

**DESIGN OF A WEB BASED BOOKSTORE MODEL:
'ONE STOP MALAYSIAN BOOKMALL'**

A thesis submitted to the Graduate School in partial fulfillment of the
requirements for the degree of

Masters of Science (Information Technology)

Universiti Utara Malaysia

by

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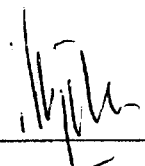
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ABSTRACT (BAHASA MALAYSIA)

Projek ini dihasilkan untuk memperkenalkan ciri-ciri model kedai buku Internet. Kedai buku muya ini akan membolehkan penerbit buku dan majalah di Malaysia melangkah ke era e-dagang. Perkembangan applikasi e-dagang kini adalah mahal dan berisiko tinggi kerana teknologi yang terhad. Sebagai contohnya, ketiadaan 'interoperability' pada tahap applikasi, standard untuk e-dagang dan kebolegunaan applikasi e-dagang pada skala yang besar. Sejak kebelakang ini kedai buku Internet telah berkembang pesat dan ini telah mempengaruhi pengedar-pengedar dan kedai-kedai buku di Malaysia. Walaubagaimanapun, kebanyakan applikasi e-dagang dihasilkan secara persendirian mengikut keperluan masing-masing. Masalah yang timbul akibat ini adalah kurangnya 'inter-operability' pada tahap tinggi.

Projek ini diperkenalkan untuk menghasilkan satu konsep rangkai yang standard untuk permodelan kedai buku Internet. Model yang akan dihasilkan ini akan mengadaptasi konsep broker atau 'Clearinghouse' sebagai model perniagaannya. Akhirnya, pandangan terhadap perkembangan masa depan bagi projek ini akan dibincangkan.

ABSTRACT (ENGLISH)

*This project is developed to present design considerations of an online Internet based bookstore model. This virtual bookstore will cater for Malaysian book and magazine publishers to venture into e-commerce. The development **of** electronic commerce applications today is considered expensive and risky because **of** many technological limitations, such as the absence of application-level interoperability, industrial standards for electronic trading and large-scale reusability of electronic commerce applications. Within the past few years, online bookstores have been set up to promote and sell books over the Internet, representing a fledgling new generation of book distributors and shops in Malaysia. A large proportion of today's electronic commerce applications are custom developed. One of the most obvious problems of Web-based electronic commerce systems is the lack of high-level inter-operability*

*This project is initiated to developed a framework of standard modeling concept **for** the Online based bookstore mode?. The model will adopt a Clearinghouse or broker concept as its business model. Finally, the project's view on future directions in web-based development in the contest of electronic commerce will be discussed.*

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Finally, special thanks and apologies to my beloved wife, V.Bhavani who over the months has been neglected, even ignored during my deepest concentration.

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C h a p t e r 1

INTRODUCTION

This chapter gives an overview of online bookshop scene both local and overseas based. It will cover problems faced by the local users and the need to develop a new standard for the e-commerce development in the book industry in Malaysia. It will also cover the requirement, scope and limitation of the project.

1.1 Background

Within the past few year, online bookstores have been set up to promote and sell books over the Internet, representing a fledgling new generation of book distributors and shops in the world. Many of the market major players and also small number of Malaysian pioneers are drawn to the 'Net' by a number of factors:

- The low cost of establishing a virtual bookstore.
- The potential of reaching a global rather than local clientele.
- The possibility of increasing revenue by selling directly to the customer (particularly in the case of publishers).
- Increased efficiency and accuracy through automated order-processing, inventory control, billing, shipping, and so forth
- Better forecasting of customer needs for goods and services

1.2 Problem Statement

There are many reasons why we need to develop a Malaysian based online bookstore though there are a few already in business. E-commerce in the book industry have been growing on the World Wide Web (WWW), from overseas based such as Amazon.com, BarnesandNoble.com, to Malaysian based virtual bookstore like Star Online Financial Bookshop, Asiabooks.com and others, just to name a few [1].

When a user browses a local based online bookshop, he is faced with problems and limitations below:

- i. The user is presented with limited number of publications in catalog - Websites are used to advertise their own products. Cataloging is done according to the publishers own market demands without considering wider client perspective.
- ii. Publications are not categorized properly – The publishers’ websites do not cater for a variety of product items like articles, magazines, e-books, hobbyist kit, pre-school learning aid and many more. There are a lot of products that can be broken down and categorized into a more specific category.
- iii. No standardized ordering and payment scheme – Publishers use their vendor’s customized e-commerce solution.
- iv. Limited shipping and delivery system – Most of the sites do not have a proper order shipping and delivery standard. Another purpose to develop an integrated platform is to be able to cater for international market too.

When a user browses an overseas-based online bookshop, he is faced with problems and limitations below:

- i. Limited method of payments and expensive shipping rate.
- ii. Very long waiting period for shipment of goods purchased.
- iii. Problems of order mismatch.
- iv. No guarantee on the condition of the material delivered

1.3 Objectives

The main objective of this project is to develop a Malaysian online/Internet based bookstore model. This virtual bookstore will cater for all Malaysian based book publishers and resellers to venture into e-commerce. It will be the one of its kind in Malaysia with the following characteristics:

- i. It will be the main platform as an electronic clearing-house for the Malaysian book industry.
- ii. An integrated payment scheme with a new standard framework.
- iii. This model is a virtual interface catering for clients both local and also international market.
- iv. A standard for Malaysian e-commerce development especially for the book industry.

1.4 Scope and Limitation of the Project

This project is a *standard model*, which may be used for future e-commerce development in the book industry. A simulated model named “One Stop Malaysian Book Mall” acts as an interface to the real world. It can be implemented by up loading it on a commercial website. For the purpose of this thesis, the scope of this project is reduced to maintain it as a model that later can be used for commercial implementation. The project scope covers:

- i. A simulated model which functions as the main interface. Has main e-commerce functions such as:
 - a. Full functional Java shopping cart system embedded in the web page. Customer can choose items and add to his or her cart and review the cart contents when they want to check out.
 - b. A flat file data based on HTML. The limitation of this kind of database is that it is not a dynamic database. Administrator needs to do manual data updates and queries. This database stores the huge amount of books that are being advertised on the system.
 - c. Payment methods and shipping information that is not implemented because this will require the website to be up loaded into a functional commercial website that runs on a secure server.
- ii. A new standard in the payment scheme java Wallet 1.0. It will cover Java Wallet’s architecture review and how to integrate it in to the model [8].

- iii. The use of Unified Modeling Language as a modeling tool for analysis and design in developing the model. Limitation appears in modeling stage because Web based design and analysis has a different notation and semantics. The modeling will be kept simple and not too complex [3].
- iv. This project will be just a model, so for test phase, simulated test case scenarios that are based on only single user environment will be carried out. I am unable to test it on a real world implementation stage because the project scope is limited to simulated model rather than implementation of the model on a commercial website. The results will give good input to the design. The user must remember that this model is a web-based interface. Test cases and results will be different from other software test scenarios.
- v. The project's development phases will be explained until the testing stage. The implementation and maintenance stage will not be documented due to restriction in time.

1.5 The Significance of This Project

This project is developed to solve current e-commerce limitations faced by Malaysian book industry. The project will contribute to the growth of e-commerce in Malaysia. Here are a few reasons why we need to develop such a system:

1. A main interface acting as electronic clearinghouse for Malaysian based publishers and resellers. This interface will also cater for overseas publishers.

2. An integrated range of Malaysian publications being cataloged – Most of the cataloging is done according to the publishers publication that are already in market with consideration of wider client choice. It integrates Malaysian based publishers into a single “Mall” concept.
3. This model has various number of publication category – Most of the local publishers websites do not cater for a variety of product items like articles, magazines, e-books, hobbyist kit, pre-school learning aid and many more. There are a lot of products that can be broken down and categorized into a more specific category.
4. A standardized ordering and payment scheme – Online Payment scheme implemented by established publishers are based their own vendors e-commerce solution. Clients are quite doubtful of a secure transaction when purchasing items online. There is need for a truly secure transaction. Some publishers made it simple by just accepting checks, money orders and postal orders. This is not quite an online transaction. This model integrates a new secure transaction system called Java Wallet system. It is affordable and very reliable for secure transaction. Furthermore, it will be localized on the server side of the system.
5. Various shipping and delivery system – Most of the sites do not have a proper order shipping and delivery standard. Another purpose to develop an integrated platform is to be able to cater for international market too.
6. This model also introduces customers to its unique “Member Services” which provides a wide range of online books, magazines, e-books and online newspapers. They are categorized into multiple areas according

to the type of publication for both local and foreign publishers. Customer who sign-up as members are entitled for this service. Members can also access to their free web based e-mails such as Hotmail, Netscape Mail and Yahoo Mail via this system.

7. This system is designed to overcome problems faced by Malaysians who purchase overseas-based publications especially computer and information technology related publications by including Malaysian resellers in the system. This will avoid problems that arises when buying over overseas based virtual bookstores such as:
 - Limited method of payments
 - Very long waiting period for shipment of goods purchased
 - Problem rising over if order mismatch
 - No guarantee on the condition of the material delivered
8. A new approach in web based design and analysis using Unified Modeling Language (UML) as the modeling language, which is supported by Rational Unified Modeling Process [3].
9. A new definition or standard of business model adapted from the Supply Chain Integration model for the book industry in Malaysia, which can be adapted to other existing business [1,15].

1.6 Software and Hardware requirements

1.6.1 Hardware requirements for this project are as below:

- A Pentium-based PC-compatible computer system
- 32 MB of RAM (64 MB recommended)
- 400 MB of disk space
- An SVGA-compatible display (16bit or more colors recommended)
- Any pointing device with at least two buttons

1.6.2 Software requirements for this project are as below:

- Microsoft Windows NT 4.0, Windows 95, or Windows 98
- Microsoft FrontPage 2000 or any web page development tool like Cold Fusion, Adobe Go Live, etc.
- Rational Rose 2000Enterprise Edition for UML modeling and design [5,6,7].

