UTP e-Mart

By

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Dissertation in partial fulfillment of

the requirements for

Bachelor of Business Information Systems (Hons)

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Universiti Teknologi PETRONAS

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CERTIFICATION OF APPROVAL

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Business Information Systems Programme
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(BUSINESS INFORMATION SYSTEMS)

Approved by,

Dr. P. D. D. Dominic

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
July 2007

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own concept as specified in the references and acknowledgments, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

SITI SARAH BT MOHD PAHMI

ABSTRACT

Because of the hassle, an e-Mart is going to be developed which is an e-commerce website that is going to sell goods to the UTP students, and have the goods ordered delivered to the students' doorstep. This website will help ease the students to buy goods without having to go outside of UTP campus. The website will sell products that are actually from the brick-and-mortar stores that most students go to, to buy goods. Students can make orders, and have the goods delivered. Finding the market owners will be a challenge, as this will be on online orders. The website will act as the intermediaries between the market and the students to make a purchase. The website will be the first one to be introduced in UTP that able the students to buy goods online.

This report explains the progress of building the system where all the aspects involves explained in the result and discussion part of this text. The objective of this section states all the progress of building the system. It also researches on the online grocery shopping and also the Systems Analysis and Design of the Systems Development Life Cycle (SDLC). The methodology and also the findings from the SDLC are also discussed. There is also feasibility study that consists of three aspects to look into which are the operational study, technical study and also the economic study. The whole document discusses the progress of building the system where all the aspects involved are explained in the result and discussion part of this text.

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CHAPTER 1
INTRODUCTION

1.1 Background of Study

Due to the hassle for the UTP students to go out and buy groceries, it has come to a solution that an online website that offers students' goods and groceries that students need in daily life and delivered to their doorstep is what the UTP students' need. The website will sell products that are actually from the brick-and-mortar stores that most students go to buy goods. Students can make orders, and have the goods delivered. It is important to carry out further study on what the students think and their acceptance, and also to find shop owners that are willing to sell their goods online, and deliver them to the UTP students for a small charge.

The objective of this section is to discuss the overall result of this project which is an online website *e-Mart* for UTP students to buy goods. This study is to evaluate the potential success of this project before expanding a large amount on resources on it. It deals with the possibility that a system can be acquired or developed and used for some purposes within some environment. It is also to identify situations that if uncorrected will lead to failures.

1.2 Problem Statement

There are many aspects to look into when building an e-commerce website. The two most important management challenges in building successful e-commerce website are developing a clear understanding of the ***business objectives*** and ***knowing how to choose the right technology*** to achieve those objectives.

The business objectives of developing and e-Mart for UTP students are to provide an efficient way for the students to buy goods without the hassle of going outside of hostel. They can make orders from their hostel rooms and have the goods delivered to them.

A systematic approach is required in building an e-commerce website. Decisions need to be made on the website's hardware, software and telecommunications infrastructure. In this project, a simple hardware and software is needed as this website is small-sized businesses that are located in the UTP Tronoh area.

The objective of this study is to gather enough data and information on developing the website so the time in developing the website meets the timeframe that has been set up.

1.3 Objectives

i. To identify any issues that would prevent the business from being successful in the marketplace.

ii. To determine whether the business idea makes sense.

iii. To gather data and information on developing the website.

iv. To list the capabilities that the website will have (business objectives).

v. To list the information elements that the system must produce in order to achieve the business objectives i.e. product descriptions, graphics catalogue, site log, etc.

1.4 Scope of Study

i. To select an appropriate business model for the business

ii. To study on how to develop an e-commerce website

iii. To find the means of the payment methods

iv. To make collaboration with shop owners in the nearby area of UTP

v. To develop the Systems Analysis/Planning

vi. The simple logical and physical design of the website

vii. To analyze the technical, operational and economic feasibility

viii. To identify the risk and benefits of this project

CHAPTER 2
LITERATURE REVIEW

What is e-commerce?

Electronic commerce consists primarily of the distributing, buying, selling, marketing and servicing of products or services over electronic system such as the Internet and other computer networks. Electronic commerce typically uses electronic communication technology of the World Wide Web and other computer technologies such as databases, e-mail, and on non-computer technologies, such as transportation for physical goods sold via e-commerce [1]. Or simply put, doing business over the internet or the web.

Today, it encompasses a very wide range of business activities and processes, from e-banking to offshore manufacturing to e-logistics. The ever growing dependence of modern industries on electronically enabled business process gave impetus to the growth and development of supporting systems, including backend systems, applications and also middleware. Examples are broadband and fiber-optic networks, supply-chain management software, customer relationship management software, inventory control systems and financial accounting software [1].

Why e-commerce?

"In the long run, the combination of efficiency, intimacy, and community offered by direct-to-consumer marketing will have an impact on every industry and intermediary," Deighton predicted [2].

In the ten years since it began in 1995, e-commerce has grown in the United States from a standing start to a $172 billion retail business and a $1.5 trillion business-to-business juggernaut in 2005, bringing about massive change in business firms, markets, and consumer behavior. In the next five years, e-commerce in all of its forms is projected to continue growing at double-digit rates, becoming the fastest growing form of commerce in the world [3]. Whether it is business-to-business (B2B) or business-to-consumer (B2C), the key to successful e-business is focusing on business objectives first, followed very closely by technology goals. The Internet has the brand-building capability of television; the product information delivery of print media, the capacity of direct marketing's targeted relationship and the order transaction capability of toll-free telephone numbers. This means it is very important that e-commerce initiatives be consistent with other media already in use. [4].

In today's globalization on technology, the concept of online grocery shopping is not new anymore to us, especially in the western countries. You can find more online stores that provide you with the concept of ordering online and have the goods delivered to you.

From an ACNielsen report on Global Consumer Attitude Towards Online Shopping, October 2005 [5], it says that one tenth of the world's population is shopping online and 627 million people have done shopping online; with the British and Germans are the world's biggest online shoppers, according to a recently conducted ACNielsen study. Meanwhile in Asia Pacific, South Korea and Taiwan rank highest with 90 percent respondent claimed they have made a purchase online. In the study it clearly shows that there is an upward trend in global online shopping. While the growth is nearly all global market, it sees that the lesser developed markets are maturing faster than many of their

more developed counterparts. Based on the graph [Appendix 1] from the study, 6% are groceries with books in the highest rank by 34%.

Cash-on-delivery (COD) payment method is also popularly used in some Asia Pacific markets, ranking 2nd to credit card in India (29%) and Japan (25%). China is most unique COD (34%) as the most used payment method followed by Bank Transfer (31%). Yet when asked about the preferred methods, credit cards (24%) actually comes second to COD (32%) in China, indicating an unmet need for online credit card usage in this market. In Japan and Taiwan, payment through convenient store is an important online purchase payment method. Where credit cards rank first in both usage and preference, the fact that this method ranks second (Taiwan) or third (Japan) in terms of usage and ranks second in both markets in terms of preference, displays the important role that convenient store plays in online shopping in these markets.

