KITCHEN MANAGEMENT SYSTEM

HELINA A/P LOPUS

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

KITCHEN MANAGEMENT SYSTEM

HELINA A/P LOPUS

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 2010

DEDICATION

First and foremost I would like to dedicate my heartiest appreciation to my family especially to my beloved father, mother and my brother, Lopus, Julie and Edmond Leo for their support and guidance. My special thanks is also dedicated specially to Madam Ummi Raba'ah binti Hashim for her dedicated supervising through this thesis completing

This special dedication also goes to entire person who supports me with their concern during completing this project. Thank you very much.

BORANG PENGESAHAN STATUS TESIS*

JUDUL: <u>KITCHEN MANAGEMENT SYSTEM</u>

SESI PENGAJIAN: <u>SEMESTER 2/2010</u>

Saya <u>HELINA A/P LOPUS</u>

Mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan 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.
- Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.

4.	** Sila tandak	an (/)	
	SU	LIT	(Mengandungi maklumat yang berdarjah keselamatan
			atau kepentingan Malaysia seperti yang termaktub di
			dalam AKTA RAHSIA RASMI 1972)
	TEF	RHAD	(Mengandungi maklumat TERHAD yang telah di
			tentukan oleh organisasi/badan dimana penyelidikan
			dijalankan)
	/ TII	DAK T	ERHAD

Wai/	
(TANDATANGAN PENULIS)	(TANDATANGAN PENYELIA)
Alamat tetap: Flat Kelapa Room 11 Tingkat 3	
Jalan Tun Abang Haji Openg	
<u>Ibu Pejabat Polis Daerah</u>	Nama Penyelia
96000 Sibu Sarawak.	

Tarikh: 11th JUNE 2010 Tarikh: 11th JUNE 2010

CATATAN: * Tesis dimaksudkan sebagai Laporan Akhir Projek Sarjana Muda (PSM).

> ** Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada Pihak berkuasa.

DECLARATION

I hereby declare that this project report entitled

KITCHEN MANAGEMENT SYSTEM

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

STUDENT: ________ Date : 11th JUNE 2010

(HELINA A/P LOPUS)

SUPERVISOR:_______ Date : 11th JUNE 2010

(PUAN UMMI RABA'AH BINTI HASHIM)

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my deepest gratitude to my PSM supervisor, Madam Ummi Raba'Ah Binti Hashim for her invaluable guidance, advice and support throughout the PSM1 and PSM2. She always been very helpful and share her knowledge when I encounter problems in the project.

My special thanks go to Miss Mastura my PSM examiner. She helps me a lot whenever I face problems in my project. I learn a lot of new things and ideas from him.

My sincere gratitude is extends to FTMK lecturers and friends for their guidance and support. They have been a helpful hand in this PSM1 and PSM2. I also like to express my appreciation to my loving family members and my house mates for their support, care, patience and understanding.

ABSTRACT

This report is developed for Universiti Teknikal Malaysia Melaka (UTeM) in order to have a systematic management and ordering system. In the same time the staffs details and data can be saved more safely. This system is integrated from manual and paper-based into computerized system in order to enhance the current process to become systematic and efficient. Besides that, well managed database, SQL server will help to manage database systematically by improving data accuracy. Besides that, the chef of this hotel can view all the records that are available in that hotel kitchen. At the same time customers can be a member of the hotel and have a lot of fun and attend a lots of events that is organized. This system uses DBLC methodology. As a conclusion, the Kitchen Management System provides the best practice of ordering and management of chefs, vendors and products.

ABSTRAK

Projek ini dibina untuk Universiti Teknikal Malaysia Melaka (UTeM) bagi membekalkan sistem penempahan makanan yang lebih sistematik. Melalui sistem ini, maklumat tentang pekerja syarikat dan pelanggan boleh disimpan dalam pangkalan data dan ia boleh digunakan untuk menempah makanan. Selain itu, Sistem ini diintegerasikan dari sistem manual kepada sistem berkomputer untuk menjadikan sistem dan maklumat sedia ada lebih efisyen dan sistematik. Selain itu dalam sistem ini pangkalan data SQL Server akan menguruskan data dengan lebih tepat dan cekap. Sebagai kesimpulan, Kitchen Management System menyediakan segala fungsi kegunaan staff dan pelanggan untuk menempah makanan.

