

**HELLO MODERN – ONLINE SHOPPING MANAGEMENT SYSTEM**

FOO WAI KIT

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

## BORANG PENGESAHAN STATUS TESIS\*

JUDUL : **HELLO MODERN – ONLINE SHOPPING MANAGEMENT SYSTEM**

SESI PENGAJIAN : 2013 / 2014

---

Saya **FOO WAI KIT** mengaku membenarkan tesis Projek Sarjana Muda ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

Tesis dan projek adalah hakmilik Universiti Teknikal Malaysia Melaka.

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.

\*\* Sila tandakan (/)

_____ SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
_____ TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
_____ / _____ TIDAK TERHAD	

---

(TANDATANGAN PENULIS)

---

(TANDATANGAN PENYELIA)  
(PM NORHAZIAH BINTI MD SALLEH)

Alamat tetap: 33, JALAN SHATIN 11,  
TAMAN SHATIN,  
31650, IPOH, PERAK

Tarikh: \_\_\_\_\_

Tarikh: \_\_\_\_\_

CATATAN: \* Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM).  
\*\* Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

# **HELLO MODERN – ONLINE SHOPPING MANAGEMENT SYSTEM**

FOO WAI KIT

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2014

## DECLARATION

I hereby declare that this project report entitled  
**HELLO MODERN – ONLINE SHOPPING  
MANAGEMENT SYSTEM**

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

STUDENT : \_\_\_\_\_ Date: \_\_\_\_\_  
(FOO WAI KIT)

SUPERVISOR : \_\_\_\_\_ Date: \_\_\_\_\_  
(PM NORHAZIAH BINTI MD  
SALLEH)

## DEDICATION

I dedicate my project and dissertation work to my lecturer, my family and all of my friends that giving me support. A special feeling of gratitude to my loving parents, my supervisor, PM Norhaziah Binti Md Salleh and my evaluator, Dr. Mohd Sanusi Bin Azmi whose word of encouragement and push for tenacity ring in my ears. I also dedicate this dissertation to my two special friends Lee Chen Yong and Lai Mom Hang who have helped me solving a lot of problem and give me a lot of idea throughout the process.

I will always appreciate all they have done, my all dear classmate BITDs, my PA and my Database Advance lecturer En. Yahya Ibrahim that give me a lot of advice and help me to ultimate the system with perfect. Without their help I will not be able finish my final year project and the report in this critical time. And I'm sure that all of them are my best cheerleaders.

## ACKNOWLEDGEMENTS

First and foremost, I have to thank my final year project's supervisor, PM Norhaziah Binti Md. Salleh. Without her assistance and dedicated involvement in every step throughout the process, this paper would have never been accomplished. I would like to thank you very much for your support and understanding over these past few months.

I would also like to show gratitude to my academic advisor, En. Yahya Bin Ibrahim. He was the one who teach me during my first-year, Database subject at Universiti Teknikal Malaysia Melaka(UTeM). His teaching style and enthusiasm for the topic made a strong impression on me and I have always carried positive memories of his classes with me.

Getting through my dissertation required more than academic support, and I have many, many people to thank for listening to and, at times, having to tolerate me over the past three years. I cannot begin to express my gratitude and appreciation for their friendship. Ng Xin Rou, Lai Mom Hang and Lee Chen Yong have been unwavering in their personal and professional support during the time I spent at the University.

Most importantly, none of this could have happened without my family, who offered their encouragement through phone calls every week. To my parents, it would be an understatement to say that, as a family, we have experienced some ups and downs in the past three years. Every time I was ready to quit, you did not let me and I am forever grateful. This dissertation stands as a testament to your unconditional love and encouragement.

