POLIKLINIK MESRA SYSTEM

ANIYAH BINTI AMIRHUSSAIN

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

C Universiti Teknikal Malaysia Melaka

BORANG PENGESAHAN STATUS TESIS*

JUDUL: POLIKLINIK MESRA SYSTEM

SESI PENGAJIAN: 2014 / 2015

Saya ANIYAH BINTI AMIRHUSSAIN mengaku membenarkan tesis Projek Sarjana Muda ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

- 1. Tesis dan projek 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

_____TERHAD

(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)

(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

(TANDATANGAN PENULIS) 32, LORONG AU4 / 17C, TAMAN SRI KERAMAT TENGAH, 54200 KUALA LUMPUR.

(TANDATANGAN PENYELIA) PUAN NOR HAFEIZAH HASSAN

Tarikh: 3 SEPTEMBER 2015

Tarikh: 3 SEPTEMBER 2015

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

pihak berkuasa.

C Universiti Teknikal Malaysia Melaka

POLIKLINIK MESRA SYSTEM

ANIYAH BINTI AMIRHUSSAIN

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

2015

C Universiti Teknikal Malaysia Melaka

DECLARATION

I hereby declare that this project report entitled **POLIKLINIK MESRA SYSTEM**

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

STUDENT	:	Date : 3 SEPTEMBER 2015
	(ANIYAH BINTI AMIRHUSSAIN)	
SUPERVISO	R:	Date : 3 SEPTEMBER 2015
	(MADAM NOR HAFEIZAH HASSAN)	

DEDICATION

This report is dedicated to my parents, Amirhussain Bin Khalid and Aziah Binti Mohd Tahir for their fully support.

To my supervisor, Madam Nor Hafeizah Binti Hassan and all my friends, for making it all worthwhile and have provided encouragement and guidance all the way during the completion of the report.

ACKNOWLEDGEMENT

First and foremost, all praise is to Allah, the Almighty, the Benevolent for his blessing and guidance for giving us the inspiration to embark on this project and instilling in all of us the strength to see this system become reality. Also is not forgotten thanks to my friends, family, father and mother Amirhussain bin Khalid and Aziah binti Mohd Tahir for their supported, my supervisor Madam Nor Hafeizah Binti Hassan for help and inspiration their extended and also my evaluator Ms. Intan Ermahani Binti A. Jalil who has given their comment and advice to make the project looks more perfect.

Many people have contributed to the creation and completion of this project. I would like to express my gratitude to all who have helped in one way or another in the planning, analysis, design and implementation of this project. I was especially indebted and grateful to the members of the Fakulti Teknologi Maklumat dan Komunikasi (FTMK) of Universiti Teknikal Malaysia Melaka (UTeM) for their support in this project.

ABSTRACT

This project is my choice to develop a system with guidance by my supervisor, Madam Nor Hafeizah Binti Hassan. It is a system development for Poliklinik Mesra System at Poliklinik Mesra, Taman Tasek Utama, Melaka. My objective is to improve efficiency of Poliklinik Mesra manual system. It is also to view any update information and appointment of Poliklinik Mesra System. To develop this project, Rapid Application Development Methodology (RAD) has been used. This is suitable to use for long term development. The end of the result this system that has multifunctional application and interactive display and also systematic databases.

v

ABSTRAK

Projek ini adalah pilihan saya untuk membangunkan sistem dengan panduan oleh penyelia saya, Puan Nor Hafeizah Binti Hassan. Ia merupakan satu perkembangan sistem untuk sistem Poliklinik Mesra Taman Tasek Utama, Melaka. Matlamat ialah untuk saya meningkatkan kecekapan sistem manual Poliklinik Mesra. Ia juga untuk melihat apa-apa maklumat dan temujanji yang dikemaskini di Poliklinik Mesra. Untuk membina projek ini, kaedah Methodology (RAD) telah digunakan. Ini sesuai untuk digunakan untuk jangka masa panjang. Hasilnya nanti adalah satu sistem pelbagai guna yang mempunyai pelbagai fungsi dan paparan interaktif dan juga pangkalan data yang sistematik.

