## MALACCA FOOD DICTIONARY SYSTEM

HEW WAI PENG

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

## MALACCA FOOD DICTIONARY SYSTEM

## **HEW WAI PENG**

This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Database Management)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY UNIVERSITI TEKNIKAL MALAYSIA MELAKA 2015

## **DECLARATION**

# I hereby declare that this project report entitled

## MALACCA FOOD DICTIONARY SYSTEM

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

STUDENT	<u>:</u>	Date:
	(HEW WAI PENG)	
SUPERVISOR	:	Date:
	(NOOR AZILAH BINTI DRAMAN@MUDA)	

#### **ACKNOWLEDGEMETS**

The success of this project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

I would like to show my greatest appreciation to Mdm Noor Azilah. I can't say thank you enough for her tremendous support and guidance. Without her encouragement, this project would not have materialized.

I would like to thank my beloved parents who constantly give me their support, care, and motivation throughout this project.

To my dearest friends who have been a great source of support and help, thank you. Your motivation and assistance during my time in need is highly valued and appreciated.

I would also like to thank my faculty for providing all the necessities required for this project. A special thanks to the university and faculty staffs who have been remarkably selfless and helpful.

#### **ABSTRACT**

Since the invention of internet in the 80's, the communication of information has been permanently changed. People have since got accustomed to convey information visually with words a secondary adjunct, and become less patient, particularly the new generation. As the world changes from time to time, the way of living increases as well. People no longer able to accept dull old conventional method. Everything made must be attractive, fast, convenient and effective. Thus, it is essential to explore alternative methods to enhance the search processes.

The two simple words "You decide" often become the worst existing words especially when people were unsure of where to dine or what to eat. In such situation, Malacca Food Dictionary System would appear to be a perfect solution as it is a webbased database system which acts as a highly effective food finder. As compared to the conventional application, the main objective of implementing this new system is to reduce the resources constraints and improve the specialized environments. With this system, people will not need to waste their precious time browsing and searching for the information. Besides providing some basic features of a food finder application, this system will also indirectly enhance the altruistic attitude of users. In other words, this system is expected to improve the lifestyle of citizen in Malacca.

#### **ABSTRAK**

Sejak penciptaan internet dalam 80-an, penyampaian maklumat telah berubah selama-lamanya. Sejak itu, rakyat telah mempunyai kebiasaan untuk menyampaikan maklumat secara visual dengan kata-kata suatu tambahan menengah, dan menjadi kurang penyabar, terutamanya generasi baru. Perubahan dunia dari semasa ke semasa, dengan cara sara hidup juga. Rakyat tidak lagi dapat menerima membosankan kaedah konvensional lama. Semua yang dibuat mestilah menarik, cepat, mudah dan berkesan. Oleh itu, adalah penting untuk meneroka kaedah alternatif untuk meningkatkan proses carian.

Kedua-dua perkataan yang amat mudah "Terpulanglah kepada anda" sering menjadi perkataan yang tidak menyenang terutamanya apabila seseorang itu tidak tahu mana-mana tempat untuk menjamu selera atau apa yang hendak dijamu. Dalam situasi seperti ini, Sistem Kamus Makanan Melaka akan wujud sebagai penyelesaian yang sempurna kerana ia adalah satu sistem berasaskan web pangkalan data yang bertindak sebagai pencari makanan yang sangat berkesan. Berbanding dengan aplikasi yang konvensional, objektif utama sistem baru ini dibina adalah untuk mengurangkan kekangan sumber dan menambah baik pengkhususan persekitaran. Dengan adanya sistem ini, orang ramai tidak lagi perlu membuang masa yang berharga untuk melayari dan mencari maklumat berkenaan. Selain daripada beberapa ciri-ciri asas aplikasi pencari makanan, sistem ini juga akan secara tidak langsungnya meningkatkan sikap altruistik pengguna. Dalam erti kata lain, sistem ini dijangka bertambah baik gaya hidup rakyat di Melaka.

## TABLE OF CONTENTS

CHAPTER	SUB	SJECT	PAGE
	ACK	KNOWLEDGEMENTS	iii
	ABS	TRACT	iv
	ABS	TRAK	v vi ix
	TAB	BLE OF CONTENTS	
	LIST	Γ OF TABLES	
	LIST	Γ OF FIGURES	xi
CHAPTER I	INT	RODUCTION	
	1.1	Project Background	1
	1.2	<u> </u>	2
	1.3	Objective	4
	1.4	Scope	4
		1.4.1 User	5
		1.4.2 Module	6
	1.5	Project Significance	7
	1.6	Expected Output	7
	17	Summary	7