1.7 Summary

This project is to develop a generic working model for e-commerce in book industry that can be implemented locally in future. The model can be used for any kind of business. It allows business to reach out to people in any corner of the world.

This Online bookstore concept is adopted from US based Amazon.com, BarnesandNoble.com, to name a few and revised to local scene. If implemented, it would open up business chances for our local publishers to compete in foreign market. There is no doubt that the conventional network of distributors and bookshops will continue to thrive as the backbone of the book trade for the immediate future, particularly in the textbook sector. But the future of the consumer market is less clear. Neighborhood bookshops may need to diversify to offer a variety of products: stationery and supplies, music CDs, CD-ROMs, and other digital products. Bookshops dealing with the high-end book market - selling scientific, technical and scholarly books and journals published in English and Chinese may face stiff competition from the new generation of virtual bookshops due to the competitive pricing, wide selection, and speed of delivery offered by Internet based stores.

Of course, with the borderless world of the Net, these shifts in business will very likely not be limited by developments within the geographical borders of Malaysia. Malaysians are already shopping abroad at sites such as Amazon.com. The challenge to the Malaysian industry will be to retain as much of the local business as possible while at the same time tapping into some of the markets abroad.

C h a p t e r 2

REVIEW ON DEVELOPMENT IN E-COMMERCE

This chapter will review on current development in e-commerce architecture, components and systems available on the market. It will also cover types of e-commerce solutions and applications involved in the book industry both local and overseas. Comments on current e-commerce solution and significance to develop this project will be discussed at the end of the chapter.

2.1 Architecture and Components of E-Commerce systems

The latter half of the 1990's has seen an explosion in the use of the Internet/intranet. This revolution has dramatically changed the way organizations conduct business with its consumers and with each other. The Internet/intranet, with inherent features like easy access, real-time information, and low cost, is a natural driver for electronic commerce solutions. Further, companies enticed with the promise of the following competitive advantages are undertaking electronic commerce projects [1]:

- i. Wider market reach and increased efficiency through automated order-processing, inventory control, billing, shipping, and so forth.
- ii. Reduced labor costs and better customer service and support.
- iii. Instant communication with consumers and trading partners.
- iv. Improved profit margins through automated supply chain management.

2.2 What is Electronic Commerce?

Electronic commerce is not just to buying and selling of goods and services over the Internet. Electronic commerce solutions are a lot more than just the handling of business transactions and fund transfers over the Internet. It defines new forms of doing business harnessing the power of the Internet. The services that help build the foundations of successful electronic commerce solutions are as follows [1,14,16]:

- i. **Client Services:** Provides presentation, access, and validation services to the users of the Commerce system.
- ii. **Application Services:** Processes information supplied by the user based upon business and data logic. Provides Web services, application security, and serves as a point of integration for Store and Data Services.
- iii. **Store Services:** Performs user management, order processing, information interchanges, running promotions, and advertisements, processing data based upon business logic, and other commerce related services.
- iv. **Data Services:** Provides services aimed towards data storage, simplified programmatic access, and legacy data connectivity.
- v. **Operating System Services:** Primarily include directory, security, management, and communications services.
- vi. **Developer Services:** Provide the tools necessary for component development, enterprise database development, team development, and development lifecycle support.

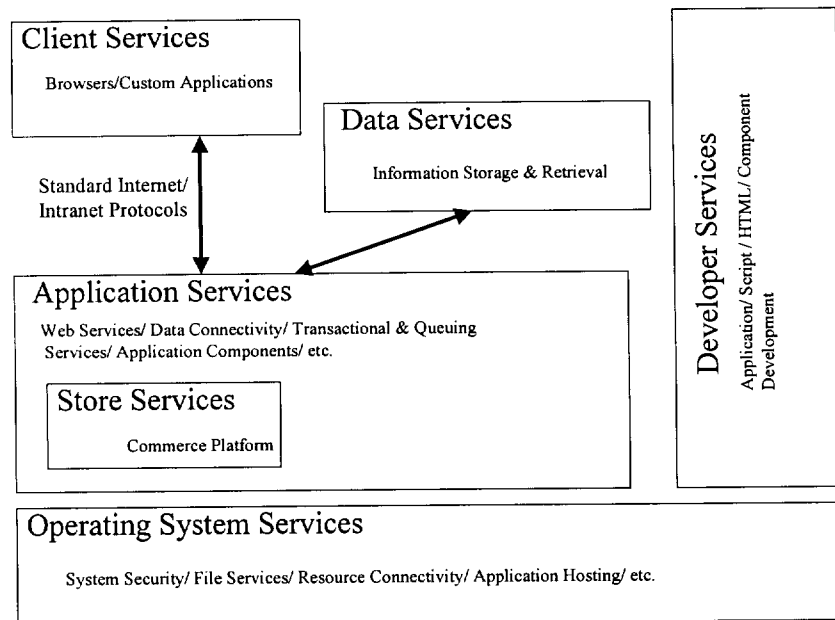


Figure 2.1: Illustrates the Interaction Between These Services (Adapted From Commerce Solutions for DNS Enabled Enterprises by Microsoft.com)

2.2.1 Electronic Commerce Solution Features

Below are some common features of an electronic commerce solution utilizing one or more of the above services include [1,17]:

- i. **Universal Connectivity:** Providing ubiquitous access to the system through a common interface.
- ii. **Marketing:** Publicizing products and services.
- iii. **Sales:** Generating orders for the products.

- iv. **Payment:** Enabling credit card and other payments along with electronic fund transfers.
- v. **Fulfillment:** Processing the order and delivering the product.
- vi. **Support:** Providing pre and post sale assistance to generate more sales.
- vii. **Inventory Management:** Maintaining and reporting inventory status.
- viii. **Secure Communications:** Fast, efficient, reliable communication with customers and partners.

2.3 Types of E-Commerce Solutions In The Market

Electronic Commerce is becoming critical in terms of interaction between three main groups:

- i. Between customers and businesses.
- ii. Between those groups that form the business.
- iii. Between businesses and businesses.

The following figure 2.2 displays multiple different commerce communication and solution possibilities between Business-to-Consumers (B2C) and Business-to-Businesses (B2B) [1,15,10]. For example the arrow marked 'A' displays an instance of a B2C solution where a consumer can place an order for a product with a distributor and/or retailer. This commerce solution can be further extended to a B2B solution as indicated by the arrows marked 'B'. Here trading information and communication between partners (in this case

the partners being distributor/retailer, some corporation and suppliers) is being exchanged electronically through specific commerce electronic solutions put in place to facilitate this interchange.

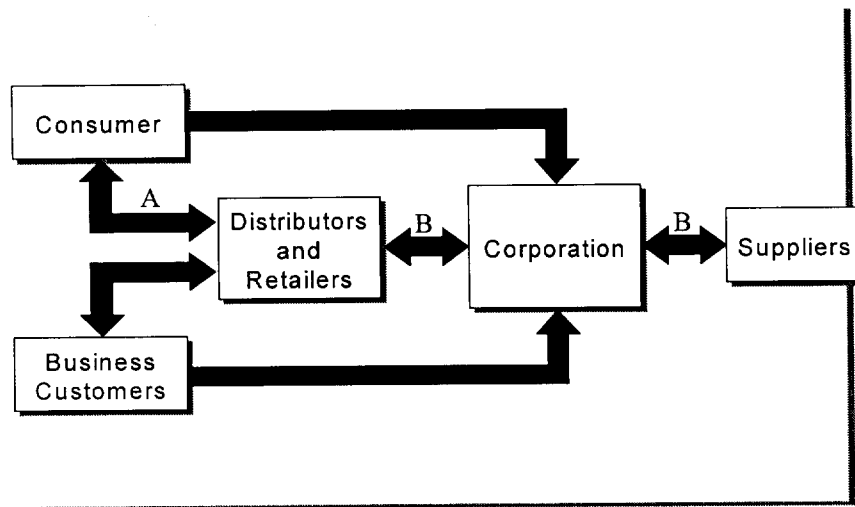


Figure 2.2: Multiple Different Commerce Communication and Solution Possibilities (Adapted from Commerce Solutions for DNS Enabled Enterprises by Microsoft.com)

Based on the these 2 major categories (B2C and B2B) we can identify three main scenarios or service areas business are conducted online today:

- Direct Marketing and Selling (B2C)
- Supply Chain Integration (B2B)
- Corporate Procurement (B2B)

2.3.1 Direct Marketing and Selling

Organizations put up virtual web store, which advertise and promotes their products [1,15,17]. Customer from all over the world can purchase the products online. Furthermore, when an order is placed through an organization's Web site, consumers must be able to track it. In Direct Marketing and Selling, communication between customer and the business organization is direct without any third party involvement. The following diagram displays the architectural framework of a Direct Marketing & Selling solution.

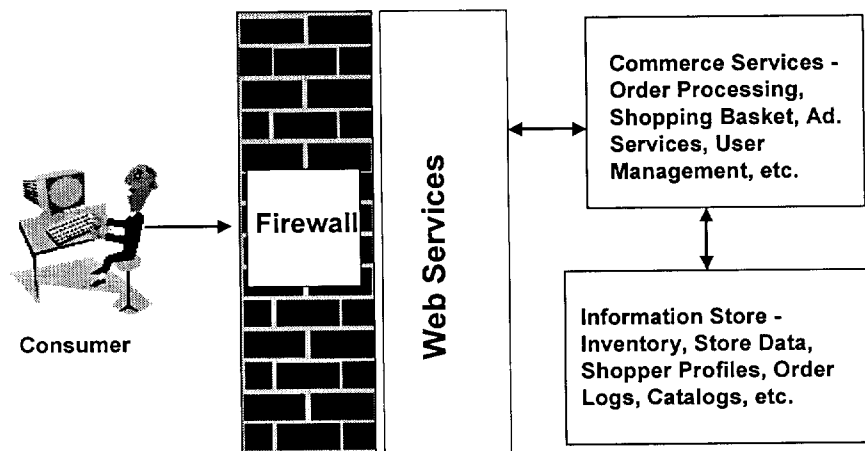


Figure 2.3: Direct Marketing and Selling

2.3.1.1 Components for a Direct Marketing & Selling Solution:

Below are the main components and features for Direct Marketing and Selling:

- The website is dynamically built using Java Applets, Java and CGI script, DHTML and so forth.
- Online Customer database management.
- The website is integrated with shopping cart system.
- Security management for administrative and customer database.
- Management of product advertisement and online ordering process.
- Direct online payment features using secure transaction server.
- Dynamic data storage and retrieval system

2.3.2 Supply Chain Integration

In Supply Chain integration, fundamental concept of virtual store is the same with Direct Marketing and Selling [1,15,17]. It emphasizes communication integration between suppliers, manufacturer and distributors or dealers. The differences between Supply Chain Integration with Direct Marketing and Selling are online transaction requirement such as authenticated log in, generating custom catalogs for key customers and pricing and payment based on custom agreements. Suppliers need to be able to provide their business partners with secure access to their existing Web site or be able to “push” catalogs into another business’s systems, with the ability to maintain these product catalogs when pricing and/or inventory changes. The diagram below illustrates the chain that links various possible entities in a Supply Chain solution.