## ABSTRACT

Online shopping is the process whereby consumers directly buy goods or services from a seller interactively in real-time without an intermediary service over the internet. Since the emergence of the World Wide Web, merchants have sought to sell their products to people who surf the Internet. Shoppers can visit web stores from the comfort of their homes and shop as they sit in front of the computer instead of queuing in a long queue just to purchase a single item because customers can purchase a variety of items from online stores. In fact, people can purchase just about anything from companies that provide their products online. This dissertation includes a literature review giving background information about Hello Modern which investigating and choosing a suitable lifecycle model and developing a web-based system. As a result, Hello Modern has been developed based on the problems faced by the customer.

## ABSTRAK

Membeli-belah dalam talian adalah proses di mana pengguna terus membeli barang-barang atau perkhidmatan daripada penjual interaktif dalam masa nyata tanpa perkhidmatan perantara di internet. Sejak kemunculan World Wide Web, pedagang telah berusaha untuk menjual produk mereka kepada orang-orang yang melayari Internet. Pembeli boleh melawat kedai-kedai web dari keselesaan rumah mereka dan membeli-belah kerana mereka duduk di hadapan komputer dan bukannya beratur dalam barisan yang panjang hanya untuk membeli hanya satu item sahaja kerana pelanggan boleh membeli pelbagai barangan dari kedai-kedai dalam talian. Malah, orang ramai boleh membeli apa sahaja daripada syarikat-syarikat yang menyediakan produk mereka secara online. Disertasi ini termasuk kajian literatur memberikan maklumat latar belakang mengenai Hello Modern yang menyiasat dan memilih model kitaran hayat yang sesuai dan membangunkan sistem berasaskan web. Hasilnya, Hello Modern telah dibangunkan berdasarkan kepada masalah yang dihadapi oleh pelanggan.



## TABLE OF CONTENTS

<b>CHAPTER</b>	<b>SUBJECT</b>	<b>PAGE</b>
	<b>DECLARATION</b>	<b>ii</b>
	<b>DEDICATION</b>	<b>iii</b>
	<b>ACKNOWLEDGEMENTS</b>	<b>iv</b>
	<b>ABSTRACT</b>	<b>v</b>
	<b>ABSTRAK</b>	<b>vi</b>
	<b>TABLE OF CONTENTS</b>	<b>vii</b>
	<b>LIST OF TABLES</b>	<b>xi</b>
	<b>LIST OF FIGURES</b>	<b>xiii</b>
	<b>LIST OF ABBREVIATIONS</b>	<b>xv</b>
<b>CHAPTER I</b>	<b>INTRODUCTION</b>	<b>1</b>
	1.1 Project Background	1
	1.2 Problem Statement	1
	1.3 Objective	2
	1.4 Scope	2
	1.5 Project Significance	3
	1.6 Expected Output	4
	<b>1.7 Conclusion</b>	<b>4</b>
<b>CHAPTER II</b>	<b>LITERATURE REVIEW AND PROJECT METHODOLOGY</b>	<b>5</b>
	2.1 Introduction	5
	2.2 Facts and Findings	6
	2.2.1 Domain	6
	2.2.2 Existing System	6
	2.2.2.1 Case Study	6

2.2.3	Technique	8
2.3	Project Methodology	8
2.4	Project Requirements	12
2.4.1	Software Requirement	12
2.4.2	Hardware Requirement	13
2.4.3	Other Requirement	13
2.5	Project Schedule and Milestones	14
2.6	Conclusion	16
<b>CHAPTER III</b>	<b>ANALYSIS</b>	<b>17</b>
3.1	Introduction	17
3.2	Problem Analysis	17
3.2.1	Flow of the Current System	18
3.2.2	Problem Analysis of the Current System	20
3.3	Requirement Analysis	21
3.3.1	Data Requirement	21
3.3.2	Functional Requirement	23
3.3.2.1	Context Diagram	24
3.3.2.2	Data Flow Diagram	24
3.3.3	Non-Functional Requirement	27
3.3.4	Others Requirement	28
3.3.4.1	Software Requirement	28
3.3.4.2	Hardware Requirement	29
3.3.4.3	Network Requirement	30
3.4	Conclusion	30
<b>CHAPTER IV</b>	<b>DESIGN</b>	<b>31</b>
4.1	Introduction	31
4.2	High-Level Design	31
4.2.1	System Architecture	32
4.2.2	User Interface Design	34
4.2.2.1	Navigation Design	49
4.2.2.2	Input Design	49