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENTS	iv
	ABSTRACT	V
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	xii
	LIST OF FIGURES	xiv

CHAPTER I INTRODUCTION

1.1	Background	1
1.2	Problem Statement	2
1.3	Objective	2
1.4	Scope	2
1.5	Project Significant	3
1.6	Expected Output	3
1.7	Conclusion	3

CHAPTER II LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1	Introduction	4
2.2	Fact And Finding	4
	2.2.1 Domain	4
	2.2.2 Existing System	5
	2.2.3 Technique	8
2.3	Project Methodolgy	9
2.4	Project Requirement	11
	2.4.1 Hardware Requirement	11
	2.4.2 Software Requirement	11
2.5	Project Schedule And Milestones	12
2.6	Conclusion	13

CHAPTER III ANALYSIS

3.1	Introd	uction	14
3.2	Propo	sed Project: Client Information	15
	3.2.1	Introduction	15
	3.2.2	Analysis Of Client Requirement	16
	3.2.3	Problem Analysis	17
3.3	Requi	rement Analysis	18
	3.3.1	Data Requirement	18
	3.3.2	Funtional Requirement	19
	3.3.3	Non – Functional Requirement	23
3.4	Concl	usion	24

CHAPTER IV DESIGN

4.1	Introd	uction	25
4.2	High -	- level Design	25
	4.2.1	System Architecture	25
	4.2.2	User Interface Design	27
		4.2.2.1 Navigation Design	27
		4.2.2.2 Input Design	31
		4.2.2.3 Output Design	36
	4.2.3	Database Design	37
		4.2.3.1 Conceptual Database Design	37
		4.2.3.2 Logical Database Design	39
		4.2.3.3 Data Dictionary	41
4.3	Detail	ed Design	46
	4.3.1	Software Design	46
	4.3.2	Physical Database Design	46
4.4	Concl	usion	49

CHAPTER V IMPLEMENTATION

5.1	Introd	uction	50
5.2	Softwa	are Development Environment Setup	51
	5.2.1	Eclipse Luna	51
	5.2.2	WAMP Server 2.2	51
	5.2.3	Microsoft Windows 7	52
5.3	Softwa	are Configuration Management	52
	5.3.1	Configuration Environment Setup	52
	5.3.2	Version Control Procedure	58

5.4	Implementation Status	60
5.5	Conclusion	62

CHAPTER VI TESTING

6.1	Introd	uction	63
6.2	Test P	lan	63
	6.2.1	Test Organization	64
	6.2.2	Test Environment	64
	6.2.3	Test Schedule	65
6.3	Test S	trategy	65
	6.3.1	Classes of Test	65
		6.3.1.1 Unit Testing	66
		6.3.1.2 Integration Testing	67
		6.3.1.3 System Testing	68
		6.3.1.4 User Acceptance Testing	69
6.4	Test D	Design	70
	6.4.1	Test Description	70
	6.4.2	Test Data	71
6.5	Test R	esults and Analysis	73
6.6	Conclu	usion	74

CHAPTER VII CONCLUSION

7.1	Introduction	75
7.2	Observation on Weaknesses and Strengths	75
7.3	Propositions for Improvement	76
7.4	Conclusion	76

REFERENCES		77
APPENDIX A	Test Description	78
APPENDIX B	Test Result and Analysis	97
APPENDIX C	User Manual	103
APPENDIX D	Project Schedule and Milestones	119
APPENDIX E	Client Approval	120
APPENDIX F	Turnitin	121