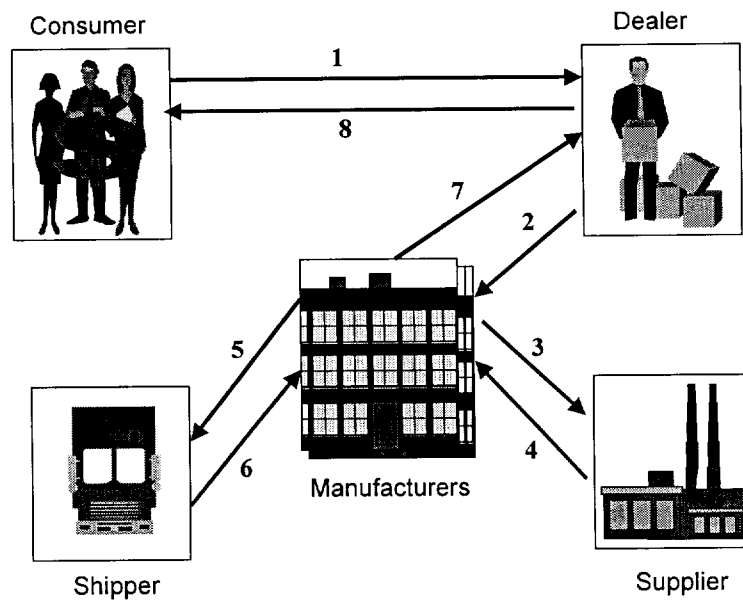


Figure 2.4: Supply Chain Integration

The process has the following steps:

1. A customer submits an order through a dealer's Web site.
2. The dealer receives the order and automatically generates a query to the manufacturer.
3. The manufacturer checks its inventory database. If stock needed to fulfill the order, the manufacturer's inventory system contacts the supplier and places an order for the necessary parts.
4. The supplier's system informs the manufacturer of the earliest possible date for delivery and places the order.

5. The manufacturer generates a query to the shipper's computer for the product's shipping schedule.
6. The shipper's system checks its own transport capacity and determines that it will be able to schedule and provide delivery of the product.
7. The manufacturer then confirms the order with the dealer's system.
8. The dealer sends confirmation of order to the consumer with the order's shipping info and payment.

2.3.2.1 Building Blocks for a Supply Chain Integration solution:

- The main commerce component for a Supply Chain Integration solution is very similar to the Direct Selling & Marketing. In a Supply Chain Integration solution, the business is selling to a business rather than selling to a consumer. Few additional things that need to be put in place to accomplish this scenario are as follows:
- Secure login and password authentication when entering a trading partner site and secure exchange of business information between trading partners.
- Integration with backend financial and/or inventory management systems.
- Price calculation depending on classes of accounts, purchase history, credit, territory, and so forth.

2.3.3 Corporate Procurement

Corporate Procurement commerce solutions allow for transactions to be made with partnering businesses, suppliers and distributors, regardless of the data

format, and data is communicated, whether it be over the Internet, an EDI VAN (Value-Added Networks), e-mail, or simply fax. This process is illustrated in the diagram below [1,15,17]:

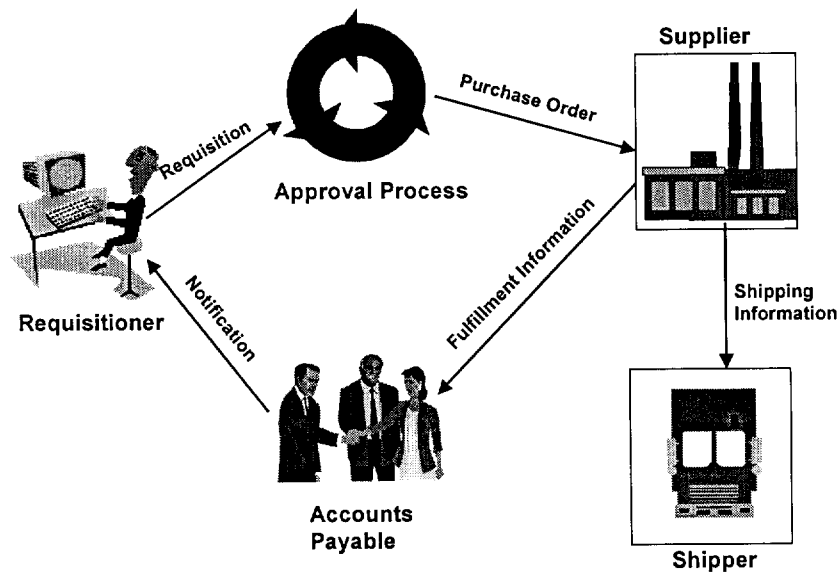


Figure 2.5: Corporate Procurement

Corporate Procurement systems offer the ability to place orders with multiple vendors and have a flexible order processing system. This means that they must be able to communicate purchase orders, status reports, and delivery notifications with means most suitable for each of the business partners.

The three most common ways that typical Corporate Procurement systems exchange and transact order information are: e-mail messages, flat-file order

output, and using custom applications built in the Commerce Interchange Pipeline (CIP). Some of the key attributes of a Corporate Procurement commerce solution are:

- Businesses of all sizes can communicate purchase orders, transact payment, and deliver goods regardless of size and location.
- Purchase order output is flexible, so partnering businesses can adopt a common format that works with their existing business systems.
- Frameworks like CIP offer increased flexibility for how business information is communicated and how this information is delivered to multiple partners with different business systems.
- Corporate Procurement applications can support multiple suppliers within one site.

2.3.3.1 Building Blocks for a Corporate Procurement Solution:

The commerce platform for a Corporate Procurement solution is very similar to that of the Supply Chain solution. Although the back end purchasing process may be automated like in a Supply Chain scenario, the actual buying experience will be a manual process (like the direct selling solution) in which individuals purchase goods as required. The technical considerations/implementation and the 'building blocks' for both these scenarios are almost identical. However, following are a few business and design considerations that are different between these two solutions:

- The business goals of these two scenarios are different. Corporate Procurement solutions are designed to streamline the cost structure of an organization while Supply Chain solutions are geared towards the direct trading and manufacture of goods.
- Corporate Procurement solutions are typically designed as intranet solutions while Supply Chain solutions may have components that are Intranet based, the majority of the application will either be Internet or Extranet solutions. As such, following are some design considerations for Corporate Procurement solutions:
- Integrating procurement into existing corporate infrastructure systems like security and mail can help eliminate additional overhead and leverage routing/basic workflow.

2.4 E-Commerce in Book Industry

Online bookstores are springing up all over the world. Yet every country has its own distinct book culture and its own approach to the business of publishing. The proliferation of computers and Internet users varies from place to place. Online payment and express delivery, services crucial to the success of online bookselling, are not universally available. How online bookstores actually operate in different locales thus depends on the conditions under which they must function. But regional variations notwithstanding, online bookselling has emerged overnight as a global phenomenon that is already revolutionizing the way people buy and sell books.

Online bookselling began in the United States, where the astonishing success of Amazon.com has made a huge impact as a model for e-commerce (retail

selling via the Internet) and as a new force in American book distribution and sales [1,15,16]. Amazon.com has also created a completely new book buying experience for its users, offering hypertext links to related titles and writers, readers' comments and ratings, author interviews, selected criticism and chat rooms. In America, for millions of Internet users, the online bookstore has become a part of everyday life.

2.4.1 Current Issue in Online Bookstore – Patenting The Business on Web

Amazon.com now has two patents that cover Web-based business processes. They are single click ordering process and Amazon's affiliate program [15]. When a user browses Amazon's website and start selecting items to purchase online. The single-click ordering lets the user to order the merchandise displayed on his screen with a single mouse click. It does this by storing his payment, shipping and billing information in a database and matching it to his order. To prevent multiple-item orders from triggering multiple individual orders, the clicks are accumulated in 90-minute windows, and all within the window are grouped into one order.

Items that are in 24-hour inventory are queued separately from those that are marked for two-to-three-day delivery. In other words, one-click ordering does exactly what a reasonably bright order picker and shipping clerk would do.

However, order-picking and customer-matching programs have been doing this for years, and shipping programs use all kinds of sophisticated algorithms to minimize shipping costs, batch deliveries and maximize customer satisfaction.

A more recent patent granted to Amazon's affiliate program. The program encourages small sites to earn money by funneling book orders to Amazon. That is spreading the wealth around. Amazon has thousands of affiliate sites, all feeding it the special interests of their members.

But how that differs from any other affiliate marketing program, whether it serves campus bookstores, pharmacies, car dealerships or any of a hundred other businesses. The fact that it is being done online is not a differentiator. It is just a sales commission generated by a different way of doing business.

Many are upset about these patents because they limit the potential for the growth of the Web through proprietary ownership of intellectual property that could help the entire Web grow.

2.4.2 Overseas based Virtual Bookshop – Amazon.Com

Based on my evaluation of the site's back-end systems and front-end interface, Amazon.com is well positioned to succeed. The site formed back in 1994 as a small online bookstore with limited number of book collections have grown in to a Virtual Mega Mall dealing with a variety of product such as CD, DVD, Toys and many more.