4.2.2.3	Output Design	50
4.2.3	Database Design	52
4.2.3.1	Conceptual Database Design	52
4.2.3.1.1	Entity Relationship Diagram (ERD)	52 54
4.2.3.1.2	Business Rule	55
4.2.3.2	Logical Database Design	57
4.2.3.3	Normalization	57
4.2.3.4	DBMS Selection	59
4.3	Detailed Design	59
4.3.1	Software Design	59
4.3.2	Physical Database Design	62
4.4	Conclusion	
<b>CHAPTER V</b>	<b>IMPLEMENTATION</b>	<b>63</b>
5.1	Introduction	63
5.2	Software Development Environment Setup	64
5.3	Software Configuration Management	66
5.3.1	Configuration Environment Setup	66
5.3.2	Version Control Procedure	67
5.4	Implementation Status	68
5.5	Conclusion	70
<b>CHAPTER VI</b>	<b>TESTING</b>	<b>71</b>
6.1	Introduction	71
6.2	Test Plan	72
6.2.1	Test Organization	72
6.2.2	Test Environment	73
6.2.3	Test Schedule	73
6.3	Test Strategy	74
6.3.1	Classes of Tests	75
6.3.1.1	Unit Testing	76

	6.3.1.2 Integration Unit	76
	6.3.1.3 System Unit	76
	6.3.1.4 User Acceptance Testing	76
	6.4 Test Design	77
	6.4.1 Test Description	77
	6.4.1.1 Unit Testing	77
	6.4.2 Test Data	85
	6.5 Test Results and Analysis	85
	6.6 Conclusion	92
<b>CHAPTER</b>	<b>PROJECT CONCLUSION</b>	<b>93</b>
<b>VII</b>	7.1 Observation on Weakness and Strengths	93
	7.1.1 System Strengths	93
	7.1.2 System Weaknesses	94
	7.2 Proposition for Improvement	94
	7.3 Contribution	95
	7.4 Conclusion	95
	<b>REFERENCES</b>	<b>96</b>
	<b>APPENDIX A – STORED PROCEDURE &amp; TRIGGERS</b>	<b>97</b>
	<b>APPENDIX B – NAVIGATION DESIGN</b>	<b>105</b>
	<b>APPENDIX C – TEST DATA</b>	<b>106</b>

**LIST OF TABLES**

<b>Table 2.1: Software Requirement</b>	<b>12</b>
<b>Table 2.2: Hardware Requirement</b>	<b>13</b>
<b>Table 2.3: Network Requirement</b>	<b>13</b>
<b>Table 2.4: Project Schedule and Milestones</b>	<b>14</b>
<b>Table 3.1: Data Dictionary</b>	<b>21</b>
<b>Table 3.2: Non-Functional Requirement</b>	<b>27</b>
<b>Table 3.3: Description of Software Requirement</b>	<b>28</b>
<b>Table 3.4: Description of Hardware Requirement</b>	<b>29</b>
<b>Table 4.1: Input Design for Customer</b>	<b>49</b>
<b>Table 4.2: Input Design for Admin</b>	<b>50</b>
<b>Table 4.3: Output Design for Customer</b>	<b>51</b>
<b>Table 4.4: Output Design for Admin</b>	<b>51</b>
<b>Table 4.5: Data Dictionary</b>	<b>55</b>
<b>Table 4.6: DBMS for Oracle 10g Database</b>	<b>58</b>
<b>Table 4.7: DDL Syntax for Hello Modern</b>	<b>59</b>
<b>Table 5.1: Implementation Environment for Hello Modern</b>	<b>65</b>
<b>Table 5.2: Server Configuration for Hello Modern</b>	<b>65</b>

