

Universiti Teknologi MARA

**COMPUTER REPAIR MANAGEMENT
SYSTEM (CRMS)**

Wan Aida Natasya Binti Wan Zain

**Thesis submitted in fulfilment of the requirements for
Bachelor of Information Technology (Hons.) Business
Computing Faculty of Computer and Mathematical Sciences**

JANUARY 2018

STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



.....

WAN AIDA NATASYA BINTI WAN ZAIN

2015144943

JANUARY 21, 2018

ABSTRACT

Response to paper-based system for managing computer repair services in a computer repair shop has become troublesome and slow due to increasing number of repair order day by day. In today's information technology society, paper-based approaches has been replace with more effective solution such as system to manage company business processes. Therefore, serious efforts has been made to automate every task in a company. Currently, the process of managing computer repair services includes managing information recorded, repair order queue management, communication between staffs and staff's work monitoring were conducted manually. Several constraints in carry out this process as well as difficulties are identified. Hence, Computer Repair Management System (CRMS) is developed for Global We Shop to assist them in conducting business process in a more systematic way. The system's core function is focus on repair order management among staffs and manager. This system is derived from the development process conducted by adapting the Waterfall Model of the SDLC. The development of this project is divided into several phases to ensure it can be completed within time frame. Next, similar system to CRMS are studied to evaluate the functionalities that must be provided in CRMS. Diagram such as Entity Relationship Diagram, Data Flow Diagram, Functional Decomposition Diagram were used in the development of CRMS. This system is tested and evaluated by two (2) experts and thirty (30) users in terms of ease of use, ease of learning, system capabilities, satisfaction and perceived usefulness. The result shows that overall, experts and users are satisfied with CRMS where the highest mean is 4.57 (SD=0.50) in construct ease of use and 4.57 (SD=0.57) in construct ease of learning. The contribution and limitation of CRMS has been identified where it is important to ensure CRMS has fulfil the objective and requirement gathered in preliminary investigation. Meanwhile the recommendation for future enhancement such as SMS, customer account and chatting features can be used to improve CRMS later. It is hoped that CRMS will enhance the flow of current business process for Global We Shop.

TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR APPROVAL	ii
STUDENT DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	x
LIST OF TABLES	xii

CHAPTER ONE : INTRODUCTION

1.1	Introduction	1
1.2	Project Background	1
1.3	Problem Statement	5
1.4	Project Objective	6
1.5	Project Scope	7
1.6	Project Significance	8
1.7	Project Framework	9
1.8	Gantt Chart	11
1.9	Expected Outcome	12
1.10	Conclusion	14

CHAPTER TWO : LITERATURE REVIEW

2.1	Introduction	15
2.2	Management Information System (MIS)	15
	2.2.1 MIS activities	17
2.3	Repair and Maintenance	19
2.4	Repair and Maintenance Management System	19
	2.4.1 User Registration and Management	20

2.4.2	Repair Order Submission and Management	20
2.4.3	Customer Repair Tracking	20
2.4.4	Reporting	21
2.4.5	E-mail Notification	21
2.5	System Development Model	22
2.5.1	Waterfall Model	22
2.5.2	Prototyping Model	23
2.5.3	V-Model	25
2.6	Similar system	26
2.6.1	Repairer	26
2.6.2	Fixbook Repair Shop	27
2.6.3	PC Repair Tracker	28
2.6.4	Repair Traq	29
2.7	Implication of Literature Review to Project Development	30
2.8	Conclusion	31

CHAPTER THREE: METHODOLOGY

3.1	Introduction	32
3.2	Methodology Overview	32
3.3	Phase 1 : Requirement Planning	34
3.3.1	Preliminary Investigation	34
3.3.2	Data Collection Method	34
3.3.3	Document	35
3.4	Phase 2:Functional Requirement And Non Functional Requirement	36
3.4.1	Functional Requirement	37
3.4.2	Non Functional Requirement	39
3.5	Phase 3 : Requirement Analysis and Process Modelling And Design	39
3.5.1	Requirement Analysis	39
3.5.1.1	Context Diagram	40
3.5.1.2	Data Flow Diagram Level 0	41
3.5.1.3	Entity Relationship Diagram	43