The site provides an excellent format for other online bookstores and, because it was built using standard tools, is a good example of how to deliver support and product on a Web site or intranet.

All the site's Web pages are developed using Microsoft Corp.'s ASP (Active Server Pages) and Visual InterDev 6.0. ASP is an excellent tool for dynamic

pages, although the technology has not proved stable enough for key back-end Web applications.

The Amazon.com site is clean, and its efficient search engine made it easy to find pertinent books. The search engine was built using Microsoft's Search Server, but it also uses some custom algorithms. Amazon.com has about more than 30,000 books in its roster and keeps on adding every week

Users could easily navigate through the website using the table of contents and built-in search engine. All graphics and charts from the site's collection of books and other products are also included. The site makes it possible to purchase a hard copy of a book. The ability to purchase e-books would be a nice complement to the site. Users could personalize the site through the My Account feature, which allows subscribers to save on books and other promoted products in this site.

Although the front end of the site is ASP-centric, there is heavy use of XML (Extensible Markup Language) on the back end. Using an XML interface, partners can integrate Amazon.com content.

2.4.3 Local based Virtual Bookshops

Within the past year, online bookstores have been set up to promote and sell books over the Internet, representing a fledgling new generation of book distributors and shops in the country. This small number of Malaysian pioneers is drawn to the 'Net' by a number of factors:

1. The low cost of establishing a virtual bookstore.
2. The potential of reaching a global rather than local clientele.

3. The possibility of increasing revenue by selling directly to the customer (particularly in the case of publishers).
4. Strong policy support from the Malaysian government.

Three online bookshops are perhaps reflective of the alternative strategies being tested by the industry:

2.4.3.1 Star Online Financial Bookshop

The Star Online Financial Bookshop is a department of the very popular Website of the Malaysian tabloid newspaper 'The Star,' published daily in English. This virtual bookshop is a niche store specializing in books on investment. The majority of titles are imported from overseas publishers. This bookshop aims to sell to an international market, and the global nature of its marketing strategy is apparent from its ordering software 'shopping cart,' which provides for orders from all regions of the world.

2.4.3.2 Asiabooks.com

Asiabooks.com is probably the closest adherent to the conventional "bookshop" metaphor. It offers books from a variety of publishers and on a diversity of subjects. It was launched in the last quarter of 1998 and has since catalogued about 2,000 titles from eighty Malaysian publishers. While it was originally established to serve Malaysians, it is astutely designed with the potential to serve as the portal site for Malaysian and Asian books in the future.

2.4.3.3 Southbound.com

Southbound.com represents an attempt by a highly specialized scholarly publisher based in Malaysia to sell its titles directly to an international market, bypassing the conventional network of distributors and bookshops. It provides visitors with access to its catalog, a brief summary of the contents of each book, the contents page, and the full text of one chapter of each book.

2.4.3.4 Other Virtual Bookshops in Malaysia

There also others like Penerbit UKM, Penerbit USM, Penerbit UTM, Penerbit UUM, Majalah.com, Penerbit Darulnuman, Penerbit Mahir and many more. These publishers have their own online bookshops, which provide visitors with access to its catalog, a brief summary of the contents of each book, the contents page, and the full text of one chapter of each book. They lack behind when it comes to online payment. Visitors have to print out his or hers orders and either post or fax it to the relevant publisher.

2.5 Comment on Current E-Commerce Solutions for the Book Industry

Online retailing giants like Amazon.com and BarnesandNoble.com use their own customized e-commerce solution. These solutions are very costly. Furthermore, these websites only cater for overseas publishers. Looking at local scene, Malaysian virtual bookstores needs improvement when reaching out for global market. Below a list of improvement that could be look into:

- No standard in the development of e-commerce framework or solution due to customized independent vendor solution.

- No standard for developing online ordering and payment scheme.
- Poorly categorized books and other printed materials and CDs with lacking promotion.
- No real e-commerce integration between Malaysian publishers, resellers and distributors.

2.6 Summary

Throughout this chapter we have discussed about current e-commerce solution in the market such as Direct Marketing and Selling, Supply Chain Integration and Corporate Procurement with their respective building blocks. An overview of current trend in the world of e-commerce discussed about Amazon's act to patent their web based business process. This is a new evolution for the virtual business community.

The Malaysian Book Mall project is developed to cater for the growth of local book industry. It is intended to be a standard framework for the future e-commerce development for the book industry in Malaysia.

Chapter 3

THE DEVELOPMENT METHODOLOGY

In this chapter, a brief explanation about the project's methodology and modeling language will be made. It also covers an overview of the project's development phases, process modeling and specification language.

3.1 Methodology

The methodology used in this project is a simplified version of the Rational Unified Process (RUP) [2,6,9]. The Rational process is structured along two dimensions:

- Time - division of the lifecycle into phases and iterations.
- Process components - production of a specific set of artifacts with well defined activities.

Both dimensions must be taken into account for a project to succeed.

Structuring a project along the time dimension involves the adoption of the following time based phases:

1. **Inception** - the specification of the project vision.
2. **Elaboration** - planning the necessary activities and required resources; specifying the features and designing the architecture.

3. **Construction** - building the product as a series of incremental iterations.
4. **Transition** - supplying the product to the user community (manufacturing, delivering, and training).

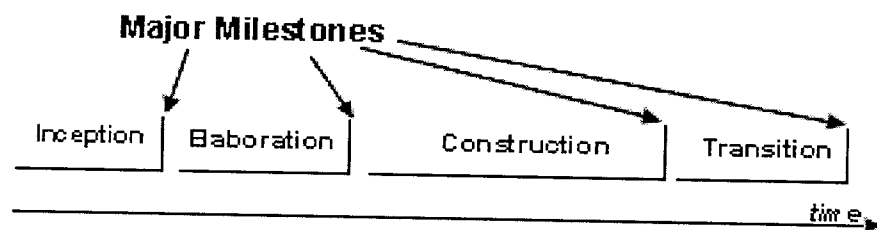


Figure 3.1 Time based phases in Rational Unified Process

Structuring the project along the process component dimension includes the following activities:

1. **Requirements analysis** - description of what the system should do.
2. **Design** - how the system will be realized in the implementation phase.
3. **Implementation** - the production of the code that will result in an executable system.
4. **Test** - the verification of the entire system.

3.2 Process Modeling

3.2.1 What is Iterative and Incremental Development?

In an iterative and incremental lifecycle, development proceeds as a series of iterations that evolve into the final system [2,6,7]. Each iteration consists of the following process components: requirements analysis, analysis, design, implementation, and test. The developers do not assume that all requirements are known at the beginning of the lifecycle; indeed change is anticipated throughout all phases. This type of lifecycle is a risk mitigation driven process. Technical risks are assessed and prioritized early in the lifecycle and are revised during the development of each iteration. Risks are attached to each iteration so that successful completion of the iteration mitigates the risks attached to it. The releases are scheduled to ensure that the highest risks are tackled first.

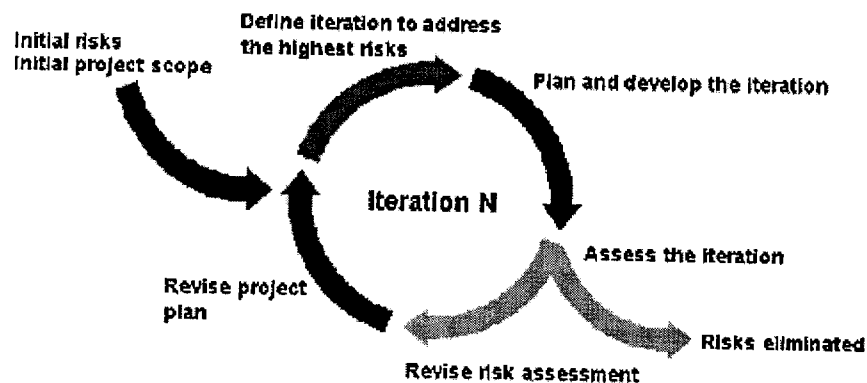


Figure 3.2: Iterative and Incremental Model

3.3 Specification Language

3.3.1 Unified Modeling Language (UML)

UML is a language used to specify, visualize, and document the artifacts of an object-oriented system under development [3]. It represents the unification of the Booch, OMT, and Objectory notations, as well as the best ideas from a number of other methodologists. By unifying the notations used by these object-oriented methods, the Unified Modeling Language provides the basis for a de-facto standard in the domain of object-oriented analysis and design founded on a wide base of user experience [11].

3.3.2 Development Project Artifacts

The choice of what models and diagrams created in the project has a profound influence upon how a problem is attacked and how a corresponding solution is shaped. Because of this [3,13]:

- Every complex system is best approached through a small set of nearly independent views of a model. No single view is sufficient.
- Every model is expressed at different levels of fidelity.
- The best models are connected to reality.

In terms of the views of a model, the UML defines the following graphical diagrams:

1. Use Case Diagram

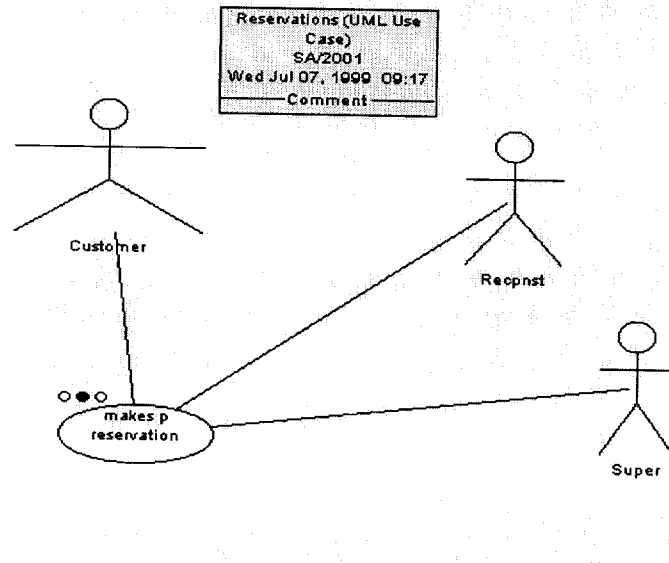


Figure 3.3: Use Case Diagram Example

- **Semantics** -Use case diagrams show actors and use cases together with their relationships. The use cases represent functionality of a system or a classifier, like a subsystem or a class, as manifested to external inter-actors with the system or the classifier.
- **Notation** - A use case diagram is a graph of actors, a set of use cases, possibly some interfaces, and the relationships between these elements. The relationships are associations between the actors and the use cases, generalizations between the actors, and generalizations, extend, and includes among the use cases. The use cases may optionally be enclosed by a

rectangle that represents the boundary of the containing system or classifier.