<b>Table 5.3: Database Environment Setup for Hello Modern</b>	<b>66</b>
<b>Table 5.4: Version Control Procedure</b>	<b>68</b>
<b>Table 5.5: Implementation Status</b>	<b>69</b>
<b>Table 6.1: Individual Involved in Testing Phase</b>	<b>72</b>
<b>Table 6.2: Test Environment Specification</b>	<b>73</b>
<b>Table 6.3: Test Schedule Specification for each stage</b>	<b>74</b>
<b>Table 6.4: Black Box Testing and White Box Testing Test Classes</b>	<b>75</b>
<b>Table 6.5: Test Cases for Login Module</b>	<b>77</b>
<b>Table 6.6: Test Cases for Edit Customer Order Module</b>	<b>78</b>
<b>Table 6.7: Test Cases for Edit Product Module</b>	<b>78</b>
<b>Table 6.8: Test Cases for Registration Module</b>	<b>79</b>
<b>Table 6.9: Test Cases for Login Module</b>	<b>81</b>
<b>Table 6.10: Test Cases for Update Customer Profile Module</b>	<b>81</b>
<b>Table 6.11: Test Cases for Purchase Order Module</b>	<b>83</b>
<b>Table 6.12: Admin Login Test Result and Analysis</b>	<b>86</b>
<b>Table 6.13: Edit Module Test Result and Analysis</b>	<b>87</b>
<b>Table 6.14: Customer Registration Test Result and Analysis</b>	<b>88</b>
<b>Table 6.15: Customer Login Test Result and Analysis</b>	<b>89</b>
<b>Table 6.16: Update Customer Profile Test Result and Analysis</b>	<b>90</b>
<b>Table 6.17: Purchase Order Test Result and Analysis</b>	<b>91</b>
<b>Table C.1: Test Data for Registration Component</b>	<b>107</b>

## LIST OF FIGURES

<b>Figure 2.1: Home of www.walmart.com website</b>	<b>7</b>
<b>Figure 2.2: Search to get the details of the product</b>	<b>7</b>
<b>Figure 2.3: Display the Result</b>	<b>7</b>
<b>Figure 2.4: System Development Life Cycle (SDLC)</b>	<b>11</b>
<b>Figure 3.1: Flow Chart of the Current System</b>	<b>19</b>
<b>Figure 3.2: Context Diagram for Hello Modern</b>	<b>24</b>
<b>Figure 3.3: Data Flow Diagram (DFD) Level 0 for Admin</b>	<b>25</b>
<b>Figure 3.4: Data Flow Diagram (DFD) Level 0 for Customer</b>	<b>26</b>
<b>Figure 4.1: Component View of the Architecture Hello Modern</b>	<b>32</b>
<b>Figure 4.2: System Architecture in tier for Hello Modern</b>	<b>33</b>
<b>Figure 4.3: User Log-in Interface</b>	<b>35</b>
<b>Figure 4.4: Customer Registration Form</b>	<b>35</b>
<b>Figure 4.5: Invalid Format (Email)</b>	<b>36</b>
<b>Figure 4.6: Invalid Format (Password)</b>	<b>36</b>
<b>Figure 4.7: Customer Account Created</b>	<b>36</b>
<b>Figure 4.8: Email and Password Not Exist</b>	<b>37</b>
<b>Figure 4.9: Homepage</b>	<b>38</b>