There are many articles found that contributed to why online grocery shopping failed. Although there are many companies had faced bankruptcy in this business, we should consider in another way of perspective instead. In an article of "Why Online Grocery Shopping Failed?" [6], we should be asking "What would improve your grocery shopping?" instead of "Would you like to have your groceries delivered to your door instead of going to the supermarket and buy them yourself?" question. Based from the article, it is found that 33% of the Swedes buy groceries more than 4 times a week, and an average of 70% of the decisions on what to buy are made inside the store. The conclusion of the article is that the most important job someone can do for people who want to improve their shopping is to "help them make good decisions".

In another article [7] it gives the pros and cons of online grocery shopping. And the main reason why you should shop online is that the shoppers buying power is in their hand. Related to the first article, the shoppers can make good decisions, without buying unnecessary items. And of course, the other reasons are that there is no need to go out in all sorts of bad weather and trying to beat the crowd after day at work and also you can save fuel expenditure. All the points can relate to the students conditions, or

environments where students doesn't have a lot of money to spend on extra fuel, nor have they the extra time to do grocery shopping 4 times a week. Although UTP students prefer to eat outside, there are students who prefer home cooked meal and less food costs.

The Food Marketing Institute (FMI) has identified reasons that people; generally speaking, choose to shop online (FMI, 2000). FMI research revealed that 86 percent of consumers go online or access their computer on a daily basis. Of these individuals, 70 percent use the Internet frequently for shopping. Those consumers between the ages of 25 to 34 are most likely to use the Internet for shopping. This situation can relate to the situation in UTP where all the students have access to the Internet 24 hours a day and they access their computer on a daily basis. Although through the research those consumers are aged between 25 to 34 years old, we must remember that the case is they are referring to the online stores globally and accept credit cards or PayPal as the payment method. Whereas in this project, the consumers are students in UTP between the ages of 17 to 26 where most of them do not own a credit card and most probably prefer COD or Bank Transfer.

The decision to purchase groceries online occurs after consumers evaluate the benefits and costs of this decision versus using a traditional brick-and-mortar versus a straight online store. There are five critical elements that determine whether a consumer shops online or in a traditional grocery store [8]:

1. Price;
2. Ambiance;
3. Convenience;
4. Service; and,
5. Product variety.

Then again, there are the three most famous questions, the quality, price and also the convenience between online grocery shopping and the traditional grocery shopping. These questions depend on what the shopper believes. There are websites that focuses on the quality of their products and also still maintain good price. Convenience is just far way better to compare to the traditional shopping.

Although most articles focuses on groceries only, in this research, we will not focus on groceries only, but also goods that the students buy all the time such as stationeries, magazines and books, ink printers, CD among others that are suitable for delivery system and are not fragile so that the students can trust the quality of the products.

The growth of e-commerce activity is remarkable, prompting the need for continuing the evaluation of how to provide better services under an enduring and increasing demand on Internet resources. The feasibility analysis presents many challenges described in [Chapter 3]. One of these challenges has to do with the need of implementing Internet technology into the local mini markets store.

CHAPTER 3
METHODOLOGY

3.1 Procedure Identification

- Initially, the project is about developing an e-commerce website that sells goods to students in UTP to help ease the students without having to go out of campus. Before developing the website, a study is to be undertaken to identify who are the main target of customers, who are the suppliers, what kind of products to be offered, and the means of delivery. After the research and all the information has been gathered, then the business model will be identified, and also e-commerce solutions. Finding the market owners that are willing to sell their goods online, and deliver them to the customers are another step for this project. Meeting with people, doing surveys and making negotiations will be part of the next step. A thorough study will be done on building the e-commerce website to ensure that the chosen technology to achieve the business objectives is right.
- Turning a good business idea into a good business model is the most important aspect in starting a new business, especially in e-commerce. Business model is a set of planned activities designed to result in a profit in a marketplace and sometimes also referred as *business process.* There are many things to be considered in developing a business model. Below are the key elements of a business model:
- For this specific e-commerce website, the business model chosen is Business-to-Consumer (B2C) in which online businesses seek to reach individual consumers.

3.2 Project Activities

Building an e-commerce website requires full understanding of business, technology and social issues, as well as systematic approach. The first challenge in developing an e-commerce site is to build a plan for developing the site. And then the second challenge is to understand the basic elements of e-commerce infrastructure.

Planning is important in creating an e-commerce site. For this phase, we need to develop a plan document. For this, one methodology that is suitable is the systems development life cycle (SDLC).

SDLC is a methodology for understanding the business objectives of any system and designing appropriate solution. It helps in creating documents that communicate the objectives of the site, important milestone, and the uses of resources.

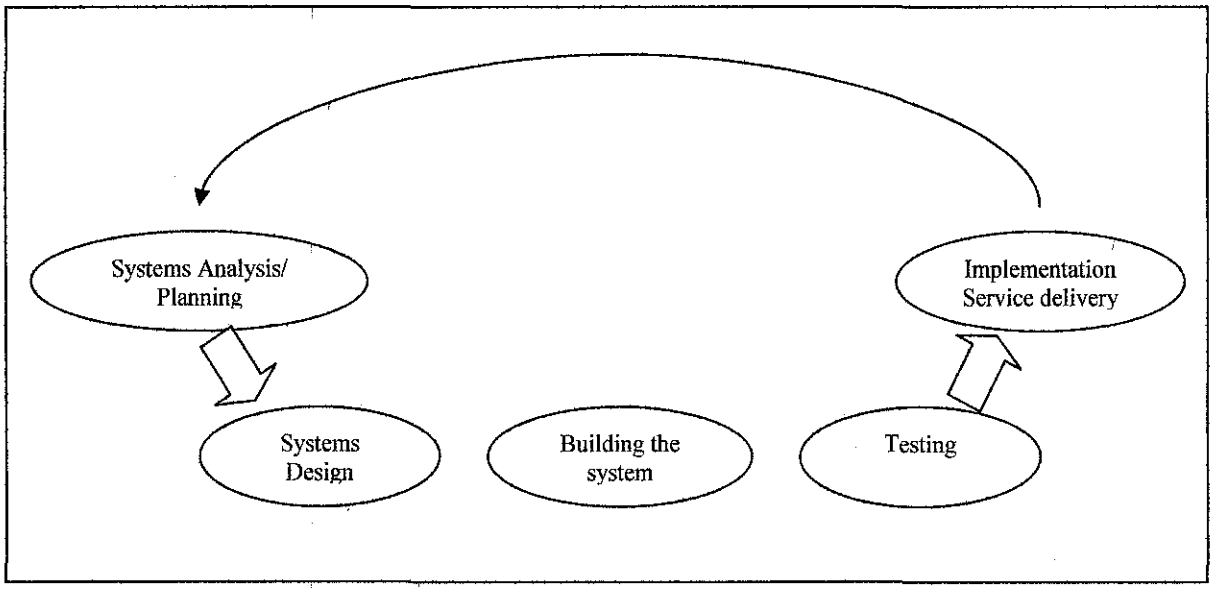


Figure 3.1: System Development Life Cycle (SDLC)

5 major steps involved in the SDLC for an e-commerce site are:

1) Systems Analysis/Planning
2) Systems Design
3) Building the System
4) Testing
5) Implementation

In the Final Year Project part 1, the main focus of the SDLC was the first step which is systems analysis and planning. In this phase, we will try to answer the question "What do we want the e-commerce site to do?" The purpose of system analysis is to develop requirements specification of the required system, which in this case are the requirements of the website. The deliverables for this phase are the requirements specification, and also the physical and logical models of the current environment [9].