2. Class Diagram

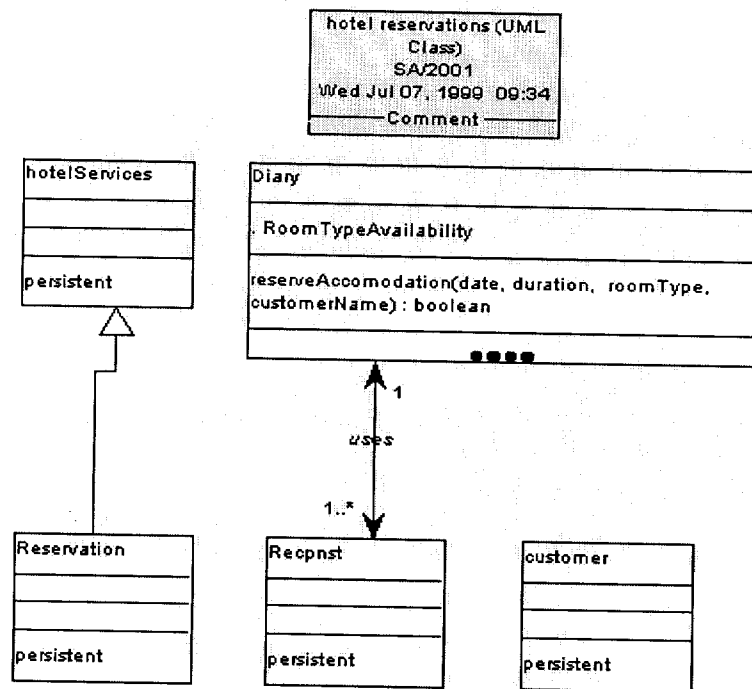


Figure 3.4: Class Diagram Example

- **Semantics** – A class diagram is a graphic view of the static structural model. The individual class diagrams do not represent divisions in the underlying model.
- **Notation** – A class diagram is a collection of (static) declarative model elements, such as classes, interfaces, and their relationships, connected as a graph to each other and to their contents. Class diagrams may be organized into packages either with their underlying models or as separates packages that build upon the underlying model packages.

3. Behavior diagrams:

i. Interaction Diagrams:

a. Sequence Diagram

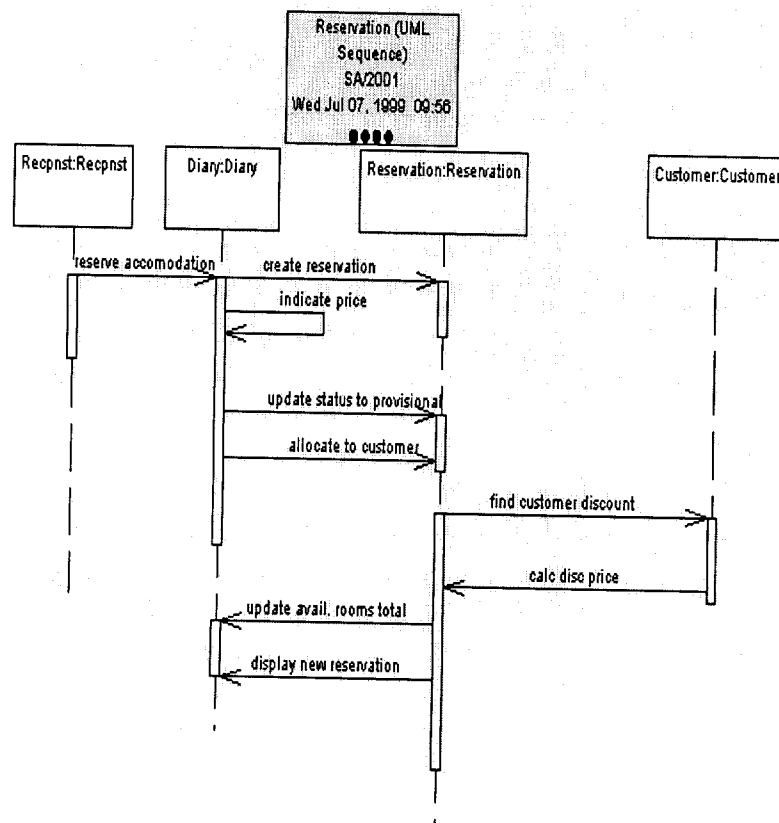


Figure 3.5: Sequence Diagram Example

- Semantics – A sequence diagram presents an Interaction, which is a set of Messages between Classifier Roles within a Collaboration to effect a desired operation or result.
- Notation – A sequence diagram has two dimensions:
 - i. The vertical dimension represents time.
 - ii. The horizontal dimension represents different objects.

Normally time proceeds down the page. The dimensions may be reversed, if desired. Usually, only time sequences are important, but in real-time applications the time axis could be an actual metric. There is no significance to the horizontal ordering of the objects. Objects can be grouped into “swim lanes” on a diagram.

b. Collaboration Diagram

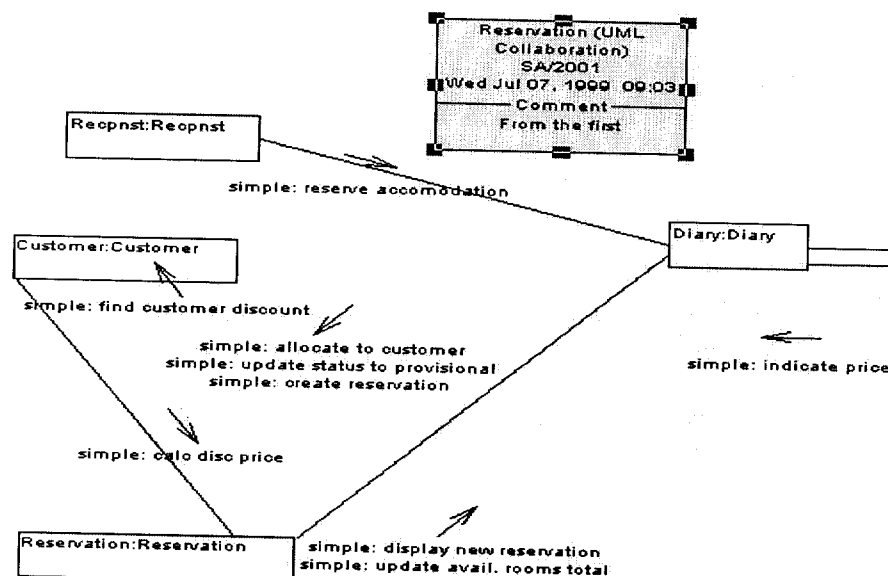


Figure 3.6: Collaboration Diagram Example

- **Semantics** – A collaboration diagram presents a Collaboration, which contains a set of roles to be played by Objects, as well as their required relationships given in a particular context. The diagram may also present an Interaction, which defines a set of Messages specifying the interaction between the Objects playing the roles within a Collaboration to achieve the desired result. A Collaboration is used for describing the realization of an Operation or a Classifier. A Collaboration that describes a Classifier, like a Use Case, references Classifiers and Associations in general, while a Collaboration describing an Operation includes the arguments and local variables of the Operation, as well as ordinary Associations attached to the Classifier owning the Operation.
- **Notation** – A collaboration diagram shows a graph of either Objects linked to each other, or ClassifierRoles and AssociationRoles; it may also include the communication stated by an Interaction. A collaboration diagram can be given in two different forms: at *instance level* or at *specification level*; it may either show Instances, Links, and Stimuli, or show ClassifierRoles, AssociationRoles, and Messages (see below). Because collaboration diagrams often are used to help design procedures, they typically show navigability using arrowheads on the lines representing Links or AssociationRoles. (An arrowhead on a line between boxes indicates a Link or AssociationRole with one-way navigability. An arrow next to a line indicates Stimuli flowing in the given direction. Obviously such an arrow cannot point backwards over a one-way line.) The order of the interaction is described with a sequence of numbers, usually starting with number 1. For a procedural flow of control, the subsequent communication numbers are nested in

accordance with call nesting. For a nonprocedural sequence of interactions among concurrent objects, all the sequence numbers are at the same level (that is, they are not nested). A collaboration diagram without any interaction shows the *context* in which interactions can occur. It might be used to show the context for a single Operation or even for all of the Operations of a Class or group of Classes.

3.4 Summary

Using Rational Unified Process as the main development process utilizes UML as the specification language. The project modeling can be developed systematically and can be used as a standard reference. UML has universal semantic and notation that integrates various types of Object Oriented methodologies like Coad-Yourdon, Booch, Rumbaugh and many more.

The detail description of the web based bookstore model will be explained in chapter 4.

Chapter 4

WEB BASED BOOKSTORE MODEL

In this chapter, the detail design of the web based bookstore model will be explained. Starting with system requirements analysis or inception phase, where explanation of the business model. Then design stage or elaboration phase where we will use case diagram, class diagram and sequence diagram to specify the features and design of the model. Later, in the construction phase, details of the model architecture will be explained. Finally, pseudocodes for the main modules in the model will be generated.

4.1 Requirement Model of Web Based Bookstore

4.1.1 Business Model

The business model for the system is quite similar to Supply Chain Integration [1] but with a few modifications to the components interaction. The process has the following steps, refer to figure 4.1:

1. A customer submits an order for a purchase of book(s), magazine(s) and other related items through the One Stop Malaysian Book Mall's Web site. He pays with his credit card and also other means of alternative payment method like Check, money order and postal order.
2. The system sends encrypted customer credit card information to the Credit Clearance Company for authorization and verification thru secure transaction server.

