# Universiti Teknologi MARA

# A Personalization Application Development for Online Shopping

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# APPROVAL

## A PERSONALIZATION APPLICATION DEVELOPMENT FOR ONLINE SHOPPING

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This thesis was prepared under the direction of thesis supervisor, Pn. Haslizatul Fairuz Mohamed Hanum. It was submitted to the Faculty of Information Technology and Quantitative Sciences and was accepted in partial fulfillment of the requirements for the Bachelor of Information Technology.

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## DECLARATION

I certify that this thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline

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***"In the name of Allah, Most Gracious, Most Merciful"***

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# ABSTRACT

Nowadays, the emergence of personalization application for online shopping in business industries is new approach to help business owners gain most benefits for their companies. E-Commerce, with the Internet as its main platform has a very large market network. Because of these, a personalization application development for online shopping system will be developed for Syarikat Perabot Jati Selayang. The development of the system is to help customer to find their product based on their preference. The system provides facilities for customers to place order, purchase and a recommend product based on customer needs electronically. The system developed in the Windows environment using PHP as the scripting language. While, MySQL is used as the database management system. During the development process, the System Development Life Cycle (SDLC) is implemented where it acts as a methodology in developing the system. The development of such system is expected to be the driver for the growth of product sales and market.

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## LIST OF ABBREVIATION

| | |
|---|---|
| API | Application Programming Interface |
| GUI | Graphical User Interface |
| HTML | Hyper Text Markup Language |
| HTTP | Hyper Text Transfer Language |
| ICT | Information Communication Technology |
| ISAPI | Internet Server Application Programming Language |
| OS | Operating System |
| PC | Personal Computer |
| PHP | Hypertext Preprocessor |
| RM | Ringgit Malaysia |
| SQL | Structured Query Language |
| TCP/IP | Transmission Control Protocol / Internet Protocol |
| URL | Uniform Resources Locator |
| WWW | World Wide World |
| B2B | Business-to-Business |
| B2C | Business-to-Consumer |

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# CHAPTER 1

# INTRODUCTION

## 1.0 Background

Internet has revolutionized the way people had access to information. What they earlier took hours and days to accomplish, has became affordable to be done in a few minutes time, with very few mouse clicks, while remaining within the square space of a browser window. One of the direct fallouts of this web revolution is the entry of online stores or the concept of shopping online. As the term itself indicates, shopping online is the way of shopping or buying goods from a virtual store (called online store) by selecting the items with mouse clicks and drag and drop and making the payments through credit card, again online.

## 1.1 Problem Statement

Evolution of information technology nowadays make all information can be accessible and retrievable easily through an online system. Recently, computerize system are widely used not only in private sectors but also in government sectors. All the organizations aspire to increase quality and good services in using Web site to promote their product and services.

The customers come to their furniture centre and buy their product are low. There are many alternatives the management does to promote their product. The problem is the location is quite difficult to allow customers to come at their furniture centre. In addition, there also have a lot of competitors around their furniture centre. Other problems are customers did not have much time to go to their furniture centre because of

many of their customers are busy with their job. Furthermore, they have to provide an easier way for their customer to get information about their product and to help their customer to make an easier way to buy a product anytime they want.

## 1.2 Aim of The Research

To develop a prototype for a Personalization Application Development for Online Shopping.

## 1.3 Objectives of the Research

This research is done to achieve two objectives:

i. To identify techniques for personalization.
ii. To develop a personalization application development for online shopping in Perabot Jati Selayang.

## 1.4 Scope of the Research

The main focus of this research paper is to develop a prototype of a personalization application development for online shopping in Syarikat Perabot Jati Selayang. This prototype is build to focus on some factors that stated as below:

i. This system will focus on the user which is registered customer that enthusiastic to buy a teak furniture product through the Internet. The administrator of this system is the manager of the company.

ii. This system have important modules such as a module for catalogue shopping, module for register, module for buying through online, and module for generate the sales report.

iii. To develop this system, Windows Operating System is being used.

iv. PHP will be used for scripting language, while MySQL will be used as the database management system.

v. For personalise features, this system only focus on customer's preferences such as their favourite concept and style of teak product.

## 1.5 Significances of the Research

Recently, analysts believe that shopping via online are now poised for steady and rapid growth of usage. The significant of this project are to develop a prototype of an online shopping for teak furniture with personalization. Although business can be carried out using the traditional way, an online shopping with personalization application allows the transactions to be done anywhere and anytime. There are many significances and benefits that will get from this research such as:

i. To help the company knows their customer's preferences.

ii. To improved marketing and selling the teak furniture product of Perabot Jati Selayang.

iii. With online shopping this company will have a virtual teak furniture product centre through the development of the web; it will encourage more customer or internet user to visit this web page.

iv. To allows the customers to place order and purchase the furniture electronically, anywhere and at anytime.

v. To provide a sell report to the company organization.