Systems functionalities are a list of types of information systems capabilities that will be needed to achieve business objectives. There are the systems requirements and the deliverables in Chapter 4 that the website must have, and the capabilities the site needs to achieve the business objectives [Table 4.1].

Next is developing the physical and logical design for the website that translates how all the functionality of the website will be delivered, which is the second phase of the SDLC. The logical design includes a data flow diagram that describes the flow of information of the site, the processing functions that must be performed, and the database that will be used [Figure 4.1]. Meanwhile, the physical design translates the logical design into physical components, which means it details the specific model of server to be purchased, the software to be used, the size of the telecommunications link that will be required and so on [Figure 4.2].

After the first phase, the project will progress to the third phase, which is the building the website. In this phase, the project will continue in-house which means that everything will be built from scratch to create and built the template of the website.

At the second part of Final Year Project, the building and testing phase continues throughout the time duration discussed in the Gantt chart [Appendix 2]. The results are discussed in Chapter 4.

3.2. 1 Analysis Phase: Feasibility Study

There are three aspects to look into when conducting a feasibility study. The first is to look into the operational aspect that deals with whether or not the proposed system will meet the needs of its various users, be accepted and be used. The second aspect is the technical feasibility which deals with whether or not an e-commerce application can be constructed in a suitable manner. It assess whether the application is possible to develop within the reasonable limits of complexity. Lastly is the economic feasibility that functions to consider whether or not we should expand the resource necessary to develop the system. It should outweigh the cost of developing and running the system.

3.2.1.1 The Alternatives

3.2.1.1.1 Doing Nothing Different

The buying goods procedures in UTP are through brick-and-mortar shops in the campus area or outside campus in the nearby location. There is no computerized, but it has traditional applications. There is no threat to the existing procedure, although enhancement would be a good start to utilize the Internet and e-commerce.

3.2.1.1.2 Acquiring an Existing System

Extending the application and the system online through e-Commerce can be used for the current businesses to extend their services. In this case, the shops in the UTP nearby locations can develop online databases for them to view orders from customers. Before, the legacy system may require customers to call the shops to make orders and have the goods delivered to their houses.

There are various numbers of software companies that produces generic e-commerce sites that can be used to sell products online. To get started, the website could use one of the systems available.

3.2.1.1.3 Developing a Basic System

The UTP e-Mart can be developed with a basic e-commerce systems features to serve customers and suppliers. By developing its own basic system it could:

- Better customize the system on doing business
- Provide basic for future development

A basic system could go beyond just selling products for future e-commerce developments.

- Customers would be able to make orders online
- The system would be able generate the orders into the order database
- The system would be able to keep track of orders, and customers' details

3.2.1.1.4 Developing a Deluxe System

The deluxe system for the UTP e-Mart would provide more shops for the UTP students, and more services. Customers would use the website to:

- Order and pay online using Internet payment systems.
- Able to search for products from the website in the database systems.

Other features of this deluxe system would include:

- The system would be able to recognize the customer and automatically submits the customer's details to the order database with the order.
- The system would be able to decide which order goes to which shop's order database.

3.2.1.2 Operational Feasibility

3.2.1.2.1 Doing Nothing Different Operational Feasibility

The nature of the market environment is operating successfully with no major problems. Therefore, it is readily feasible to continue with the current operations.

3.2.1.2.2 Acquiring an Existing System Operational Feasibility

The advantage is that the website will acquire the necessary support of the system by acquiring the existing systems. It is expected that acquiring an existing system would be readily feasible in term of operational.

3.2.1.2.3 Developing a Basic System Operational Feasibility

The challenges in moving into e-Commerce can be expected to create some difficulties that will be new to the businesses and also to the society. The greatest challenge is to evolve and to meet the changing expectations of the customers. It is difficult to anticipate how the need for constant change will be handled. However it is expected that developing a basic system will be feasible as the difficulties are not too great to overcome.

3.2.1.2.4 Developing a Deluxe System Operational Feasibility

Because of the nature of the existing environment and of the proposed systems, it is expected that developing a deluxe system may create more difficulties in developing and also maintaining the system. Thus it is expected that developing a deluxe system will be feasible with more difficulties in terms of operational.

3.2.1.3 Technical Feasibility

Technical feasibility's purpose is to gain an understanding of the organization's ability to construct the proposed system. The analysis includes an assessment in understanding the possible target hardware, software, and operating environments to be used, as well as system size, and the complexity of this system. The technical feasibility analysis is in essence a technical risk analysis that strives to answer the question "Can we build it?"

3.2.1.3.1 Familiarity with application: less familiarity generates more risk

- The local groceries store has no knowledge and experience with Internet-based sales application
- The UTP students are very familiar with Internet and e-commerce application
- The author has knowledge but little experience with e-commerce application

3.2.1.3.2 Familiarity with technology: less familiarity generates more risk

- The local groceries store has never developed any Internet application or Internet technology
- The furthest technology the local groceries store has developed is a computerized POS system
- The author is familiar with the Internet technology

3.2.1.3.3 Project size: large projects have more risk

- The author estimates the project is in moderate size
- With some effort, the system can be designed with easy-to-use applications for the local groceries store owners

3.2.1.4 Economic Feasibility

Economic feasibility's purpose is to identify the financial benefits and costs associated with the development project.

3.2.1.4.1 Doing Nothing Different Economic Feasibility

Categories of Costs	Significant	Major	Minor
Development/Maintenance cost			X
Getting existing customers to use the system			0
Attracting new customers		X	
Threat of competitors gaining market share by going on-line			0

Table 3.1: Costs of Doing Nothing Different Economic Feasibility

Categories of Benefits	Significant	Major	Minor
Expanded sales and customer base			0
Revenue from service			0

Table 3.2: Benefits of Doing Nothing Different Economic Feasibility

3.2.1.4.2 Acquiring an Existing System Economic Feasibility

Categories of Costs	Significant	Major	Minor
Development/maintenance costs			
Purchasing		X	
Customizing		X	
Operating		X	
Getting UTP students to use the system			X
Attracting new customers			X
Threat of competitors gaining market share in going on-line			0

Table 3.3: Costs of Acquiring an Existing System Economic Feasibility

Categories of Benefits	Significant	Major	Minor
Expanded sales and customer base			0
Revenue from service			0

Table 3.4: Benefits of Acquiring an Existing System Economic Feasibility

3.2.1.4.3 Developing a Basic System Economic Feasibility

Categories of Costs	Significant	Major	Minor
Development/maintenance Costs			
Developing		X	
Operating		X	
Getting suppliers to use the system			X
Attracting new customers and suppliers			X

Table 3.5: Costs of Developing a Basic System Economic Feasibility

Categories of Benefits	Significant	Major	Minor
Expanded sales and customer base for suppliers	X		
Revenue from services		X	
Experience with e-Commerce to handle larger system		X	

