategy	90
6.3.1	Classes of test	91
6.3.1.1	Unit Testing	91
6.3.1.2	Integration Testing	93
6.3.1.3	System Testing	96
6.3.1.4	User Acceptance Testing	97
6.4	Test Design	97
6.4.1	Test Description	97
6.4.2	Test Data	101
6.5	Test Result	102
6.6	Conclusion	104

**CHAPTER****VII****CONCLUSION**

7.1	Introduction	105
7.2	Strength	105
7.3	Weaknesses	106
7.4	Contribution	106
7.5	Proposition for improvement	106
7.6	Conclusion	106

## REFERENCES

## BIBLIOGRAPHY

## APPENDICES

## LIST OF TABLES

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Software requirements	14
2.2	Hardware requirements	15
2.3	Project Schedule	16
3.1	Descriptions of Functional Requirement	24
3.2	Use Case Name: Login Doctor	35
3.3	Use Case Name: Login Nurse	36
3.4	Use Case Name: View and Update Staff Info	37
3.5	Use Case Name: View and Update Patient Info	39
3.6	Use Case Name: Update Check up Info	41
3.7	Use Case Name: View Check up Info	43
3.8	Use Case Name: View Appointment	44
3.9	Use Case Name: Generate Statistics	45
3.10	Use Case Name: Notification Email	46
3.11	Use Case Name: Register Clinic	47
3.12	Use Case Name: Register Administrator	48
3.13	Use Case Name: View Transaction Log	49
3.14	List of Hardware Requirement	61
4.1	Raw Data of the Staff profiles form in current system	59
4.2	Raw Data of the Patient profiles form in current system	59
4.3	Raw Data of the Check up information form in current system	60
4.4	Malacca e-Pregnancy System Packages Descriptions	63
5.3	Environment Setup for Computer Requirements	80

5.4	Environment Setup for Web Browser	81
5.5	List of Procedure and Control	83
5.6	Implementation Status	84
6.1	Testing Activities and Responsibilities	87
6.2	Roles, Responsibilities and Skills Needed	88
6.3	MePS Test Environment	90
6.4	Test Schedule	90
6.5	Integration Testing for Login Form	94
6.6	Integration Testing for Staff Information Form	95
6.7	Integration Testing for Patient Information Form	95
6.8	Integration Testing for Check up Form	96
6.9	Integration Testing for Clinic Form	96
6.10	Integration Testing for Appointment Form	97
6.11	Test Cases for Main Menu Module	99
6.12	Test Cases for Staff Module	99
6.13	Test Cases for Patient Module	100
6.14	Test Cases for Check up Module	100
6.15	Test Cases for Clinic Module	101
6.16	Test Cases for Appointment Module	102
6.17	Test data record according test cases, test data and expected results	103



## LIST OF FIGURES

FIGURES	TITLE	PAGE
3.1	Activity Diagram for Check up Pregnancy Manual	21
3.2	Overview of Malacca E-Pregnancy System (MePS)	26
3.3	Activity diagram for Patient Information	27
3.4	Activity diagram for Notification Email	28
3.5	Activity diagram for Staff Information	29
3.6	Activity diagram for Check up Information	30
3.7	Activity diagram for View Appointment	31
3.8	Activity diagram for Generate Report	32
3.9	Overview of Malacca e-Pregnancy System Use Case	33
3.10	Interaction diagram for Login Doctor to MePS	51
3.11	Interaction diagram for Login to Nurse MePS	51
3.12	Interaction diagram for Register Clinic to MePS	52
3.13	Interaction diagram for Register Admin to MePS	53
3.14	Interaction diagram for View Transaction Log to MePS	53
3.15	Interaction diagram for View and Update Staff Info	51
3.16	Interaction diagram for View and Update Patient Info	55
3.17	Interaction diagram for Update Check up Information	56
3.18	Interaction diagram for View Check up Information	56
3.19	Interaction diagram for Generate the Report	57
3.20	Interaction diagram for View Appointment	57
3.21	Interaction diagram for Send Notification Email	58
4.1	System software architecture overview based on 2-tier architecture	66
4.2	The Pregnancy System packages	67
4.3	Class Diagram for Entering Data	69
4.11	Overview of Navigation Design of Malacca e-Pregnancy System	71

4.15	ERD Model of Malacca e-Pregnancy System	73
4.16	Deployment View of Malacca e-Pregnancy System	74
4.17	Detail Design of Malacca e-Pregnancy System	75



## LIST OF ATTACHMENTS

<b>ATTACHMENT</b>	<b>TITLE</b>
1.1	Appendix A: Project Gantt Chart
1.2	Appendix B: System Design
1.3	Appendix C: System Implementation
1.4	Appendix D: System User Manual For Patient
1.5	Appendix E: System User Manual For Admin
1.6	Appendix F: System User Manual For Doctor
1.7	Appendix G: System User Manual For Nurse

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Project Background**

In the eighteenth and nineteenth century, looking back, there was an industry revolution. In the most developing nation of the time, all types of machines were invented. In this day and age nowadays, machines and manufacturing and remarkable feats of engineering do still exist yet in terms of complexity in the design but the advent of computerised machine has made remarkable and changed many lives. It is advancement has not stopped but is evolving and revolutionizing the way we live our life. Software otherwise known as the operating system or ‘soul’ of the system is at the heart of this ever changing revolution. It has been almost two decades since computer was invented and day by day it is changing people lives and views and yet the possibilities are endless. Software engineering is a field and discipline not to be overlooked but has played a very big role in many of the projects that has taken place. The world in its own right is every changing and it’s moving towards the future.