## 1.6 Conclusion

This chapter explained about overview of the project that is going to be developed. Objectives of the project are derived from the current problem investigated. The scope of the project is been determined and the significance that the project will bring is stated.

# CHAPTER 2

# LITERATURE REVIEW

## 2.0 Introduction

The aim of this chapter is to provide a theoretical background that is related to this project. Many E-Commerce websites attempt to develop personalized features to encourage user's repetitive visits.

The Internet was originally a communications link for scientists, government agencies, and researchers. At that point, web sites were static and consisted of HTML pages linked together. As corporations began going online and the amount of content grew, sites became more difficult and expensive to manage. Personalization, which relies on dynamic web technology to deliver freshly-generated, personally-relevant content, first appeared in 1996. By early 1999, the general public was swept up in the excitement of the web.

Although some web sites had already begun adding personalization features such as shopping lists and reminders, most still treated all of their visitors in the same way. With the advent of personalized sites where business rules and matching agents simulated interactions between customers and organization agents, that all changed.

Just as real-life customer service and sales representatives automatically filter information that is relevant to the customer, make recommendations, and alert the customer about opportunities, personalization techniques know the customer, remember the customer, and adjust their personal memory of the customer according to the

customer's changing needs. Because users' experiences with a personalized site are ultimately more satisfying, they are more likely to become loyal customers. This is explains why so many organizations are now investing in personalization.

With personalized services and products are becoming more common on the Internet, the interest on personalization technologies is accordingly growing. Personalization is concerned with building a closer relationship and understanding the needs of individuals or group of customers. Personalization is experiencing widespread adoption in application areas such as customer relationship management and E-commerce interaction and intimacy.

Because personalization is relatively a new field, different authors have provided various definitions of the concept. According to Eirinaki and Vazirgiannis (2003), web personalization refers to the process of customizing the content and structure of a website to the specific and individual needs of each user taking advantage of user's navigational behaviour. Web personalization can sharply respond to a user's unique and particular needs.

Mobasher et al. (2002) defined web personalization as an act of response according to the individual user's interest. Web personalization was defined by Mulvenna et al. (2000) as any action that adopts the information or services provided by a website to the needs of a particular user or a set of users, taking advantage of the knowledge gained from the users' navigational behaviour and individual interests, in combination with the content and structure of the website. In this study, we extend personalization as a process of gathering and storing information about site visitors, analysing the information, and delivering the right information to each visitor at the right time.

Many practitioners and researchers are investigating into various issues of personalization. The three conceptual layers describe by Sarwar et al. (2001) can describe the possible personalization of a web application. The first is personalized

content. It means that each user can obtain a different content. The typical example of personalized content is the definition of the price of an article based on the user profile. The second is personalized navigation. This describes primitives by which users browse the content of web applications. Personalized navigation means to add, remove links, create a new collection or modify an existing one for a given user. A typical example of link addition is cross-selling.

For instance, in the online bookshop Amazon (http://www.amazon.com) website, the addition in a product page of links points to related items deemed potentially interesting for the customer. The third is personalized presentation, which defines the graphical resources of the pages and their layout adaptation with respect to user styles (cognitive, utilisation, navigation, etc).

## 2.1 Web Based/Online Application

### 2.1.1 The Web Based/Online Application Defined

The Internet is arguably the most rapidly spreading communication technology in history. What makes this diffusion so remarkable is that its adoption and use demands considerable expense and skill. While several decades old, in the early 1990's a large number of organizations and individuals became users. A TIME/CNN poll in April, 1999 surveyed USA teenagers (age 13 to 17) and found that 82% said they use the Internet for things like e-mail, chat rooms or visiting websites (TIME, May 10, 1999; p. 40). An MCI nationwide poll in 1998 found that nearly 60% of the public agreed that the Internet is the easy way to get the up-to-date information (Trotter 1998).

There are many variations of online computing but the basic idea is that a software application runs on a server, instead of on a local desktop machine. The

client machine connects to the server over the internet but servers only as a user interface. This is technically known as a server-based computing model. This form of computing is also called an online computing model, an online application or a hosted application (Charlie Morris, 2000).

The recent research indicates that several forms of online applications have already been quietly going about their business for quite a while. Together with other trends, including the growth of wireless and of broadband Internet access, the online application model points to a very different world ahead for Web developers (Danziger, J., & K. L. Kraemer. 1986).