3. The verification from the Credit Clearance Company needed to fulfill the order.
4. Publishers advertise their product thru the system. They need give relevant information to the system like book cover page, pricing details, discounts, synopsis, table of contents and sample chapter for the customer's preview.
5. The system then confirms the order and contacts the publisher(s) to place order for the necessary items. The system then charges commission for the orders. Commissions will be fully paid after the publisher receives full payment from the customer.
6. The publisher will send the products ordered to the relevant customer once it receives full payment from the customer. The products are delivered by variety of shippers depending on the locality of the customer and urgency.
7. The shipper's system checks its own transport capacity and determines that it will be able to schedule and provide delivery to the customer.

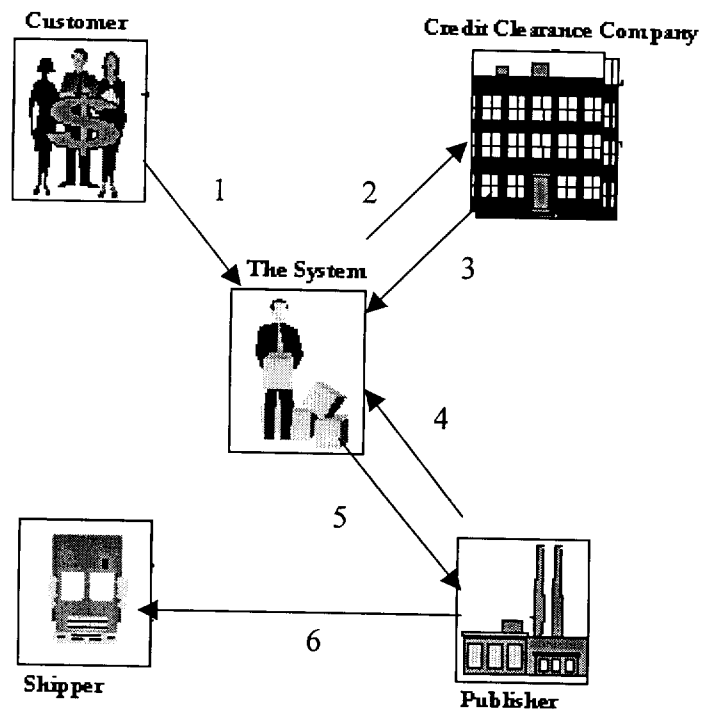


Figure 4.1 Business model for the system

4.1.2 System Architecture

The diagram below gives an overall illustration of the model's system architecture before standard Rational Unified Process modeling process is applied.

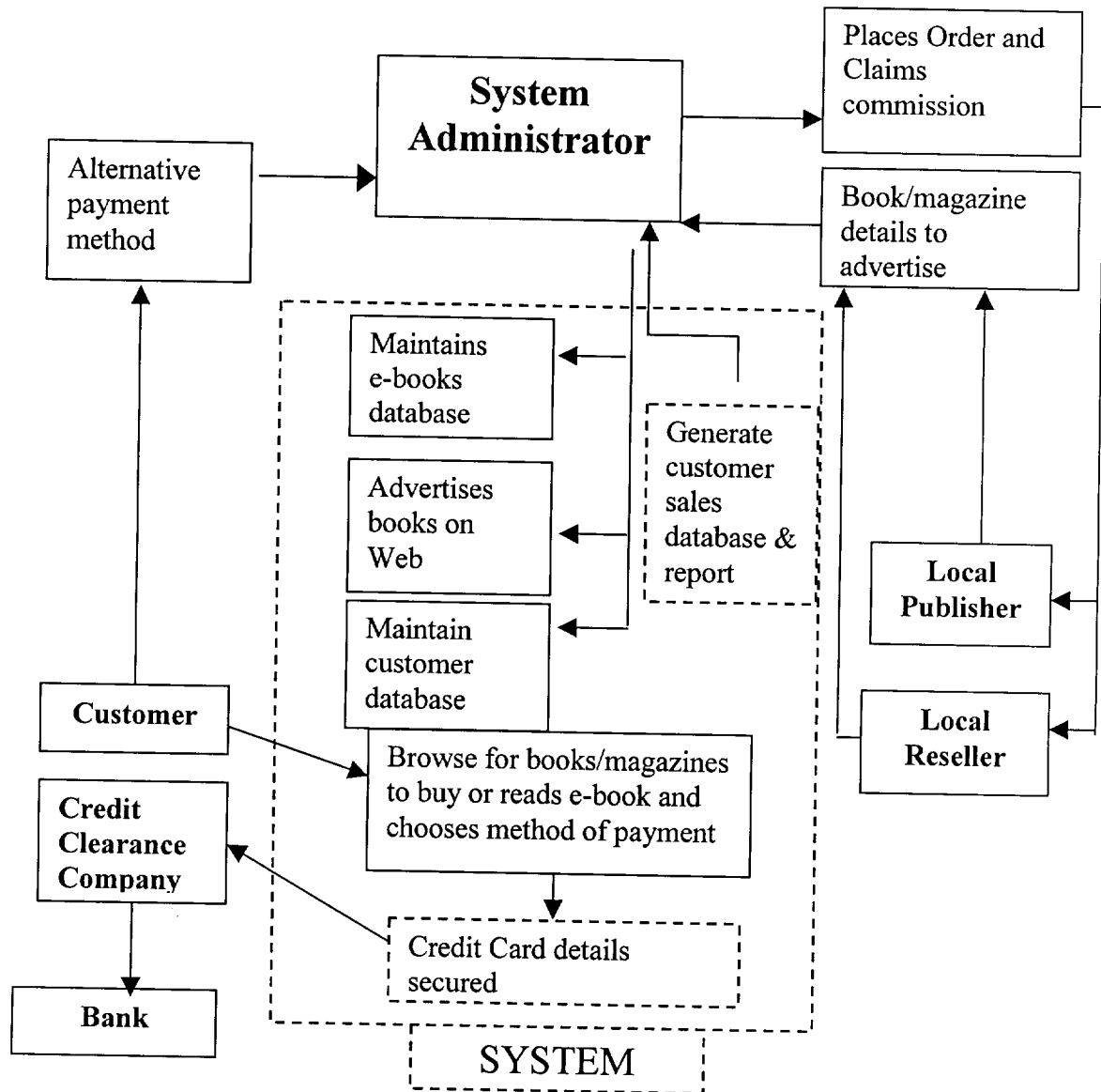


Figure 4.2: System Architecture of the 'One Stop Malaysian Book Mall'

4.1.2.1 Definition of Actors

The following actors were defined for the system architecture:

- **System Administrator** – Maintains the system functionality and the main caretaker.
- **Customer** – Can be person or organization from either local or foreign.
- **Local Publisher** – Local based book, magazine and printed material publishers.
- **Local Reseller** – Local based resellers, mainly supporting Malaysian publishers.
- **Credit Clearance Company** – Credit card verification and authorization merchant.
- **Bank** – Can be any commercial bank the customer has an account.

4.1.3 The Use Cases Diagram

Uses Cases are used to document the system requirements. The role of actors and use case scenarios are shown in the diagram below [5]:

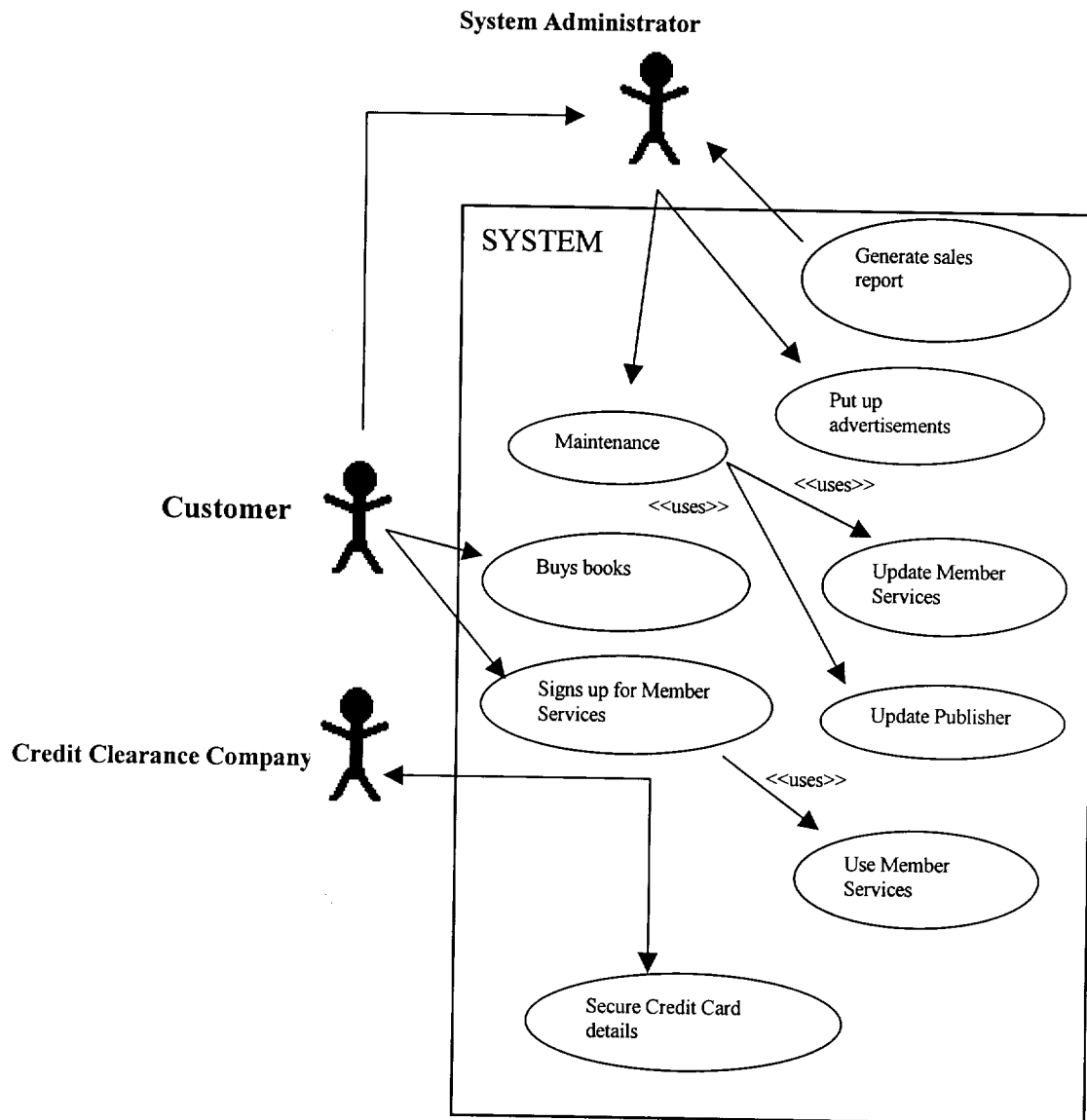


Figure 4.3: Use Case Diagram for the design of the 'One Stop Malaysian Book Mall'

4.1.3.1 Definition of Use Cases

4.1.3.1.1 System Administrator

The main tasks of the system administrator in the system are:

- Maintenance:
 - Updates Member Services like online papers database, e-books database and free e-mailing services.
 - Updates list of publishers and their products.
 - Updates the overall website design.
- Advertises selected books on the web.
- The system generates customer sales database and view report on demand via e-mail.