TABLE OF CONTENTS

CHAPTER	SUI	ВЈЕСТ	PAGE
		DECLARATION	I
		ACKNOWLEDGEMENTS	II
		ABSTRACT	Ш
		ABSTRAK	IV
		TABLE OF CONTENTS	\mathbf{V}
		LIST OF TABLES	IX
		LIST OF FIGURES	X
		LIST OF APPPENDIXES	XI
CHAPTER	INT	TRODUCTION	
Ι	1.1	Project Background	1
	1.2	Problem Statements	2
	1.3	Objective	4
	1.4	Scope	5
	1.5	Project Significance	7
	1.7	Conclusion	8
CHAPTER	LIT	TERATURE REVIEW AND PROJECT	
II	ME	THODOLOGY	
	2.1	Introduction	9
	2 2	Facts and Findings	10

		2.2.1	Domain	10
		2.2.2	Existing System	11
	2.3	Project	Methodology	11
		2.3.1	Software Development Life Cycle (SDLC)	11
		2.3.2	Database Development Life Cycle (DBLC)	13
	2.4	Project	Requirements	17
		2.4.1	Software Requirement	18
		2.4.2	Hardware Requirement	18
		2.4.3	Other Requirement	19
	2.5	Project	Schedule and Milestones	19
	2.6	Conclus	ion	20
CHAPTER	ANA	ALYSIS		
III	3.1	Introduc	tion	21
	3.2	Problem	Analysis	22
		3.2.1	Current System Analysis	22
		3.2.2	Problem Statement of Current System	23
	3.3	Require	nent Analysis	24
		3.3.1	Data Requirement	24
		3.3.2	Functional Requirement	25
			3.3.2.1 Context Diagram of system To Be	26
			3.3.2.2 Data Flow Diagram Of System To Be	27
			3.3.3 Non-Functional Requirement	28
		3.3.4	Others Requirement	28
			3.3.4.1 Software Requirement	28
			3.3.4.2 Hardware Requirement	30
			3.3.4.3 Network Requirement	31

CHAPTER	DE	SIGN		
IV	4.1	Introduction		32
	4.2	High-	Level Design	33
		4.2.1	System Architecture	33
			4.2.1.1 Three-Tier Architecture	34
		4.2.2	User Interface Design	34
			4.2.2.1 Navigation Design	35
			4.2.2.2 Input Design	36
			4.2.2.3 Output Design	36
		4.2.3	Database Design	37
			4.2.3.1 Entity Relationship Diagra	m (ERD) 38
			4.2.3.2 Business Rules	39
			4.2.3.3 Data Dictionary	40
			4.2.3.4 DBMS Selection	40
	4.3	3 System Architecture		
		4.3.1	Software Specification	44
		4.3.2	Physical Database Design	50
			4.3.2.1 Data Definition Language	
			(DDL)	51
	4.4	Conclusion		57
CHAPTER	IMI	PLEMEN	TATION	
V	5.1	Introduc	tion	58
	5.2	Softwar	Development Environment Setup	59
		5.2.1	Software	60
	5.3	Databas	E Implementation	61
	5.4 Software 5.4.1		re Configuration Management	
			Configuration Environment Setup	
		5.4.2	Version Control Procedure	68
	5.5	Impleme	ntation Status	69
	5.6	Conclus		70

CHAPTER V	TESTING			
	6.1 Introduction			
	6.2 Test Plan	72		
	6.2.1 Test Organization	72		
	6.2.2 Test Environment	72		
	6.2.3 Test Schedule	73		
	6.3 Test Strategy	74		
	6.3.1 Classes Of Test	75		
	6.4 Test Design	76		
	6.4.1 Test Description	76		
	6.4.2 Test Data	76		
	6.5 Test Results And Analysis	77		
	6.6 Conclusion			
CHAPTER V	CONCLUSION			
	7.1 Observation on Weaknesses and Strength	79		
	7.2Propositions for Improvement	80		
	7.3 Contribution	80		
	7.4 Conclusion	80		
	REFERENCES	81		
	BIBLIOGRAPHY	82		
	APPENDIXES	83		