<b>Figure 4.10: Men Shoes Category</b>	<b>39</b>
<b>Figure 4.11: Men Watch Category</b>	<b>40</b>
<b>Figure 4.12: Men Perfume Category</b>	<b>41</b>
<b>Figure 4.13: Women Shoe Category</b>	<b>42</b>
<b>Figure 4.14: Woman Watch Category</b>	<b>43</b>
<b>Figure 4.15: Product Detail</b>	<b>44</b>
<b>Figure 4.16: Zoom Product Image</b>	<b>44</b>
<b>Figure 4.17: Order Form</b>	<b>45</b>
<b>Figure 4.18: Error Message</b>	<b>45</b>
<b>Figure 4.19: Done Purchasing</b>	<b>45</b>
<b>Figure 4.20: Customer Purchase</b>	<b>46</b>
<b>Figure 4.21: Customer Order</b>	<b>46</b>
<b>Figure 4.22: Top Product</b>	<b>47</b>
<b>Figure 4.23: Top Customer</b>	<b>47</b>
<b>Figure 4.24: Top Customer Purchase</b>	<b>48</b>
<b>Figure 4.25: Entity Relationship Diagram (ERD) for Hello Modern</b>	<b>53</b>
<b>Figure 5.1: Software Environment Setup</b>	<b>65</b>
<b>Figure B.1 : Navigation Design for Hello Modern</b>	<b>105</b>



## LIST OF ABBREVIATIONS

<b>FTMK</b>	-	<b>Fakulti Teknologi Maklumat dan Komunikasi</b>
<b>PSM</b>	-	<b>Projek Sarjana Muda</b>
<b>UTeM</b>	-	<b>Universiti Teknikal Melaka Malaysia</b>
<b>DBA</b>	-	<b>Database Administrator</b>
<b>DFD</b>	-	<b>Data Flow Diagram</b>
<b>ERD</b>	-	<b>Entity Relational Diagram</b>
<b>PL/SQL</b>	-	<b>Procedural Language/ Structured Query Language</b>
<b>JSP</b>	-	<b>JavaServer Pages</b>
<b>HTML</b>	-	<b>HyperText Markup Language</b>
<b>RDBMS</b>	-	<b>Relational Database Management System</b>
<b>SCM</b>	-	<b>Software Configuration Management</b>

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Project Background**

The Internet has been developing for three decades and eventually during the mid-nineties, the commercial use of the internet triggered high expectations in both executives and investors. Online shopping or e-shopping is a form of electronic commerce which allows customer to directly buy goods or services from a seller over the Internet using a web browser. Alternative names include e-web-store, e-shop, e-store, Internet shop, web-shop, web-store, online store, online storefront and virtual store. Mobile commerce (or m-commerce) describes purchasing from an online retailer's mobile optimized online site or app. Therefore, online shopping is one of the most popular online activities.

#### **1.2 Problem Statement**

The problem with manual shopping process is that it is time consuming. By building a system that can manage the data for a large variety of product, it can help the customer to do their shopping faster and efficient. The problems that exist in nowadays shopping process are:

- The current purchasing method is usually performed through the counter at the shop, but this is wasting customer's time and money.
- Customers do not know the total price of their purchases while still browsing for other products which may lead to over budget.

### 1.3 Objective

The objective for this project is:

- To enable the customers to purchase products or services at any time and from anywhere.
- To provide a better coverage of product and service marketing without the company having to employ salesman to market its products.
- To provide a web-based system to simplify the purchasing process.

### 1.4 Scope

The system is known as Hello Modern and is a web-based system. The main users of this system are administrator and customer. The modules in this system are as follows:

**i) Login Module**

Login module allows users to remain logged in the system as long as they want. Only the authenticated users have the permission to access the system. Users have to use their email and password in order to login to the system.

**ii) Customer Module**

This module will handle all the information of customers. Details of customers can be added, updated and deleted.

**iii) Purchase Module**

Customer can purchase any product or services that are offered in Hello Modern.

**iv) System Administration (SA)**

System Administrator is more responsible for the system management like handling the order status of the customer. SA will manage all the basic operation like insert, update and delete for the all the data in the system.

**v) Report Module**

This module is responsible in generating the reports associated with the customer or product such as top customer report and top product report.