LIST OF TABLES

TABLE	TITLE	PAGE
1.4.1	Scope of Module and User	2
2.2.2.1	Comparison of Existing System	7
3.2.2.1	Question and Answer of Client	16
3.3.1.1	Data Requirement of Admin	18
3.3.1.2	Data Requirement of Doctor	19
3.3.1.3	Data Requirement of Patient	19
3.3.2.1	Functional Requirements of Poliklinik Mesra System	20
3.3.3.1	Performance of Non-functional Requirement	23
3.3.3.2	Integrity of Non-functional Requirement	23
3.3.3.3	Reliability and Availability	
	of Non-functional Requirement	24
3.3.3.4	Usability of Non-functional Requirement	24
3.3.3.5	Reusability of Non-functional Requirement	24
4.2.2.2.1	Login Interface Input Output Design	31
4.2.2.2.2	Medicine of Doctor Interface Input Output Design	32
4.2.2.2.3	Inventory Interface Input Output Design	33
4.2.2.2.4	Payment Interface Input Output Design	34
4.2.2.2.5	Appointment of Patient Interface Input Output Design	35
4.2.2.3.1	Approve or Reject Appointment Interface Output Design	36
4.2.3.3.1	Data Dictionary of Patient	41
4.2.3.3.2	Data Dictionary of Doctor	42
4.2.3.3.3	Data Dictionary of Staff	43
4.2.3.3.4	Data Dictionary of Appointment	43

4.2.3.3.5	Data Dictionary of Payment	44		
4.2.3.3.6	Data Dictionary of Bill	44		
4.2.3.3.7	Data Dictionary of Inventory	44		
4.2.3.3.8	Data Dictionary of Medicine	45		
4.3.2.1	Physical Database Design of Poliklinik Mesra System			
5.3.2.1	Version Control Procedure of Poliklinik Mesra System	58		
5.2.1	Implementation Status of Poliklinik Mesra System	60		
6.2.1.1	Test organization of Poliklinik Mesra System	64		
6.2.2.1	Test Environment of Poliklinik Mesra System	64		
6.2.3.1	Test Schedule of Poliklinik Mesra System	65		
6.4.1.1	Sample of Test Description of Poliklinik Mesra System	70		
6.4.2.1	Test Data of Poliklinik Mesra System	71		
6.5.1	Sample of Test Results and Analysis of			
	Poliklinik Mesra System	73		
A.1	Test Description of Poliklinik Mesra System	78		
B .1	Test Results and Analysis of Poliklinik Mesra System	97		

LIST OF FIGURES

FIGURE TITLE

PAGE

2.2.2.1	Home page of Mayo Clinic Health System			
2.2.2.2	Home page of ClinicYou			
2.2.2.3	Home page of Marshfield Clinic			
2.3.1	Rapid Application Development			
3.3.2.1	Use Case Diagram of Poliklinik Mesra System	22		
4.2.1.1	System Architecture for Poliklinik Mesra System	26		
4.2.2.1.1	Navigation Design for Poliklinik Mesra System	27		
4.2.2.1.2	Navigation Design of Admin for			
	Poliklinik Mesra System	28		
4.2.2.1.3	Navigation Design of Staff for			
	Poliklinik Mesra System	29		
4.2.2.1.4	Navigation Design of Doctor for			
	Poliklinik Mesra System	30		
4.2.2.1.5	Navigation Design of Patient for			
	Poliklinik Mesra System	30		
4.2.2.2.1	Staff Login Interface	31		
4.2.2.2.2	Medicine of Doctor Interface	32		
4.2.2.2.3	Inventory Interface			
4.2.2.2.4	Payment Interface	34		
4.2.2.2.5	Appointment of Patient Interface	35		
4.2.2.3.1	Approve or Reject Appointment Interface	36		
4.2.3.1.1	Conceptual Database Design	38		
4.2.3.2.1	Logical Database Design	40		

5.2.1	Implementation Status of Poliklinik Mesra System	61
6.3.1.1.1	Example of Unit Testing - Main Frame Staff	67
6.3.1.2.1	Example of Integration Testing - List Medicine for Patient	68
6.3.1.3.1	Example of System Testing - Appointment that	
	Approved by Doctor	69

CHAPTER I

INTRODUCTION

1.1 Background

POLIKLINIK MESRA is one of the clinics for patients to checkup beside the hospital. As we know, sometimes patient does not have a time to make a checkup at the hospital because they are too many people at the emergency room and lack of staff. So, this problem will make patients wasting their time at there. At the clinic, patients just have to give their identity card to make the registration. Then, the staff will call their name to meet the doctor and tell their problem.

Poliklinik Mesra System has three users which are staff as admin, doctor and patient. Once the patient comes for a checkup, the staff will treat them first to key in the information along by using their identity card. Besides, all the information will be stored into a central database. Backups can be done regularly. This system reduces the time taken for data entry and any periodic reports can be checked anytime. All history patients will be display.

