

Universiti Teknologi MARA

**Responsive Web Design System for
Student Representative Council Based
on Shneiderman's Eight Golden Rules**

Muhammad Muadzzim Bin Muhammad Jizan

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

January 2017

STUDENT'S DECLARATION

I certify that this report 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.

.....
MUHAMMAD MUADZZIM BIN MUHAMMAD JIZAN
2014712809

JANUARY, 2017

ABSTRACT

SRC of UiTM Malacca Branch Jasin Campus found out there are problems with the the uncertainty of platform to convey/receive information around campus, difficulty to get information about calendar of student activities and unclear platform to voice out ideas and problems. Nowadays, lots of communication media created by IT developer for public. Students of UiTM Malacca facing problem when they organize an event and hard for them to blast the information to all students in campus. SRC as the highest student organization in university take an initiative to have an official website to centralize the medium of communication among UiTM Malacca Branch Jasin Campus students. The aim is to develop a responsive web design based on Shneiderman's Eight Golden Rules. It consist of eight rules that focus on design principles to ensure the system not become a frustration for the interface. At the end of the development, this system will be used by students of UiTM Malacca Branch Jasin Campus which consist of around 4000 and that give strong motivation to make sure this system is completed within time. For assistance of the development, this system was guided by using System Development Life Cycle (SDLC) methodology which modified into 4 phases. The phases are analysis, design, develop and testing. At the end of the development, the system scores 4.62 on the usefulness, 4.21 on the ease of use, 4.64 on the ease of learning and 4.69 on the satisfaction out of 5 marks when usability testing was conducted among 13 participants. In future, this system will be upgrade to cater the students of whole UiTM Malacca which have amount of around 13000 and will be implement at each UiTM in every state of Malaysia.

TABLE OF CONTENT

CONTENTS	PAGE
SUPERVISOR’S APPROVAL	iv
STUDENT’S DECLARATION	v
ACKNOWLEDGEMENT	vi
ABSTRACT	vii
TABLE OF CONTENT	viii
LIST OF FIGURES	xi
LIST OF TABLES	xiii
LIST OF ABBREVIATIONS	xiv
CHAPTER ONE: INTRODUCTION	2
1.1 Background of Study	2
1.2 Problem Statement	3
1.3 Research Aim	5
1.4 Research Objectives	5
1.5 Research Scope	5
1.6 Research Significance	5
1.7 Anticipated Result	6
1.8 Chapter Outline	6
CHAPTER TWO: LITERATURE REVIEW	8
2.1 Student Representative Council	8
2.1.1 Organization	8
2.1.2 Purpose and Function	10
2.2 Web Design Evolution	11
2.3 Responsive Web Design	13
2.3.1 Advantages of Responsive Web Design	16
2.3.2 Disadvantages of Responsive Web Design	16
2.3.3 Key Features	17

2.4	Related Design Principles	19
2.4.1	Shneiderman’s Eight Golden Rules	19
2.4.2	Hick’s Laws	21
2.4.3	Neilsen’s Ten Heuristic Evaluation	22
2.4.4	Discussion on Design Principle	23
2.5	Development Methodology	24
2.5.1	Feature Driven Development	24
2.5.2	System Development Life Cycle – Agile Approach	28
2.5.3	System Development Life Cycle – Waterfall Approach	30
2.5.4	Discussion on Development Methodology	31
2.6	Existing Application	32
2.6.1	Facebook	32
2.6.2	UiTM Official Website	33
2.6.3	MPP UTEM Website	33
2.6.4	Lesson Learned on Existing Application	34
2.7	Chapter Summary	35
CHAPTER THREE: METHODOLOGY		36
3.1	Overview	36
3.2	System Development Life Cycle	37
3.2.1	Phase 1: Analysis	38
3.2.2	Phase 2: Design	38
3.2.3	Phase 3: Develop	39
3.2.4	Phase 4: Testing	39
3.3	Chapter Summary	40
CHAPTER FOUR: RESULTS AND ANALYSIS		41
4.1	Objective 1: To gather and analyze the requirements of SRC	41
4.1.1	Interview Session	41
4.1.2	Questionnaire Survey	42
4.1.3	Software Requirements Specification (SRS) Documentation	43
4.2	Objective 2: To Design a Responsive Web Based System Following Shneiderman’s Eight Golden Rules	45
4.2.1	Sketching Prototype	46