Table 3.6: Benefits of Developing a Basic System Economic Feasibility

3.2.1.4.4 Developing a Deluxe System Economic Feasibility

Categories of Costs	Significant	Major	Minor
Development/Maintenance Costs			
Developing		X	
Operating		X	
Getting existing customers to use the system			X
Getting suppliers to participate in the system	X		
Attracting new customers and suppliers	X		

Table 3.7: Costs of Developing a Deluxe System Economic Feasibility

Categories of Benefits	Significant	Major	Minor
Experience with e-Commerce to handle new competition		X	
Improves handling of orders		X	
Revenue from services provided		X	

Table 3.8: Benefits of Developing a Deluxe System Economic Feasibility

3.3 Design Phase

3.3.1 Systems Flowchart

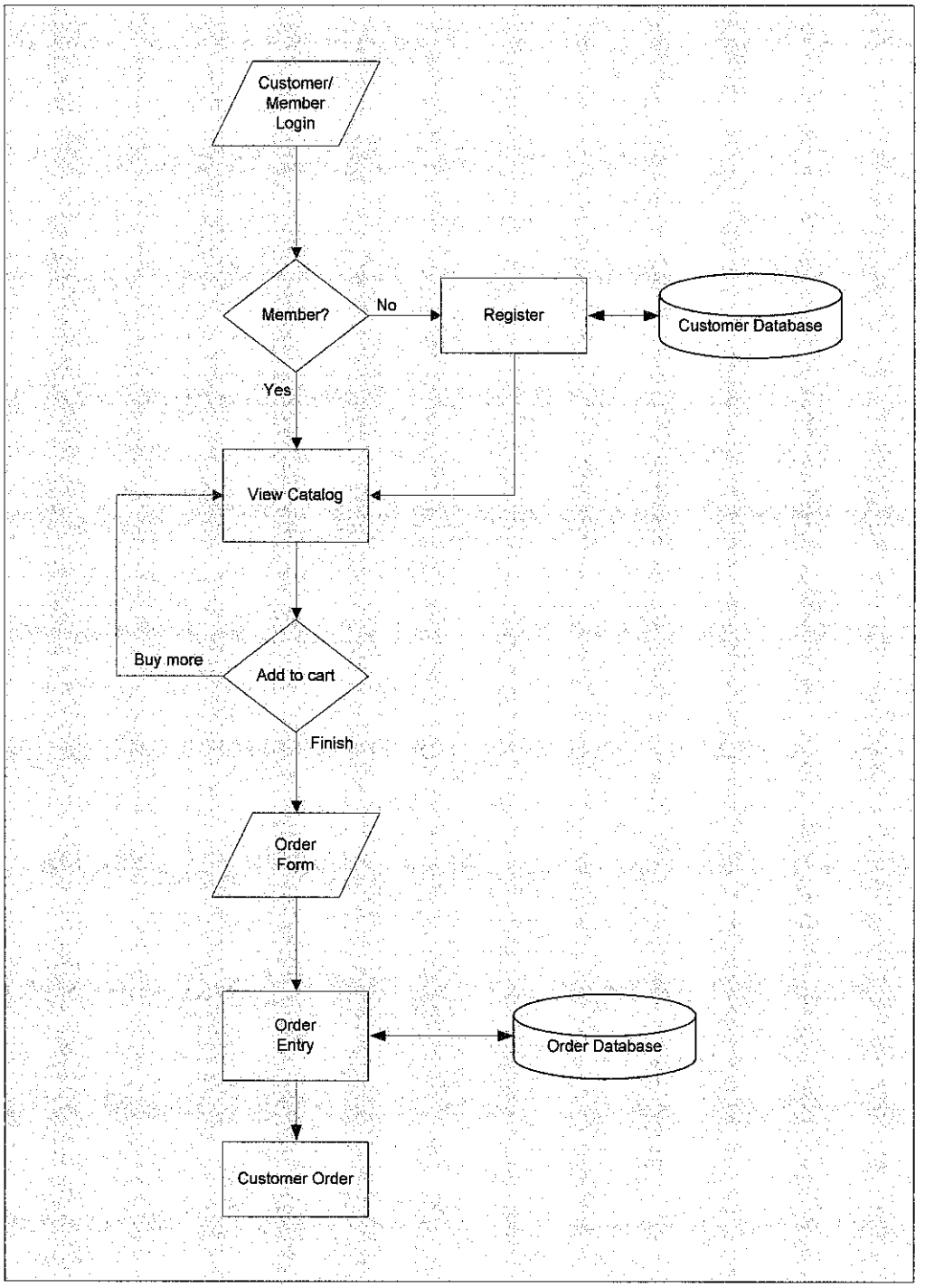


Figure 3.2: The System Flowchart

The system flowchart explains the flow of the system. The user logs in into the system. For this system, it requires customers (UTP students especially) to register into the web site. If the visitor has not yet register into the system, it will lead the user to register. The new member will be updated into the customer's database. When the customer logs in, it will take the customer to the catalog page where customers can browse through to make purchase. The user adds the products they want to buy into the shopping cart. If the user wants to select/buy more products, it will return to the catalog page again. After the user finishes shopping, it will return to the order form to confirm the products in the shopping cart. When the user confirms the purchase, the details will be stored into the order database. It will then notify the owner of the mini market to deliver the goods.

3.3.2 Systems Diagram

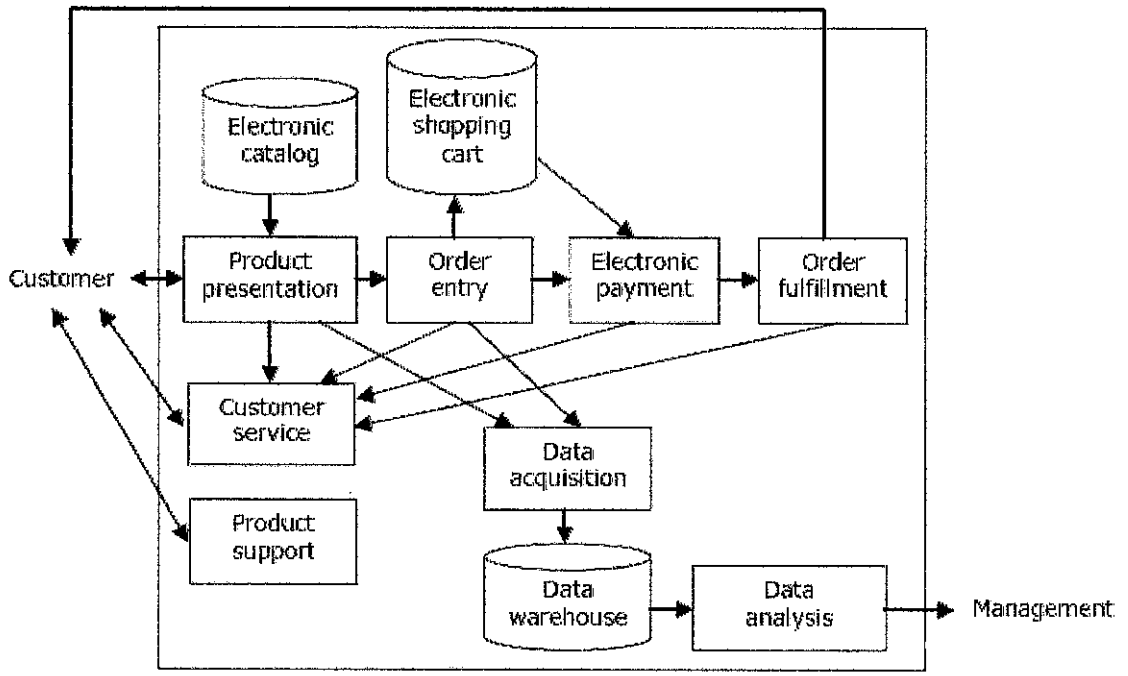


Figure 3.3: The Systems Diagram

Product Presentation

The product presentation function provides the customer with information about the product through the user interface (browser). The information includes:

