## Universiti Teknologi MARA

Recommendation of Meals and Restaurant's Location based on Body Mass Index (MeRLo)

Nursyasya Fizani binti M Halizan

Thesis submitted in fulfillment of the requirements for Bachelor of Information Technology (Hons.) Faculty of Computer and Mathematical Sciences

**December 2018** 

## STUDENT 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 acknowledge in accordance with the standard referring practices of the discipline.

NURSYASYA FIZANI BINTI M HALIZAN 2015358797

**DECEMBER 26, 2018** 

## **ABSTRACT**

Today there are many websites that offer food hunting. However, the available websites are not considering on the user's health and Body Mass Index (BMI). Furthermore, there is a research by WHO that ranked Malaysian as the fattest among Country in South Asia. Basically, the purpose of this research is to develop, integrate and evaluate the web-based application Recommendation of Meals and Restaurant's Location based on Body Mass Index (MeRLo). The objectives of this research study are to develop a web-based application that suggests suitable meals based on BMI, to integrate a web-based application that can recommend restaurant location based on user's BMI and to evaluate the helpfulness of the web-based application through Expert Review and User Acceptance Testing. The methodology for this research study is Rapid Application Development (RAD) that consists of four phases which are planning, user design, construction and testing. In this study, the target users for Acceptance Testing are adults ranged 18-30 years old. This research ultimately visualizes for user to make a decision to find restaurant based on their health and BMI. The helpfulness of the web-based application was tested through two testing which are Expert Review and User Acceptance Testing. The tools that is used for the testing is questionnaires which is use expected to acquire the opinions and response from the respondents. From the Expert Review, the results show that there are some amendments have to be made on the application in order to fulfil the requirements of a recommendation website. On the other hand, User Acceptance Testing has shown an impressive result where the mean value for all the helpfulness dimensions are high >4.0. Hence, the overall results show that the development of web-based MeRLo application is able to help user to know their suitable meals and to find restaurant's location based on their BMI.

Keywords: Body Mass Index, food taken awareness, location, meal, recommendation.

## TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR APPROVAL	i
STUDENT DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	ix
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER 1: INTRODUCTION	
1.1 Background of Study	1
1.2 Preliminary Study	2
1.3 Problem Statement	5
1.4 Objective	6
1.5 Scope of Research	7
1.6 Significance	7
1.7 Summary	7
CHAPTER 2: LITERATURE REVIEW	
2.1 Food Taken Awareness	8
2.1.1 What is Food Taken Awareness?	8
2.1.2 Unhealthy lifestyle	9
2.1.3 Obesity	9
2.1.4 Body Mass Index	10
2.2 What is Decision Making	11
2.2.1 History and Background of Decision Making	11
2.2.2 Decision Making Theory	12

3.5.1 Hardware Requirement	30
3.5.2 Software Requirement	30
3.6 Testing Phase	30
3.6.1 Expert Review	31
3.6.2 User Acceptance Testing	32
3.7 Summary	32
CHAPTER 4: DESIGN AND DEVELOPMENT	
4.1 Project Construction	33
4.2 Hardware and Software Requirement	33
4.2.1 Hardware	33
4.2.2 Software	34
4.3 Design	35
4.3.1 Use Case Diagram	35
4.3.2 Activity Diagram	36
4.3.3 Site Map	38
4.3.4 User Interface Design	39
4.4 Application Development	42
4.4.1 Development Process	43
4.5 Summary	47
CHAPTER 5 : RESULT AND FINDINGS	
5.1 Introduction	48
5.2 Expert Review	48
5.2.1 Instrument and Procedure	49
5.2.2 Findings	50
5.3 Refinement of the Web Application	55
5.3.1 Home Screen Background	55
5.3.2 BMI Category Page	56