In this day and age more and more people are increasingly becoming involved in the service sector. People’s needs and requirements are greater than it was two centuries ago. People are now becoming knowledge workers. Information is becoming increasingly important where it’s needed most. In almost all public and private sector information systems are designed and developed to cater people’s needs and requirements. It is in this interest that focus is given on information system.

Malacca E-Pregnancy System (MePS) is a system where all data and information of patient or pregnant mother can be retrieved at all government clinics in Malacca area. The data will be easily accessed by all nurse or doctor which are registered staff in government clinic in Malacca because this system is a web based. Patient also can view their appointment session, and there is no log in for them. The system also can generate statistics on how many patients come to each clinic every month. The system is developed based on real case research.

Currently, all data storage is implemented in manual way which is the data are written in record book and the patient or pregnant mother must bring along the record book together all the time to do check up in clinic. They don't have a system that will record the patient profile and information of pregnancy. Therefore, the record will only be found in one clinic which patient go before. If emergency happens, and the patient has been sent to different clinic, it is quite difficult because there no data in the clinic. It is quite not relevant to get the information from the patient's relative because the data might not accurate. By having this system, the database is centralized. Also by having this system the patient does not have to bring the record book together with them. They can go for check up in any government clinic in Malacca area, unlike the current practice.

## **1.2 Problem Statements**

After the widely usage of computers in almost every aspect of today's life, new appropriate ways to deal and handle medical data is taken into consideration. From the early days of computers that need of replacing the 'old' paper records with computer-based records was more than emerging. The reasons are obvious and almost identical with all the other areas where computer are used, speed, accuracy, storage limitation, etc. Moreover it is well understood that computerization of health information while offering new opportunities to improve the health care system, it also creates new challenge of how to deal with such sensitive medical information. The problem faced by the clinic which still uses a manual system are such as



unsecured data, difficult to access information and make decision, storage and space constraint, and standardization of report and documentation.

### 1.3 Objectives

- i. To make patient more convenience because there is no dedicated clinic for patient to do checkup, which mean patient can go to any government clinics in Malacca Tengah Area.
- ii. To enable patient to check their next and previous appointment and check up details. They just insert their identification number to enter the system.
- iii. To enable nurse and doctor in any government clinic in Malacca access all data of patient, including personal information and checkup details and update it.(Registered staff only)
- iv. To enables admin to view the transaction log which is done by users such as add, update or delete information.
- v. To enables admin to register clinic and register staff (administrator, doctor and nurse).
- vi. To enable system to generate statistics on how many patients come to each clinic every month.

### 1.4 Scopes

Scopes of this project are to develop a web based system for Malacca e-Pregnancy System. Target user for this system is pregnant mother who live in Malacca Tengah Area, nurse, doctor and administrator. For pregnant mother they must register with any government's clinics in Malacca Tengah Area to get access to the website to access the information such as checkup details and appointment session. Same goes to nurse, doctor and administrator. The prototype application will consist of modules as mentioned below:

- i. **System Log in Module:** This module manages the user access through the user login. The system will be used by all government clinics in Malacca Tengah Area. This system also is intended to be use by all nurses and all doctors which are registered staff in government clinics.
- ii. **Patient Registration Module:** This module will use to manage patient registration. This system can save the record of new patient. The system also can update record for existing patient. Only authorized staff can use this system.
- iii. **Patient Appointments Schedule:** This system enable patient to view when the next appointment and previous appointment is. To view their appointment session they only need to insert their i.c number.
- iv. **Report Generation:** The system also can generate statistics on how many patients come to each clinic every month.
- v. **Email Notification:** This function will send the Email to user (nurse and doctor) after registration for notification username and password.
- vi. **View Transaction Log:** This enables admin to view the transaction log which is done by users such as add, update or delete information. Admin needs to select the between date to appear the transaction log.

## **1.5 Project Significant**

Information system in the past has been developed for various sectors both in public and private sector. It is in the interest of this project that the hospital is being looked at closely for study and explore possibilities where needs should be looked at in detail and where areas it can be improved. Nothing is more important to patient than good customer service. The aim of this project is to improve customer service by saving time and increase efficiency of one particular department. The main interest of this project © Universiti Teknikal Malaysia Melaka department for this particular

project. The purpose of this project is to help reduce the processing time and increasing efficiency therefore giving satisfaction in service for the patient and for the doctors' up to date information of patient's records at their fingertips.