- Product advertisement, including product descriptions and features
- Product views; product photo
- Detailed product specification

Order Entry

The order entry function allows a customer to place an order for selected products. Information about each product ordered is added to the electronic shopping cart, which is a database of orders in process. One characteristics of this function is the number of mouse clicks required by the customer to order an item.

Electronic Payment

The electronic payment function provides the capabilities for the customer to pay for the order and complete the transaction. Payment options include COD (cash-on-delivery) and Internet banking (BCB, Maybank).

Order Fulfillment

This function provides for the delivery of the product. For this case, the delivery responsibility is on the mini markets.

Customer Service

This function provides assistance to customers who have problems or questions related to the purchasing process. Example is FAQ.

Data Acquisition

This function captures data during customer interaction with the system. Some of the data acquired, such as customer's personal details and bank account is stored customer database. Customer privacy should be guaranteed when data is required. The customer should be informed of this guarantee.

Data Analysis

The data analysis function analyzes the data in the data warehouse. Data mining will be used for the purpose to identify trends, relationship, and other useful information. The result can be used for decision making in many areas, especially marketing.

3.4 Building Phase

Towards the building phase, the author has been developing the template for the website and also has been gathering information on PHP and MySQL for the database for the system.

3.4.1 PHP

PHP (Hypertext Preprocessor), a server-side scripting language to build websites with more interactive features. It is the easiest and most powerful scripting language, therefore makes it the best for the author to learn and use for the e-commerce website.

3.4.2 MySQL

Using MySQL, the database server will provide the ease of storing information for the catalog, customer information, and order entry. It is very useful to store information categorically. Author chose to use MySQL because of it is free to download and easy to use.

3.4.3 Shopping Cart

Shopping cart in a website is very useful to assist people in making purchases online. Its function is the same as the traditional shopping cart. It allows online customers to place items they wish to purchase in the cart. When checking out, or to confirm all the items to be purchased in the cart, the system will auto calculate the total of the orders or items in the card, including shipping or any other charges applicable. For this feature, there is much free software offered online. Finding the right system that can enhance the website that offers flexibility and easy-to-use is very important.

3.5 Tools/Equipment

This final year project is a project that does not involve any devices, only software and Internet. Tools or equipment that are required in the development for this project are as follows:

- Windows XP
- Microsoft FrontPage/Dreamweaver
- HTML
- PHP/mySQL Database

CHAPTER 4
RESULT AND DISCUSSION

4.1 Requirements and Specifications

As in the previous chapter has discussed, the project has been in the second phase, which is the systems design, and will proceed to the third phase in the SDLC.

System Requirements	Deliverables
• Display goods	• Online catalogue
• Add new customer	• Add customer screen
• Enter customer order	• Customer order entry screen
• Transaction payment	• Shopping cart/payment systems
• Customer information	• Sales database

Table 4.1: The requirements and specifications for UTP e-Mart

For this report, all the business objectives, the requirements and the specifications of the website have been identified.