### 2.1 2 The Advantages of Online Application

According to Hal Cohen (2004) the server-based computing model or online application model is currently the talk of the town. Client/server replaced mainframes, which were expensive and inflexible. A few years later, client/server systems turned out to be expensive and inflexible in their own way, and the network model began to come into its own. The server-based model takes things one step further and offers a number of advantages.

Previous research indicated benefits of online applications (Charlie Morris, 2000), there are no more installation or upgrade hassles. Every program you use is always up to the minute, incorporating the latest features and bug fixes. No more worries about backups, viruses or power surges. The host that keeps your data is responsible for keeping it safe. Many programs have third-party add-ons or plug-ins that extends their capabilities. If you reinstall a program or install it to a second machine, you must reinstall your favourite plug-ins too. With an online application, all available add-ons could be offered on the vendor's site, making apps like Photoshop into super-versions.

A network or server-based model means less work for network admin, since they no longer have to maintain software on client machines. But with the server-based model, applications run on the vendors' servers, so local network admin doesn't have to fool with software applications at all. In fact, some companies can outsource their entire networks.

The online application is one of several related trends (the others include wireless and broadband) that are transforming the Internet into something far more than a mere purveyor of e-mail and magazine-style Web pages. The line between Web developers and software developers is blurring quickly and will soon disappear. Web weenies will find themselves getting more into the advanced languages like Java and C++ and using less of the Web-oriented scripting languages like JavaScript and Perl. Application developers will find themselves having to bone up on Internet blare like TCP/IP and HTTP (Tucker *et al.* 2004).

### 2.1.3 The Disadvantages of Online Application

According to Charlie Morris (2000), there are some disadvantages online applications. All of your data is stored on a public server, accessible to anyone who can find a way to get to it. Paradoxically, however, this could lead to better or at least more uniform, privacy standards. Presumably, over the next few years the world's law enforcement bodies will sort out some of the most important questions about privacy rights, copyrights and the sanctity of digital data.

A good data host will strictly enforce the stated wishes of their customers and refuse to release data to anyone not legally entitled to see it. They will also use the most powerful security measures available to foil unauthorized access, so private data may be more secure than it would be on a private network with less sophisticated security measures.

Whatever people may think of the risk/reward equation of the server-based model, it's plainly growing rapidly, and will be an important part of the computing world (Sara Kiesler, 1997). Ultimately, the various computing models will coexist in the Universal Computing Model. This is basically the server-based model extended to a global wireless Internet. A local machine can be anything from a tie pin to a powerful computer. Any and all software and data can be accessed from anywhere in the world at any time. Applications and data may reside on a server, a local machine, or a combination of the two. Hardware and OS compatibility problems are a dim memory.

## 2.2 Overview of an Online Shopping

### 2.2.1 Definition of an Online Shopping

Online shopping is the process consumers go through to purchase products or services over the internet. An online shop, internet shop, online store evokes the physical analogy of buying products or services at a bricks-and-mortar retailer or in a shopping mall. It is an electronic commerce application used for Business-to-business (B2B) or Business-to-Consumer (B2C). Online shopping is popular mainly because of its speed and ease of use. Some issues of concern can include fluctuating exchange rates for foreign currencies, local and international laws and delivery methods.

Online shopping, as known as internet shopping, online purchasing, or internet buying, which also includes activities such as online auction. It is the same as customers purchase goods or service by exchanging values in actual shops. Internet enables transactions occur through electronic ways by computers. Due to the growing population of internet users, online shopping now is popular, and as an accepted way in which to purchase various types of goods and services.

Statistic shows that in 2001, online sales were $48.3bn, representing an annual growth of 45.9%, and was expected to grow more dramatically in the future. Therefore online shopping will be a promising and prosperous business in the following generation (Huang, Schrank, and Dubinshy, 2004).

### 2.2.2 Definition of E-Commerce

Electronic Commerce (e-commerce) describes the process of buying, selling, or exchanging products, services, and information via computer networks, including the Internet. Kalakota and Whinston (1997) define e-commerce from four perspectives:

i. From a communication perspective, e-commerce is the delivery of goods, services, information, or payments over computer networks or by any other electronic means

ii. From a business process perspective, e-commerce is the application of technology towards the automation of business transactions and workflow.

iii. From a service perspective, e-commerce is tool that addresses the desire of firms, consumers, and management to cut services costs while improving the quality of customer service and increasing the speed of service delivery.

iv. From an online perspective, e-commerce provides the capability of buying and selling products and information over the internet and other online services.