## 1.5 Project Significance

There are two types of users:

- a) Customer – They can use the website to do their shopping easily and efficiently.
- b) Admin – They will get information on the number of customers using the system to purchase products, get statistics on purchases and also know the top product and top customer within a certain period of time.

## 1.6 Expected Output

The expected output is the result from the objectives that had been stated earlier in this chapter. A web-based system will be developed specially to help system admin and customer task at the end of this project.

Hello Modern will provide

- i. Promote the product through online website.
  - Promote the product and advertise through the website.
- ii. Improves and systematic the service.
  - Improves and make the service process more systematic through online.

## 1.7 Conclusion

This chapter discussed about the project background, objective, scope of the project and problems that have been identified in the current system. Chapter II will discuss in more detail about existing system that are currently used and the methodology used to develop the system.

## **CHAPTER II**

### **LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

Literature review is the fact and information that can be used as a reference. The data in the reference are findings from the past research or sentence and also the existing system that are currently used. The purpose of a literature review is to give confidence to the reader about the project study with related information, sentence and the ideas that have been on a topic and what are the strengths and weakness. Literature review is also important to fulfil user requirement and specifications.

Methodology is a method or process of activities that has been used in developing the system. Hello Modern – Online Shopping Management System (Hello Modern) is a web-based system. There are phases in developing the system and each step of this phase is shown by a specific model. In software, the analysis and design activities are normally governed by a specific methodology.

## **2.2 Facts and Findings**

Facts and findings establishes what the existing system does and what the problems are, leads to a definition of a set of options from which users may choose their required system.

This section will map out different perspective related to the project that has been developed. It shows the visualization of Hello Modern. Other than that, it will describe any element or method which is useful to be used for the purpose of searching and gathered useful information in developing this system.

### **2.2.1 Domain**

This project is aimed to develop a web-based online shopping system. This system also allows customers to search and purchase a variety of products. The customer can choose any type of product sold in the system.

Hello Modern is a user-friendly system which provides processing data function to help customer easily use the system.

### **2.2.2 Existing System**

Today, there are many online purchasing systems available in the market such as [www.lazada.com.my](http://www.lazada.com.my), [www.amazon.com](http://www.amazon.com), [www.walmart.com](http://www.walmart.com) and others.

#### **2.2.2.1 Case Study: [www.walmart.com](http://www.walmart.com)**

[www.walmart.com](http://www.walmart.com) is a domain that belongs to one of the United States largest grocery retailers which is Wal-Mart. Customers are able to acquire relevant information on products sold in Wal-Mart. Customers can search products based on

their needs. The searching of this website is more details and excellent than others. This website provides variety categories and customer can search their desire product name according to their categories which are more details. Not only has that, customer can filter the product by price and type. This actually will make a customer easily to make a decision or choose the product they want to purchase.



Figure 2.1: Home of www.walmart.com website

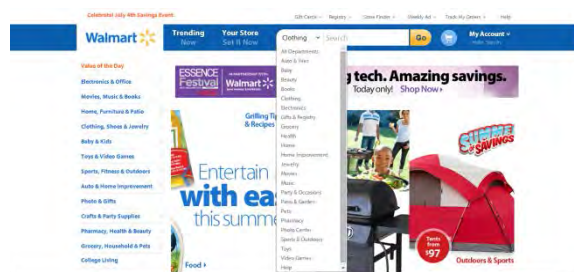


Figure 2.2: Search to get the details of the product

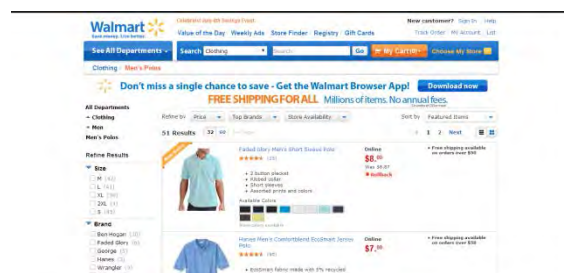


Figure 2.3: Display the Result