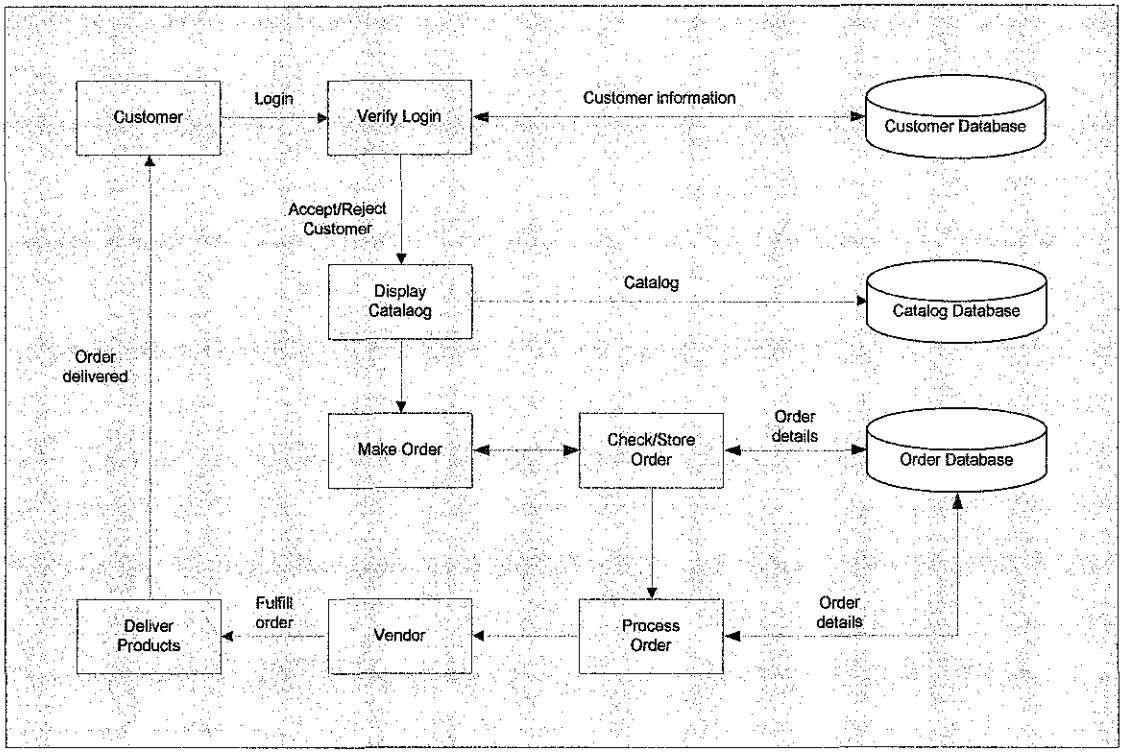


Figure 4.1: The logical design of the UTP e-Mart System

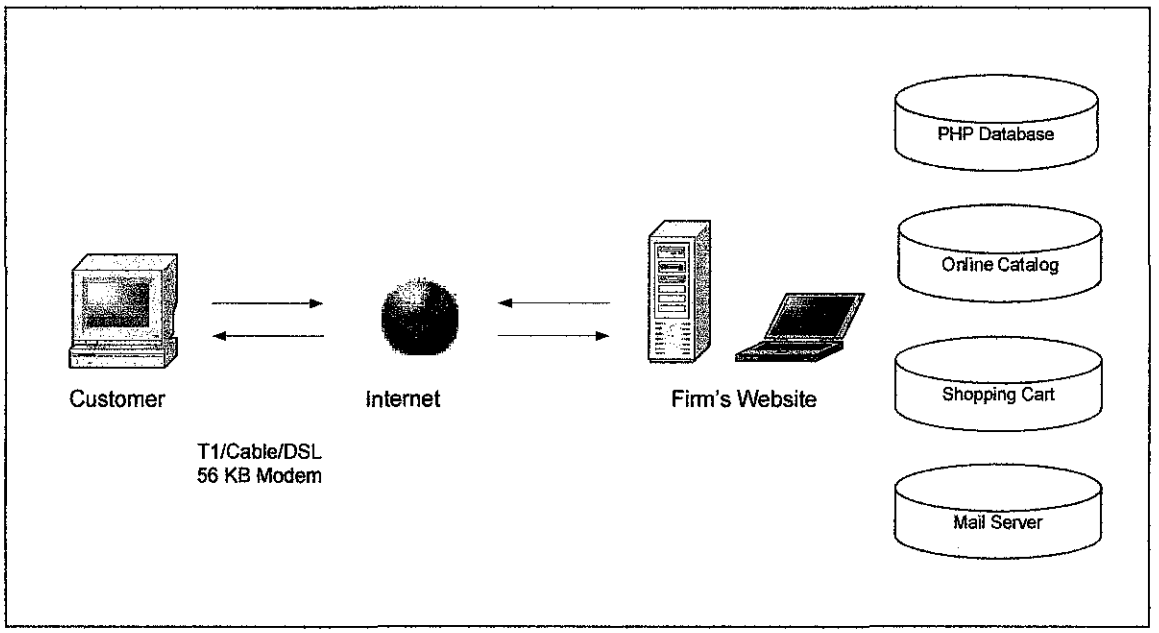


Figure 4.2: The physical design of the UTP e-Mart System

For this project, it is not new in the United States where they have an online website that offers food delivery for the students in the main universities in the United States [10]. Although the product is different, but the concept is the same, where the food chains at the local area, namely Domino's Pizza, Chilli's, T.G.I Fridays among others. The food chains registered to the website, as well as students registered to the website under their University and make orders. The same concept applied for this project, the only difference is the products, which is goods, any kind of goods that students buy most of the time. At the latest to date, an e-commerce website have been introduces in Malaysia, which is www.egroceries.com.my that has the same concept of providing groceries online to the citizen in Klang Valley. Although, the website differ in the context where the eGroceries.com.my is from one store only (the main provider of goods) that sells goods whereas this project, UTP e-Mart consists of combination of stores or grocery market that sells their products mainly to the UTP students online.

There are many online groceries shopping websites that offer online order and delivery to the customers' doorstep. But in the UTP environment, with the technology used to the maximum, there is no such system/website that offers the students the same service.

The nature of e-commerce has been increasingly leading to the number of e-commerce issues that we need to look careful into. In this case, the issues are mainly the payment systems and privacy and security. The payment systems that this project will focus will be less a hassle such as credit card payment or PayPal as the customers will be mostly students who do not own any credit card. Therefore it will be much easier to handle internet banking or cash on delivery system. While for the security issue, mainly it is because of the students' information with bank accounts and the privacy of the students 'personal information. In this case, we will be making sure that the website will not require much information of the customers that involves privacy and security issues.

Other prospective that this project will look into is advertising and marketing, as well as the business model. This research will look closely into the business model to make sure that the website will survive, or the concept will be enhanced furthermore. In this situation, the niche market is very specific and the area is very small. Taman Maju in Tronoh is not big and has small community with less information regarding Internet and

technology. Therefore, it will be more difficult to enter with an online website that requires the local vendors to participate as they might not have any education on Internet and technology.

4.2 Feasibility Study

4.2.1 Operational Feasibility

Based from the feasibility analysis, the alternative chosen is to develop a basic system. There will be challenges in developing a new system, but it will be feasible and the challenges are not too great to overcome.

4.2.2 Technical Feasibility

Based from the feasibility analysis, the risk level is high when considering the fact that most mini markets or local groceries store has no knowledge or experience in computerized system or Internet technology. Therefore, it will be quite difficult to embark on this system.

4.2.3 Economic Feasibility

Based from the feasibility analysis done, based from the alternatives given (Doing nothing, Acquire existing system, Developing a basic system, and Developing a deluxe system), it is concluded that it is best to Develop a basic system.

When considering the costs involved in developing a basic system from scratch, it is not costly as most technology nowadays offer free services, such as web hosting, shopping cart (which may be developed instead of using the software offered), and also building the website.

4.3 Building Phase

In this building phase, finding the correct software/system for the e-commerce website is very critical as there are many offered that has different features and ability and also complexity. There are also the cases of freeware and price issue. This matter is faced especially in choosing the right software for the shopping cart.

There are requirements and also key issues of ease to use and flexibility to consider in choosing the most compatible and suitable shopping cart system. It should do what is needed without too much administrative work and also other features such as the ability to exchange data between internal and external database.

Order automation is also very important where the orders will be feed into the order system, with all other aspect such as taxes, discounts and delivery charges to be handled automatically by the system.

The most important aspect that the shopping cart system to do is to handle the products information, searching and also ordering.

But there will be an issue for the system to identify the payment method, as in this e-commerce website, the payment method does not include any credit cards and also PayPal transaction. Payment by cash-on-delivery (COD) is the only option at the moment as there may not be many customers that have the ability to make payments via the online payment method mentioned.

4.4 Interface

UTP e-Mart Homepage

Figure 4.3: UTP e-Mart Homepage

Figure 4.3 shows the Homepage of the UTP e-Mart website. This homepage is the main page of the website where it consists of the task pane for the ease of users to navigate throughout the website. There is also the login section for the members to log in into the system. The user can choose to view products by store or by product categories such as food, beverage, household products, stationeries and also personal care.