CHAPTER II	PRO	JECT METHODOLOGY AND PLANNING	
	2.1	Introduction	8
	2.2	Project Methodology	9
	2.3	Project Schedule and Milestones	12
	2.4	Conclusion	13
CHAPTER III	ANA	ALYSIS	
	3.1	Introduction	14
	3.2	Problem Analysis	15
	3.3	The Proposed Improvements/Solutions	17
	3.4	Requirement Analysis of the To-Be System	19
		3.4.1 Functional Requirement	19
		3.4.2 Non-Functional Requirement	26
		3.4.3 Other Requirement	26
	3.5	Conclusion	27
CHAPTER IV	DES	IGN	
	4.1	Introduction	28
	4.2	High-Level Design	29
		4.2.1 System Architecture Design	30
		4.2.2 User Interface Design	31
		4.2.2.1 Navigation Design	31
		4.2.2.2 Input Design	34
		4.2.2.3 Output Design	37
	4.3	Database Design	39
		4.3.1 Conceptual Design	39
		4.3.1.1 Entity Relationship Diagram	39
		4.3.1.2 Business Rules	41
		4.3.2 Logical Design	42
		4.3.3 Physical Design	44
	4.4	Graphical User Interface (GUI) Design	48
	4.5	Conclusion	51

CHAPTER V	IMP:	LEMEN	TATION	
	5.1	Introd	uction	52
	5.2	Softwa	are Development Environment Setup	53
		5.2.1	Software Environment Setup	54
		5.2.2	Database Environment Setup	55
		5.2.3	Hardware Environment Setup	56
	5.3	Databa	ase Implementation	57
		5.3.1	User Authentication	57
		5.3.2	Registration Management	61
		5.3.3	Restaurant Directory Management	69
		5.3.4	Voucher Redemption	75
		5.3.5	Voucher Management	80
	5.4	Imple	mentation Status	84
	5.5	Concl	usion	86
CHAPTER VI	TES'	TING A	ND EVALUATION	
	6.1	Introd	uction	87
	6.2	Test P	lan	88
		6.2.1	Test Organization	88
		6.2.2	Test Environment	89
		6.2.3	Test Schedule	90
	6.3	Test S	trategy	91
		6.3.1	White-Box Testing	91
		6.3.2	Black-Box Testing	92
		6.3.3	Classes of Test	92
	6.4	Test D	Design	93
		6.4.1	Test Description	94
		6.4.2	Test Data	98
	6.5	Test R	Result and Analysis	102
	6.6	Concl	usion	105

CHAPTER VII	PRO	JECT CONCLUSION	
	7.1	Observation on Weaknesses and Strengths	106
		7.1.1 Weakness	106
		7.1.2 Strength	107
	7.2	Propositions for Improvement	108
	7.3	Contribution	108
	7.4	Conclusion	109
			440
	REF	110	
	APPI	ENDIX A	111

## LIST OF TABLES

TABLE	TITLE	PAGE
4.1	Input Design for Login Module	34
4.2	Input Design for Member Registration Module	34
4.3	Input Design for Admin Registration Module	35
4.4	Input Design for Recommend Restaurant Module	35
4.5	Input Design for Voucher Redemption Module	36
4.6	Input Design for Voucher Management Module	36
4.7	Output Design	37
4.8	Entities of Malacca Food Dictionary System	39
4.9	Data Dictionary for Member	42
4.10	Data Dictionary for Admin	42
4.11	Data Dictionary for Voucher	43
4.12	Data Dictionary for Area	43
4.13	Data Dictionary for Cuisine	43
4.14	Data Dictionary for Restaurant	43
4.15	Data Dictionary for Redemption	44
5.1	Software Environment Setup	54

5.2	Database Environment Setup	55
5.3	Hardware Environment Requirement	56
5.4	Implementation Status	84
6.1	Test Organization	88
6.2	Test Environment Specification	89
6.3	Test Schedule	90
6.4	Test Case for Login Module	94
6.5	Test Case for Member Registration Module	95
6.6	Test Case for Admin Registration Module	95
6.7	Test Case for Recommend Restaurant Module	96
6.8	Test Case for Voucher Redemption Module	97
6.9	Test Case for Voucher Management Module	97
6.10	Test Data for Login Module	98
6.11	Test Data for Member Registration Module	99
6.12	Test Data for Admin Registration Module	99
6.13	Test Data for Recommend Restaurant Module	100
6.14	Test Data for Voucher Redemption Module	101
6.15	Test Data for Voucher Management Module	101
6.16	Test Result for Login Module	102
6.17	Test Result for Member Registration Module	103
6.18	Test Result for Admin Registration Module	103
6.19	Test Result for Recommend Restaurant Module	103
6.20	Test Result for Voucher Redemption Module	104
6.21	Test Result for Voucher Management Module	104