1.2 Problem Statement

The users still fill a registration or report on paper. It is difficult to them to queue up to fill the registration form. In addition, staff incorrectly fill the patients detail and for choose a medicine. It is causes the patients detail will be same with others.

The medicine that will give to patient based on doctor permission. Lastly, patients still queue up to make appointment. It is causes waste their time to queue up to make an appointment only.

1.3 Objectives

- a) To assist the system with an automatic system
- b) To assist staff to manage the data efficiently
- c) To make easy for patient to make an appointment
- d) To calculate the money collected from patient

1.4 Scope

User Module	Staff / Admin				Patient					
	Insert	Update	Delete	Insert	Update	Delete	View	Insert	Update	View
Registration	~	~	~		~		~		~	~
Appointment	~	~	~		√			✓	√	
Medicine	~	√	~	~			~			~
Payment	~	~	~							~

Table 1.4.1: Scope of Module and User

Modules that have in Poliklinik Mesra System are registration, appointment, medicine and payment. Users in Poliklinik Mesra System included admin, staff, doctor, and patient.

Admin and staff can insert, update, and delete registration, appointment, medicine and payment that make it before. Besides, doctor can insert and update registration; also can view and reject appointment that patient made. Next, patient can insert, update, and delete registration; also can make an appointment.

1.5 Project Significant

Project that will develop is to make an easy for users which is staff to arrange appointment that make by patient but might be approved or not by doctor first. So, the appointment will be carried out in correct and smooth way without any error happen.

1.6 Expected Output

The system can be used by users after complete.

1.7 Conclusion

Using this system we can retrieve patient's history with a single click. Thus, processing information will be faster and data will be secured.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

WE- CARE Clinic System is developed to help the users which are doctors, staffs and patients easy to use and manage data efficiently. User may be able to use this system to get the information using online system. In this chapter, we will find the comparison of existing system, advantages and disadvantage of system.

2.2 Facts and findings (based on topic)

2.2.1 Domain

Following are the list of the type of users:

- a) Admin Staffs
- b) Doctors
- c) Patients

Admin uses the system for the purpose of:

- a) To maintain handles, operate and manage a computer system
- b) To be used by the user properly and easily

Doctor uses the system for the purpose of:

- a) To register and update their information
- b) To check appointment with patient

Patient uses the system for the purpose of:

- a) To register and update their information
- b) To make an appointment for checkup

2.2.2 Existing System

Some clinic have their system which is the admin, doctor, and patient can use based by their position. For examples Mayo Clinic Health System, ClinicYou and Marshfield Clinic. It have own clinic system for like figures in below.

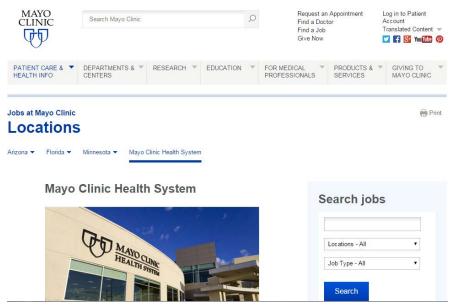


Figure 2.2.2.1: Home page of Mayo Clinic Health System



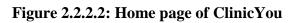




Figure 2.2.2.3: Home page of Marshfield Clinic

Name Of Clinic	Advantages	Disadvantages
Mayo Clinic Health System	a) Many informationb) Easy to use	a) Poor interface
ClinicYou	a) Simple and packed	a) Poor interfaceb) Not enough information
Marshfield Clinic	a) Many informationb) More functionalc) Good interface	

Table 2.2.2.1: Comparison of Existing System

Table 2.2.2.1 summary the advantage and disadvantage of comparison between three clinic system which is Mayo Clinic Health System, ClinicYou and Marshfield Clinic. In short, the table show that the system lack in the user interface and another is lack on information. The purpose system try to overcome this situation:

Purpose system features

Registration – access it online

Appointment – easy to meet a doctor

Payment – easy for patient to pay

Find Doctor – to find favorite doctor

Medicine – easy for patient to know what medicine is available and suitable for disease