UTP e-Mart Registration Form

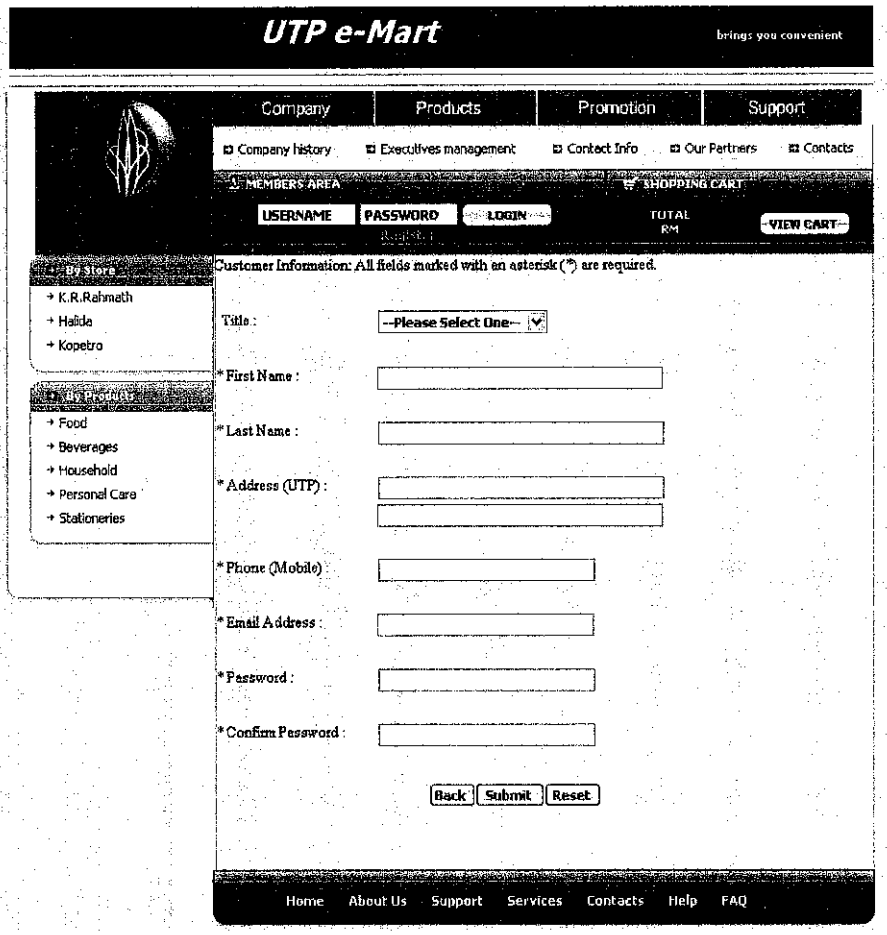
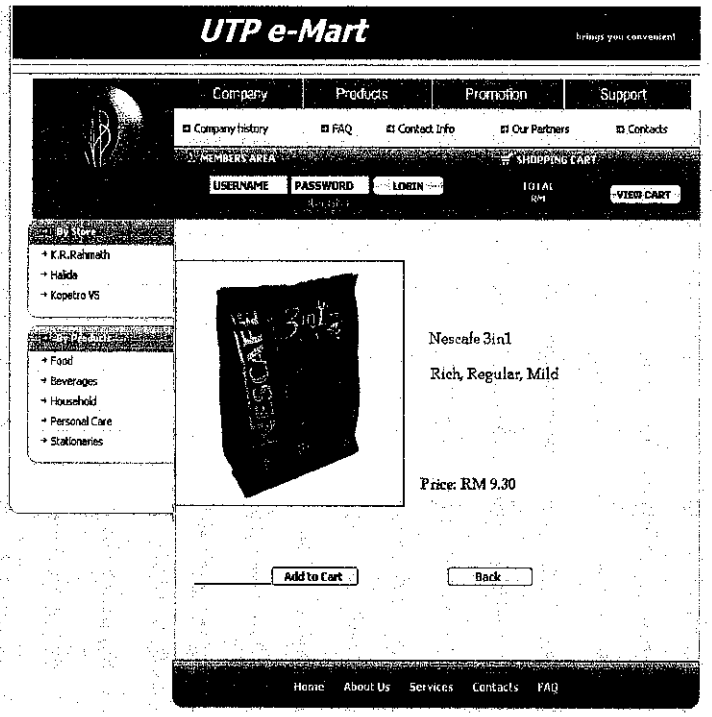


Figure 4.4: UTP e-Mart Registration Form

The figure 4.4 shows the registration form for users to register to the website. When a user clicks on the "Register" link, it will take the user to the registration form. The form consists of only the most important, and required data from the user such as name, UTP address (Village), phone number, email address and also password.

UTP e-Mart View Product



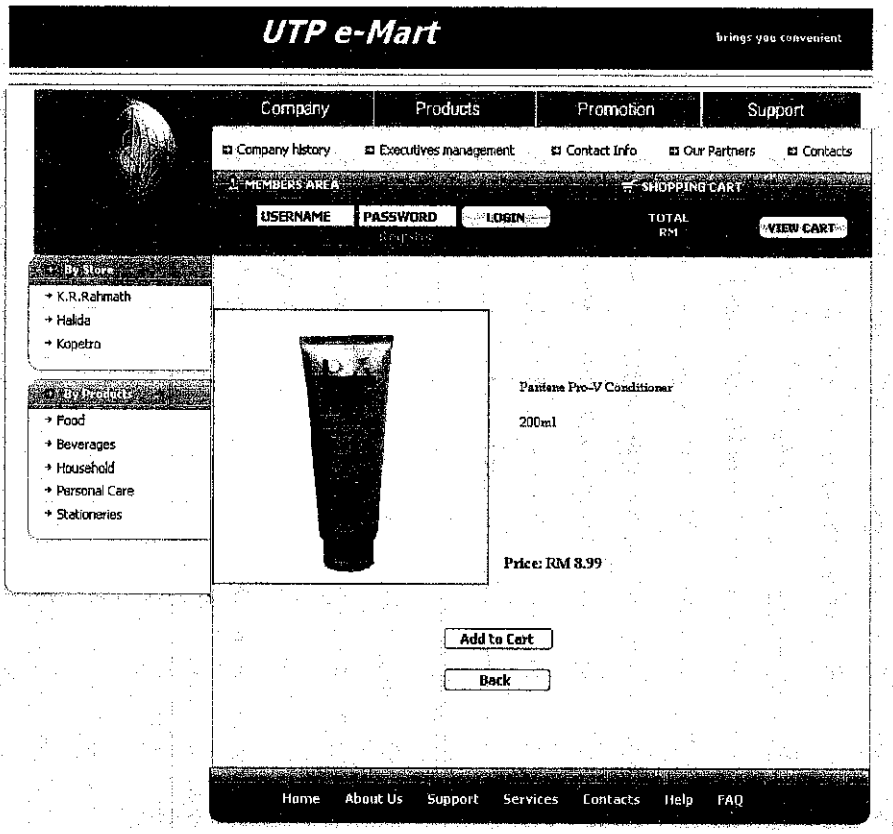


Figure 4.5: UTP e-Mart View Product

The figure 4.5 shows the View Product page with the product details and price. When a user clicks on a products page or name, it will lead the user to the View Product page. The page consists of the product's picture for the user, the name and description of the product and also the price of the product. There are also buttons for the user either to buy the product, or go back to the homepage.