## LIST OF FIGURES

DIAGRAM	TITLE	PAGE
2.1	Agile Methodology	9
3.1	Current Search Flow	15
3.2	Shares in Facebook	16
3.3	Malacca Websites	16
3.4	System Proposed	18
3.5	Use Case Diagram	19
3.6	Sequence Diagram for Authenticate User Module	20
3.7	Sequence Diagram for Member Registration Module	21
3.8	Sequence Diagram for Browse Food Directory Module	22
3.9	Sequence Diagram for Voucher Management	23
3.11	Sequence Diagram for Voucher Redemption Module	24
3.12	Sequence Diagram for Generate Report Module	25
4.1	3-tier-architecture diagram	30

4.2	Public Home Page	32
4.3	Member Home Page	32
4.4	Administrator Home Page	33
4.5	Entity Relationship Diagram (ERD)	40
4.6	User Interface Design for Login Module	48
4.7	User Interface Design for Member Registration Module	48
4.8	User Interface Design for Restaurant Directory Module	49
4.9	User Interface Design for Restaurant Recommendation Module	49
4.10	User Interface Design for Voucher Redemption Module	50
4.11	User Interface Design for Voucher Management Module	50
5.1	Development Environment	53
5.2	WampServer Status	55
5.3	Oracle Application Express	56
5.4	User Authentication Interface	57
5.5	Procedure of User Authentication for Admin	58
5.6	Procedure of User Authentication for Member	59
5.7	Flow chart of user authentication	60
5.8	Register Administrator Interface	61
5.9	Trigger on Administrator Registration	62
5.10	Procedure on Administrator Registration	63

5.11	Flow Chart on Administrator Registration	64
5.12	Membership Registration Interface	65
5.13	Trigger on Member Registration	66
5.14	Procedure on Member Registration	67
5.15	Flow Chart on Member Registration	68
5.16	Restaurant Directory Management Interface	69
5.17	Trigger on Restaurant Directory Management	71
5.18	Trigger on Restaurant Directory Management	71
5.19	Procedure on Restaurant Directory Management	72
5.20	Flow Chart on Restaurant Directory Management	74
5.21	Voucher Redemption Interface	75
5.22	Trigger on Voucher Redemption	76
5.23	Trigger on Voucher Redemption	77
5.24	Procedure on Voucher Redemption	78
5.25	Flow Chart on Voucher Redemption	79
5.26	Voucher Management Interface	80
5.27	Voucher Management Interface	81
5.28	Procedure on Voucher Management	82
5.29	Flow Chart on Voucher Management	83

### **CHAPTER I**

#### INTRODUCTION

## 1.1 Project Background

One of the most essential things to do in Malacca is to taste the delicious Malaysian Cuisine which is found in abundance in this tiny state. Apart from the normal or basic Malaysian Cuisine such as Malay food, Chinese food and Indian food that are well-known in other state of Malaysia, Malacca also offer a slight fusion of food like Portuguese cuisine and Baba Nyonya cuisine. Both of these are the main ingredients which have added a new frontier of flavour to the Malacca cuisine.

Food is the main daily requirements which peoples spends almost 1/3 of their income on it. However, when it is time for meals, peoples often faced the same trouble in deciding on the location or the type of cuisine. In times, this might cause frustration when they are unable to get the desired cuisine.

As the market of food economy rises, the requirement on food had gradually become broader and demanding. Nowadays, eating is not only for filling up people's stomach, but as a glamour way of showing the peoples what have they eaten. With the idea of sharing with others in social media like Facebook and Instagram, a proper food searching platform would be a better choice for users which aimed to gain benefits from it.

Thus, in this project, based on the observation that are being carried out within Malacca area, the system that will be developed in this project is the Malacca Food Dictionary system, which provide convenient to all user include the citizen in Malacca and the foreigner. This system might as well be the element to solve problems in Malacca.

#### 1.2 Problem Statements

The main problem that the peoples faced is unable to locate the desired cuisine. There are a lot of situation where people often hope that someone or something would tell them, where to dine or what to dine. For instances, when you feel like eating a particular cuisine but you do not know where to find it; or even when you become undecided when it comes to meals time. Food might seem like a small matter, but the desire of having it might be strong that cause frustration of not having it. In certain cases, people often wasted a lot of their time just to plan their meals.