LIST OF TABLES

TABLE	TITLE	PAGE	
2.1	Software Requirement	12	
2.2	Minimal Requirement	18	
3.1	Hardware Requirement	18	
3.3	Hardware Requirement	30	
4.1	Output Design	36	
4.2	DBMS for SQL Server database	41	
4.3	Privileges For User	55	
4.4	Privileges For Administrator	56	
5.1	Software Requirement	61	

LIST OF FIGURES

DIAGRAM	TITLE	PAGE
2.1	The Phase of DBLC	14
3.1	Context Diagram of System To Be	26
3.2	DFD level 0 of System To Be	27
4.1	Three-tier Architecture	34
4.2	Navigation Design	35
4.3	Entity Relationship Diagram (ERD)	38
5.1	Three-Tier Architecture	59
5.2	Connection Made To Database	61
5.3	The Registration Information of SQL Server	63
5.4	The Serial Number Configuration	63
5.5	Figure shows the option to set up server	64
5.6	Figure shows the instance name should be in default	64
5.7	Figure shows the setup type to be chosen is custom	64
5.8	Figure shows the selected components	65
5.9	Figure shows service account	65
5.10	Figure shows the authentication mode to enter the password	66
5.11	Figure shows the collation setting	66
5.12	Figure shows the Network Libraries	67
5.13	Figure shows the message stating	67
5.14	Figure shows the message where the setup is complete	68
5.15	Figure shows how the source code version is tracked	69

LIST OF APPPENDIXES

APPEDIX	PAGE
Appendix A	83
Appendix B	86
Appendix C	95
Appendix D	113
Appendix E	119
Appendix F	120

CHAPTER I

INTRODUCTION

1.1 Project Background

There is a lot more to running a commercial kitchen than just creating beautiful flavors and attractive plates. Most commercial kitchens are in fact food factories in the best sense of the word, combining heavy equipment, exact timing, high temperatures and technical procedures to create standardized products over and over again. Without detailed written systems the product is likely to be inconsistent and costly. Kitchen Management System is a system where helps the chef's to make some of the basic works to handle food ordering, manage to arrange the prices, managing stock, ordering raw materials from vendor, handling the food ingredients and organize staff duty roster basically which might not have in any of the kitchen systems in any hotels or restaurant. This system also helps to increase table turns from more efficient kitchen operation. Besides that this system will improve communication where this system improves communication between the customer and kitchen staff and ensures effective continued communication between all food service staff, allowing you to monitor the progress of all orders.

It also rationalized sales ordering where by the Kitchen Management System can separate and co-ordinate all sales orders. This allows the head chef to see all ordered records while the chefs check their own individual tasks. This system allows staff to update the progress of an order when their hands are full. Kitchen Management System will have the function where it Monitor staff and service means that head chef can create incentives for kitchen staff by, for example, setting guidelines for speed of service. This system will produce reports to monitor the success of the team as a whole or each individual and Order process where once the order is complete, waiting staff can be paged to collect the order and deliver it to the customer. This ensures that meals are delivered as soon as they are ready. Your customers will never need to complain about cold or incorrectly prepared meals. Essentially, staff will have to work more where by handles the orders and arranging all the foods and the head chef will managing raw material ordering, enrolling new chefs, dealing with the records and so on. Staff is allow to print out the receipts and handle the customer ordering, ingredients, stock checking and of course raw material ordering. This system also records the amount of stock in where it will help to control the budget. Only head chef handles the registration of any new chef and there will be some rules and regulation for the registration.