UTP e-Mart Order Form

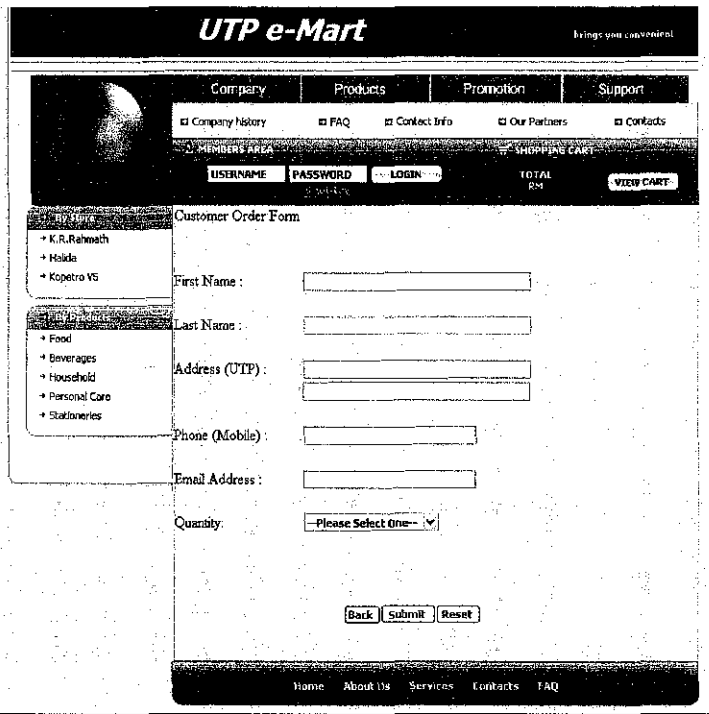


Figure 4.6: UTP e-Mart Order Form

The figure 4.6 shows the order form of each product when a user clicks on the button 'Add to Cart' shown in Figure 4.5. User need to fill in the form for each product that he/she wants to buy and state the quantity the user wants. After completing the form, user can click to the 'Submit' button and the order will be saved into the order database. User can click button 'Reset' to clear of the form or click the 'Back' button to return to the previous page.

CHAPTER 5
CONCLUSIONS AND RECCOMENDATIONS

5.1 Conclusion

As a conclusion, the proposed project title of UTP e-Mart can help the students to be able to buy goods without having the difficulties of going outside of the university's campus. This e-Mart will provide goods that students need in their daily life. The goods will be supplied by the market owners in the nearby area such as Taman Maju. Also, the goods will be delivered to the students. This website's concept is to act as intermediaries between the businesses to the customer. Through hard work and good research on the issues related and judgments, the objectives of this project can be fulfilled successfully.

E-commerce is the largest growth area of today's economy and is likely to remain so for many years to come. Each year, both B2B and B2C volume and percentage of the business transactions keeps increasing.

As the use of e-commerce grows, so are the demands of those who use it. People and organizations can readily shop around the Web to find products, prices, and services that suit them best. Any e-commerce that meets the users' needs than its competitors will survive.

5.2 Future Enhancements

After doing some researches and observations, I noticed that there are numerous potential enhancements through this e-commerce website, UTP e-Mart that can be applied in the future such as:

- *Methods of payment.* Because of at the current moment, the methods of payment used are COD (Cash-On-Delivery) and also Internet Banking (Maybank, CIMB), the other online payment methods that can be enhanced into using are credit cards and also PayPal transaction or any other online payment methods.
- *More interactive interface.* The website's interface can be enhanced to be more interactive and user friendly. The amount of clicks also can be reduced to avoid users' disappointments because of the hassle in navigating through the pages.
- *Service and support.* For many companies involved in e-commerce, a significant cost is the after-sales service and support. By improving the service and support, the e-commerce system can provide full satisfaction to the customers.
- *Organized product categories.* Because shops may sell the same product, with same or different price, it is suggested to have a better solution for users to search for the products, by categories or by the shop itself.
- *A comprehensive database.* Enhancing the databases of users, products, and also shops.
- *Proof of sales/delivered products.* To come up with an organized way to proof the ordered and delivered products in the database. Confusion may occur if the database does not have a feature to identify which good has been delivered or not. Shops may come out with receipts, and need to update the database of the delivered goods. It is good to keep track and

have records of the delivered goods for a better service and customer satisfaction.

This UTP e-Mart mainly operates within UTP only that consists of the shops in the nearby area. This concept of e-commerce is suitable if we expand its business area into a wider scope, and increase the other shops' participants.

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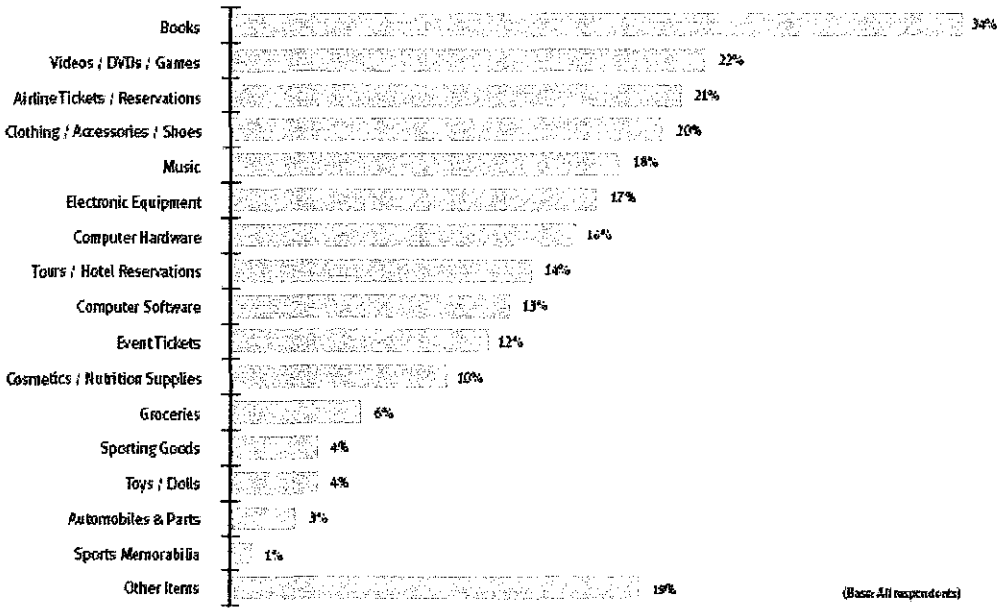
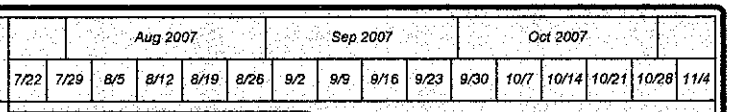
APPENDIX



Last Three Items Purchased over the Internet

Appendix 1: AC Nielsen report on Global Consumer Attitude Towards Online Shopping, October 2005

ID	Task Name	Start	Finish	Duration
1	Building & Testing	7/23/2007	9/7/2007	7w
2	Progress Report 1 submission	8/13/2007	8/17/2007	1w
3	System Testing	8/13/2007	9/7/2007	4w
4	Progress Report 2 submission	9/17/2007	9/21/2007	1w
5	Seminar 2	9/24/2007	10/12/2007	3w
6	Implementation	9/17/2007	11/16/2007	9w
7	Poster Exhibition	10/1/2007	10/5/2007	1w
8	Submission of dissertation (soft bound)	10/15/2007	10/19/2007	1w
9	Oral Presentation	10/22/2007	10/26/2007	1w
10	Submission of Project Dissertation (Hard Bound)	10/29/2007	11/2/2007	1w



Appendix 2: Projected Gannt Chart for FYP Part II