## **1.6 Expected output**

From the scopes, below are the expected outputs should be produce by the MePS.

- i. **System Log in Module:** This module manages the user access through the user login. The system will be used by all government clinics in Malacca Tengah Area. This system also is intended to be use by all nurses and all doctors which are registered staff in government clinics.
- ii. **Patient Registration Module:** This module will use to manage patient registration. This system can save the record of new patient. The system also can update record for existing patient. Only authorized staff can use this system.
- iii. **Patient Appointments Schedule:** This system enable patient to view when the next appointment and previous appointment is. To view their appointment session they only need to insert their i.c number.
- iv. **Report Generation:** The system also can generate statistics on how many patients come to each clinic every month.
- v. **Email Notification:** This function will send the Email to user (nurse and doctor) after registration for notification username and password.
- vi. **View Transaction Log:** This enables admin to view the transaction log which is done by users such as add, update or delete information. Admin needs to select the between date to appear the transaction log.



## 1.7 Conclusion

This aim can be achieved by developing a web based information system prototype that will replace and automate most of the manual processes. It is the objective of the project to analyze the current manual system to identify which areas that can be enhanced taking into consideration the issues that will be raised as a result of the changes that will be made to the system. There will be many issues to contend with particularly usability and resistance of some users to the new system. Therefore, it is in the best interest of the users and prospective users of the system that this project aims to resolve many of those issues by applying and implementing a step by step software project planning phases in detail from feasibility study to testing and implementation.

In the following chapters, the overall aim is to tackle the issues related with the development of an information system. The main emphasis will be to anticipate and identify problems as early as possible in the course of the project particularly in the analysis section. It has been found that ease of interaction between the patient and the information system has a long lasting effect which can be negative or positive. This will depend on several factors for instance, delivery of required information in a timely and accurate manner, user friendly interface, ease of use. Hence for the most critical part of the project is to conduct a thorough research of the current manual system being implemented. Secondly, capturing user's requirement in the most effective way plays a very important role in the subsequent design of the system. Therefore it is very important to carry out this step very thoroughly in order to eliminate potential bugs in the design and testing of the system.

Having said this, where user's requirement is concerned, it is possible to undertake an approach whereby an interactive process of designing and developing prototype is used to satisfy the end user's requirement. This type of methodology and process is called RUP (Rational Unified Process). The aim of this project is to take into consideration the best approach and methodology in finding the solution to the problem and the purpose is to analyse, investigate, design develop, test and implement the final prototype and evaluate end user's feedback.



## **CHAPTER II**

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

#### **2.1 Introduction**

The introduction of internet and the use of personal computers have undoubtedly changed the way we live our lives. There were those people called programmers who were gifted with the ability to design and develop applications suited to people's needs. Over the years, software engineering principles were founded and based on the environment and people's needs. Unlike some other disciplines, for instance engineering, principles and methodologies in the field of software engineering are constantly under review and subject to changes due to the fact that user's demand and lifestyle are becoming more and more sophisticated. Technology also plays a role. Computers machines are becoming more and more powerful. Internet networks are constantly expanding day by day. Applications designs for use on the internet are becoming increasingly sophisticated. Software manufacturers such as Microsoft exploit this and consider that there is a huge market for such users.

Despite the growing need for bigger, faster and more sophisticated applications, there is a general dissatisfaction and uncertainty amongst users in various sectors with regards to personal identity security. This has been the most widely discussed issues especially with the integration and widespread access to internet. Threats, attacks, unauthorized access to personal details and confidential information have caused and subjected end users undue loss financially, confusion

and a feeling of total loss of control. As mentioned earlier, users are dissatisfied and uncertain. Developers and companies alike are aware of this and resorting to solutions. Companies such as Microsoft have constantly been subjected to virus attack see bbcnews Technology 'Malware hijacks Windows updates' 16<sup>th</sup> May 2007.

Society and economy is divided into public and private sector. Most private almost whole of private sector in most developed and developing countries have embraced IT wholeheartedly with huge investments in up to date internet infrastructure and applications to stay competitive. Public sectors on the other hand have been rather slow. Governments have rolled out initiatives but at times due to lack of resources and funding, targets are rarely met.

## **2.2 Fact on Finding**

### **2.2.1 Domain**

In the public sector, none more so important than the National Health Service. Hospitals are such institutions where it is a matter of life and death. In the most extreme cases it can be said, that such causes as time consuming processes, not up to date information or records can have very unpleasant effect on patients and leaves a lasting impression of incompetence about the doctors and nurses service. Hospital is a large institution with many different types of department ranging from the reception area to accident and emergency and maternity ward section. It is the purpose of this project to investigate and analyse the different strengths and weaknesses of the current system being used by the doctors and nurses to meet the patient's needs. Subsequently based on this evaluation, different methods will be applied in the design, development of a newer system to check how effective the application is. The current system that will be looked at is the maternity ward department. Maternity ward is one section of the hospital. Its role is to serve pregnant mothers. Records will be created since the first registration and reporting of the pregnancy test up until delivery. This is for the period of nine