1.2 Problem Statement (s)

The problems that had been identified from the manual system are:

Basically, in kitchen management system not much functions is added in. In some of the Kitchen Management System, there will be no function for ingredients, rules of the kitchen and it will be in manual way, where will be printed out, laminated and displayed on the walls for the staffs to read. Finally there will be no food safety instructions in the Kitchen Management System. Well, this Expert Kitchen Management system will help to reduce all this problems. It will have all the functions that might not have in any Kitchen Management System. Moreover, many of the Kitchen Management System, data about the stocks are recorded in different system and it may cause of data mistake.

a) No systematic and consistent system

Currently, there is no systematic and consistent system that had been used in BayView Hotel Kitchen to manage the data about the foods and the raw materials, details about the vendor's and order that made by the chefs and customers. The information about the vendor's order may be not kept systematically.

b) Time constraint

In manual system, time will be taken in term of request the foods manually via phone. Firstly, the customer will ask for the available foods. Then they will make an order. Then, they will bargain for the discount price. So, order the foods via phone taking more time.

c) Lack Of Data Security

The problem that also been identified from existing system is risk of lost or missing of important data. There are more chances of data missing, data corrupted or destroying of data by using manual system. At the same time, data might be loss while taking the order manually.

1.3 Objectives

The objectives that will be going to achieve from this system are:

a) Increased table turns from more efficient kitchen operation

Time is money when it comes to managing table turns. To maximize revenue while ensuring that guests are not hurried out the door, optimal table counts, staffing levels and even kitchen throughput require careful assessment and sometimes adjustment.

b) Reduce wastage from greater kitchen accuracy

To reduce the wastage in the kitchen where order the stock larger size if u know u will use them for many type of foods.

c) Increased customer satisfaction from consistent and faster customer service

Build customer satisfaction and loyalty by delivering orders service with pleasant face n smile on face.

d) Manage Work More Efficiently

Increase efficiency by enabling staffs to be more professional, with access to complete customer information orders that is familiar and easy to use.

c) To facilitate the management system

The management force exist a lot additional arranged and smooth as all data will be recorded in a system where there Searching for records can be made more easily and alteration in data can be made.

f) Data backup and recovery

In this more computerized system, the data will be store more safely than manual system. In case the data lost by any reason, there will be backup data and we can recover from the database.

1.4 Scopes

The Scope of the Expert Kitchen Management System are as following:

System User

a) Admin (Head Chef)

Full supervision of kitchen brigade, Kitchen staff recruitment and training, Menu planning, Supervision of inventory and stock control, Maintaining budgetary targets, Supervision of health & safety.

b) Staff (Chef)

Chef will also be responsible for planning the set menu items and any specials as well as provide the recipes in most cases. In addition, the chef is usually responsible for placing food orders and necessary kitchen tool orders in order to enable the preparation of the meals

Modules

a) Login

Admin and staff can login into the system by using appropriate username and password. Staff must register first to enable them to use this system. Every user who had entered an invalid password or username has three times of opportunity to retype their username and password.

b) Help

This module helps user understand every function in this system and how to use this system.

c) Search

Search module enable staff or admin to search for required information such as the order info.

d) Calculate

Enable price and total payment calculation.

e) Add/Delete/Update

The staff has the privilege to add, delete or update customer orders and information.

f) Member Registration

Is to register the customer to become a member of the system in use.

g) Payment Method

It shows on how the customer wan to make the payment weather by credit card or cash.

h) Foods (menu items)

It shows on the menu that is special on that specific day and the best meal to be served.

i) Bill of Raw Materials (BOR)

To show the full quantity of raw food needed.

j) Recipe Requirement Planning

To show some requirement needed in recipe planning.

1.5 Project Significance

This system is useful for staffs and manager of Expert Kitchen Management System. In security, confidentiality is important where it prevent of unauthorized individual from knowing or accessing secret information. That is why in this system we do have the Login function where it will help to secure the system, where the staff need to enter the username and the password to get in the system. This system will give more advantages to staff as they can manage data easily in one system compare to the other kitchen management system. Staff also can accessing data more easily and can make the data alteration. Fully computerized system saves a lot of times. Staff can print out the receipt and there is no more manual way. Besides that availability of the system is important where the information should be accessible to authorized individuals with restricted action determined by the system

1.5 Conclusion

In conclusion, Expert Kitchen Management System is to be develop in order to reduce the problem that faced by the staffs. Problem causes such as hard to access and view data, having difficulties in searching data and data not secure will be solved after the development of this system is. This system has many functionalities which is one of it is like can store and manage alteration data efficiently. Besides that, it wills also a time saving system where the manual system will basically take long time to be processed. The data for this system will be kept in a highly secured protection and will be managed in a secure way. This system major target is to develop a system that has interfaces which are user-friendly.