As everyone knows, Malacca is a food paradise that offered a huge variety of food of different culture and nationalities. Different ethnics offers different kind of cuisine. With such a big scope of food directory, peoples might get confuse of the names of the food. For example, 'curry laksa' and 'asam laksa', which might crack one's mind to understand what is the different between this both. Nevertheless, some of the food name does not give people a picture of how they taste or looks like. For instance, Onde-Onde, which is typically Nyonya appertizer. From its name, we can't

imagine how it is and for certain people, they does not even give a chance if the name of the food is not attractive enough.

Last but not least, people whom does not belong to Malacca or even Malacca citizens themselves are not familiar with Malacca cuisine. Sometimes, people needs to browse several websites just to know what kind of food that Malacca offered. By comparing "Food Tourists", with the other tourist groups, it has proven that they are the most faithful group to a destination. Although they might prefer to try new things in another places, but it is also stated that the criteria that affect their decision of selecting the destination is based on the certain condition or the satisfaction level of food (Okumus, 2007). Even though Malacca is a well-known attractive tourist spot for students and foreigner, but when outsider visits Malacca, they unsure of the specialty that they should try in Malacca.

## 1.3 Objectives

The objectives of the project proposed are as follow:-

- I. To provide convenience users in searching for the information they need.
- II. To direct users to search for desired food in Malacca by providing a detail location and an attached image in order for users to locate the restaurant.
- III. To define the details of each Malacca food and cuisine type that could be found in Malacca.
- IV. To promote Malacca cuisine to the public by enhancing an effective and interactive medium of food searcher.

### 1.4 Scope

The scope of this project is divided into 2 categories, which are the users and the modules of the project.

#### 1.4.1 User

#### I. Normal user

The targeted user is not limited to any membership program. Anyone is allowed to use the system to browse for the information needed. Searching is based on the area, cuisine type and restaurant name. However, normal users are not allowed to give or share any recommends in this system.

#### II. Registered Member

Only registered member has the privilege to share or to recommend restaurants or foods to other users. Registered members are also eligible to give review to other recommendation and even redeem free voucher for their activity on this system. Voucher redeemed will be send to the registered email.

### III. Admin staff

The admin of the system has the privilege of registering vouchers and update the vouchers' information. They would be able to view the overall redemption report which allowed admin to view either monthly report or

even based on the type of voucher redeemed. Nevertheless, admin will also be able to view the overall restaurant report in the system.

#### **1.4.2** Module

The overall direction of this project includes browsing information of cuisine and restaurant in Malacca. The system illustrates precisely the definition of each cuisine and allowed searching process by using the keywords of the Restaurant name, area name or cuisine type. The system basically consists of 6 major functions.

#### I. Authenticate User

The system will verify the username and password of the user as they login to the system. Members are able to view and update their own profile information via login. However, members are only allowed to modify information like username and point accumulated. Admin and members will be directed to different homepage upon login.

### **II.** User Registration

Anyone is eligible to register as member and gain privileges by submitting the registration form in the system. However, admin is required to login in order to insert a new admin account.

### **III. Browse Food Directory**

Normal users and registered members are allowed to browse their desired cuisine or restaurant by using the restaurant name, cuisine type or area name. The directory is based on the recommendation by members.

#### IV. Recommend Restaurant

Only registered members are allowed to share recommendation with other users. An image of the restaurant will be included in the restaurant database. Registered members will gain points by recommending and points will be used to redeem useful vouchers.

### V. Voucher Redemption

The registered members will select which voucher that they wanted to redeem and the system will calculate how many vouchers they are entitled to receive. The system will then calculate the balance point after redemption and record the data in the member's profile information. The voucher redeemed will be send to the user's email account.

## 1.5 Project Significance

This project creates an effective method of searching for details of food that are found in Malacca as an additional method to the conventional searching process. It acts as an interactive medium to guide and direct users to their desired food. This projects benefits both citizen of Malacca and those whom visit Malacca. Significance to foreigners is portrayed by the implementation of Food Dictionary to improve their understanding and knowledge of the food in Malacca. On the other hand, significance to citizen of Malacca themselves is depicted in the exploration of additional searching method as Malacca serves a huge directory of food.

## 1.6 Expected Output

- I. The project will be highly recommend and would bring convenience to the public in searching for food in Malacca.
- II. The system will introduce food in Malacca in an interactive method.
- III. The project allows users to share their recommendation.
- IV. The system will indirectly attract more tourist to Malacca.
- V. The system will be used by the public despite different age groups, gender and races.

#### 1.7 Conclusion

The system proposed is aimed to solve the problems of searching desired food in Malacca. By developing this system, it would provide convenience to the public in guiding them to the details that they needed. This system will also improve the understanding of Malacca food culture and thus, indirectly enhance the tourism rate in Malacca. The system will be interactive and provide different method of searching such as restaurant name, cuisine type and area name. By the end of this project, the system is expected to be used and highly recommend by the public.