4.1.3.1.2 Customer

- The customer browses for books and other related printed material.
- The customer will flag products during this browsing session to be added to an electronic 'shopping cart'. At any point the customer can review the contents of the cart, the cost and so on.
- The customer checks out. At this stage the customer is presented with a list of the goods marked for purchase, the total cost, shipping, handling, tax, etc. He or she confirms his final orders.

4.1.3.1.3 Credit Clearance Company

- The system obtains authorization from the credit card clearance company.

4.1.3.2 Explanation of Use Cases

A brief description is created for each use case and as follows:

4.1.3.2.1 Maintenance

The system administrator starts this use case. He provides maintenance of the system like capability to create, review, modify, and delete books, magazines and printed materials for a specific publisher or category. His maintenance involves:

4.1.3.2.1.1 Update Publisher

The system administrator starts this use case. It provides the capability to create, review, modify, and delete publishers or category information

4.1.3.2.1.2 Update Member Services

The system administrator starts this use case. It provides the capability to create, review, modify, and delete Member Services information.

4.1.3.2.2 Generate customer sales database and report

This use case is started by the system. It provides the capability for the system administrator to request an e-mail report of all sales assigned to a specified publisher and a list of current registered customers.

4.1.3.2.3 Put up Advertisement

The system administrator starts this use case. It provides the capability to select, review, modify, and delete a list of books, magazines and printed materials to advertise for a specified period.

4.1.3.2.4 Buys Books

The customer starts this use case. It provides the capability to select, review, modify, and delete a list of selected books, magazines and printed materials to buy.

4.1.3.2.5 Signs up for Members Services

The customer starts this use case. It provides the capability to register for services provided by the system for a specified period.

4.1.3.2.6 Secure Credit Cards Details

This use case is started by the system. It provides the capability to decrypt and send the information via secure line and receive authorization for a specific transaction.

4.2 Design Model of a Web Based Bookstore

4.2.1 Class Diagram

Objects are discovered by examining the use cases and scenarios and grouped into classes. Each class has a definition, which states the purpose of the class. Packages are created to hold logical groups of classes. Below is the main class diagram. It consist of 4 main packages:

1. Flat file Database
2. System Administrator User Interface (UI)

3. Customer UI

4. Credit Clearance Company UI

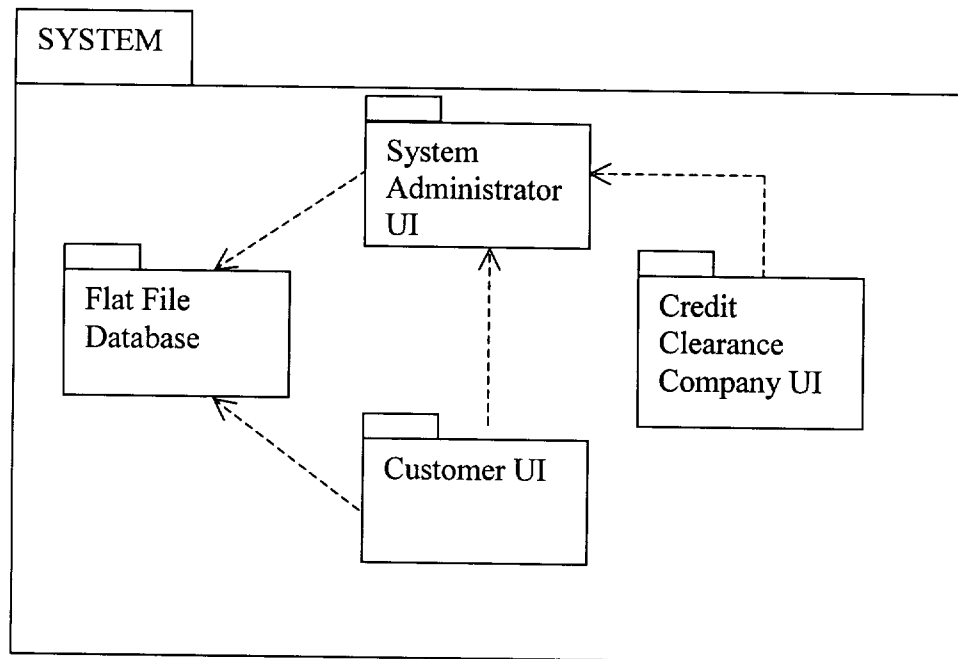


Figure 4.4: Main Class Diagram

4.2.1.1 Main Class Diagram for Flat File Database Package

The flat file database package consist of:

1. Product Catalog:
 - a. Product Specification
 - b. Item
2. Member Information

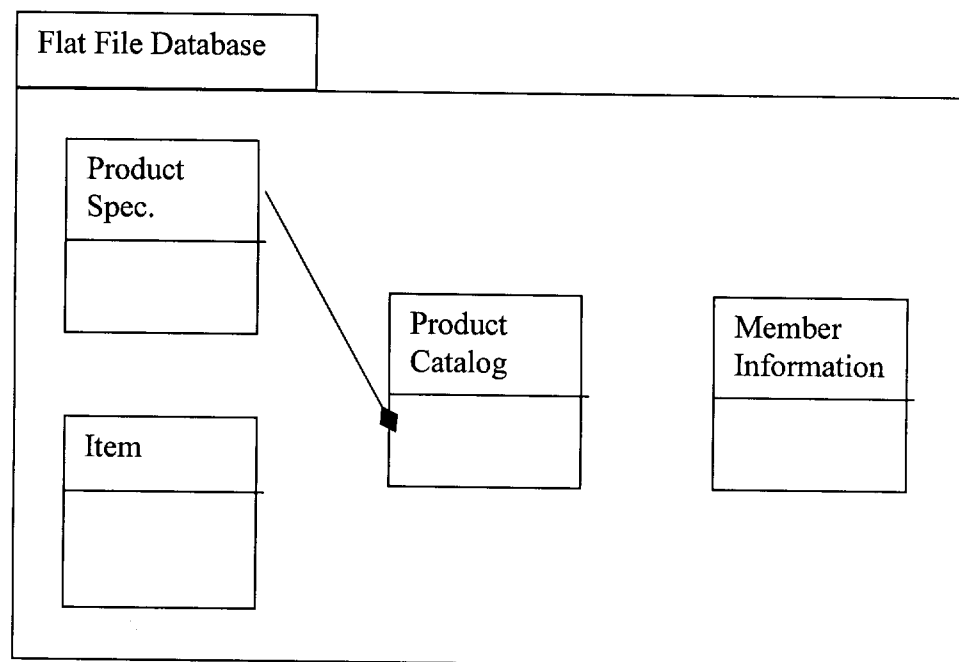


Figure 4.5: Flat File Database Class Diagram

4.2.1.2 Main Class Diagram for System Administrator UI Package

The package consist of:

1. Maintenance package, which consist of:
 - a. Publisher package – has external package from Flat File Database like Item Class and Product Catalog Class
 - b. Member Services package
2. Advertisement Class
3. Report Class

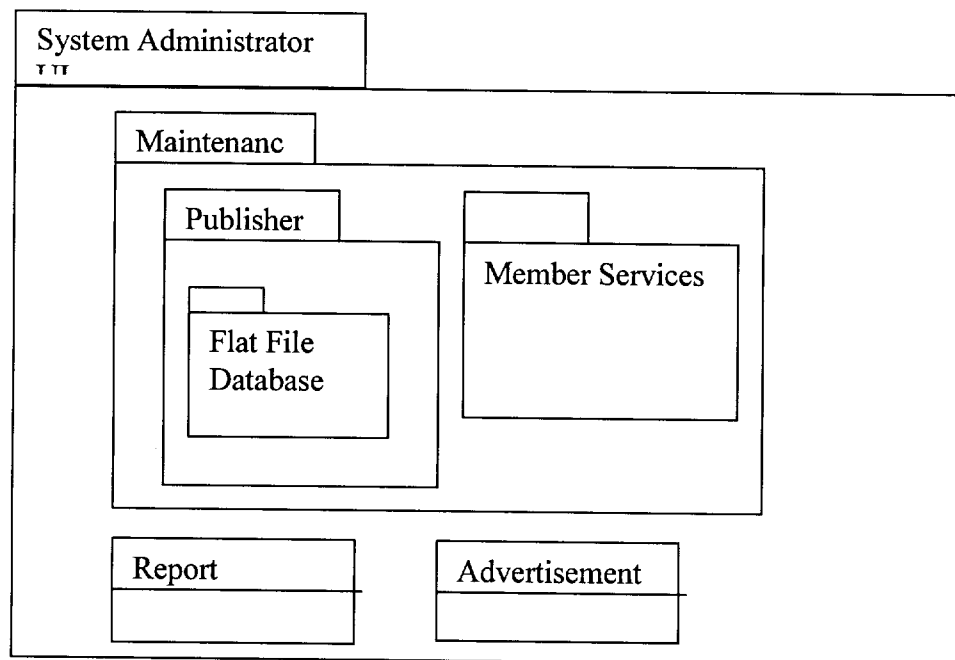


Figure 4.6: Main Class Diagram For The System Administrator UI

4.2.1.2.1 Class Diagram for the Publisher Package

This package consist of external package from Flat File Database:

1. Item Class
2. Product Catalog

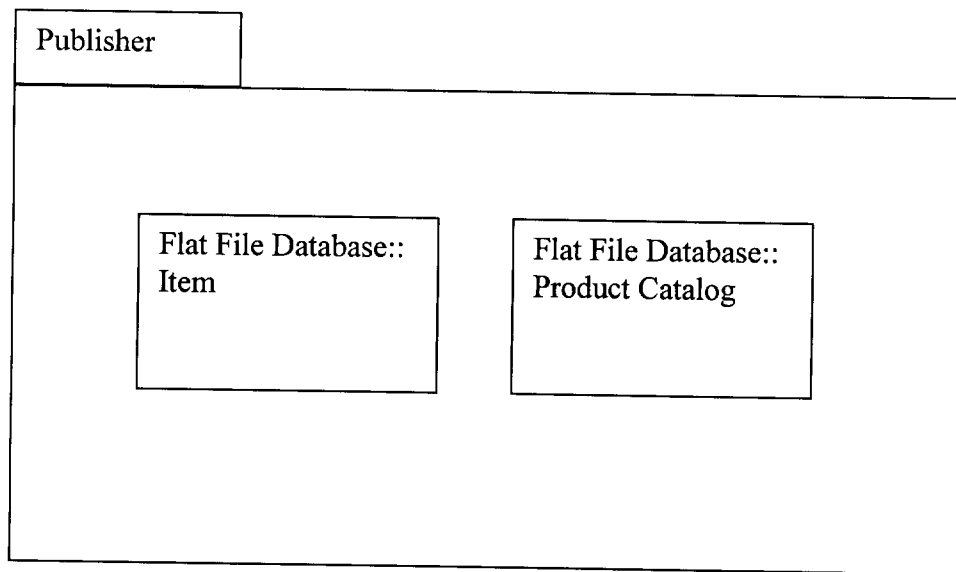


Figure 4.7: Class Diagram For The Publisher Package

4.2.1.2.2 Class Diagram for The Member Services

The package consist of classes below:

1. E-book
2. Online Newspaper
3. Email Services
4. Member Authorization

And, an external class Member Information from the Flat File Database package.

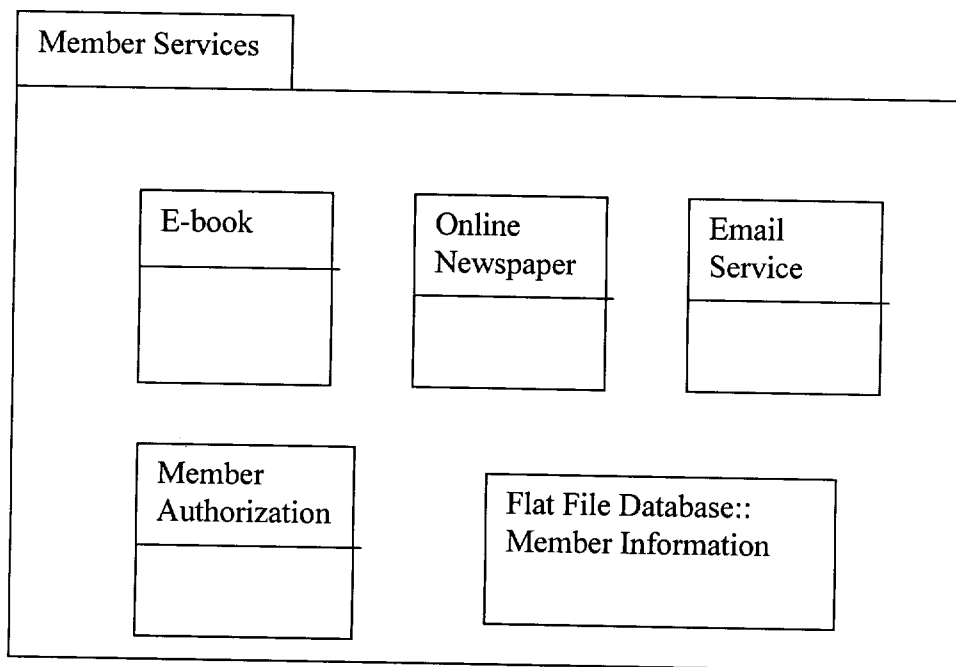


Figure 4.8: Class Diagram For Member Services

4.2.1.3 Main Class Diagram for the Customer UI Package

This class diagram consist of 2 main packages:

1. Shopping Cart
2. Payment

And 2 external package, Flat file Database and Member Services.

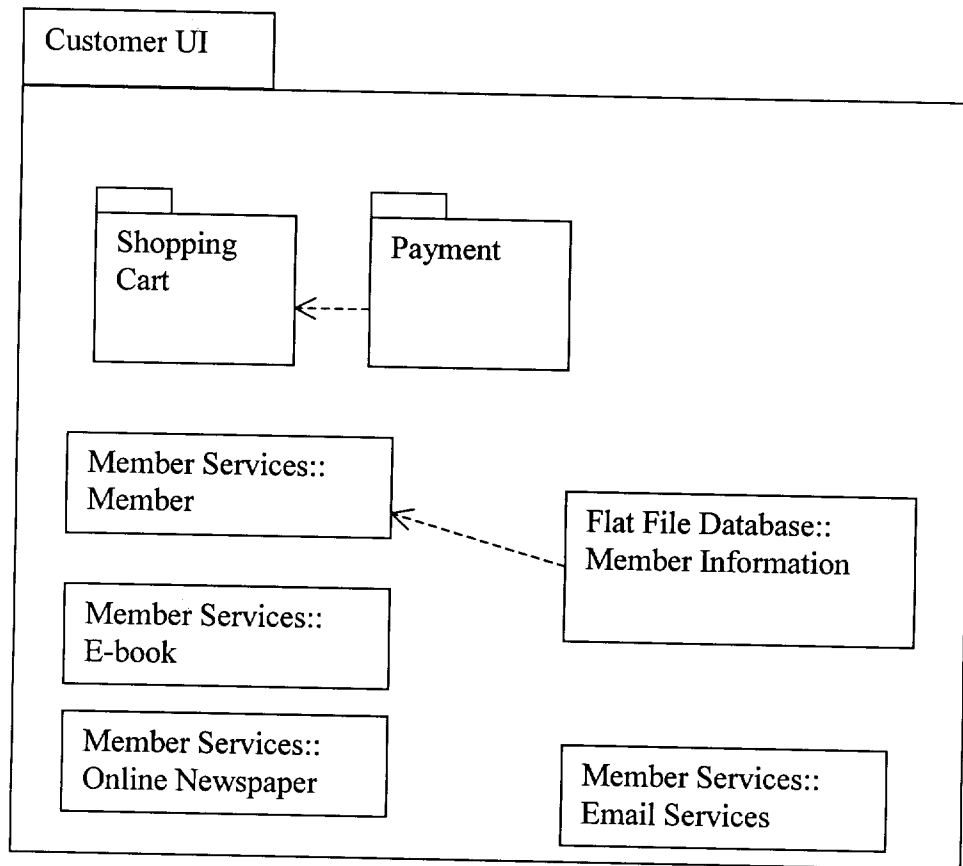


Figure 4.9: Main Class Diagram For The Customer UI

4.2.1.3.1 Class Diagram for the Shopping Cart Package

The Shopping Cart package consist of classes below:

1. Order
2. Calculator

And an external package from Flat File Database like Item class and Product Catalog class.

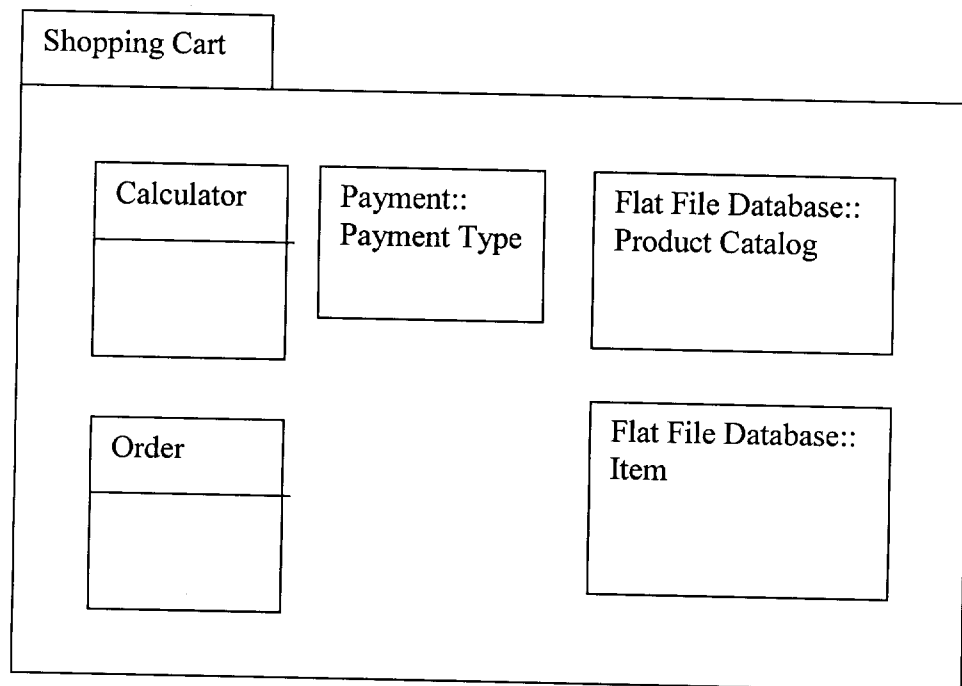


Figure 4.10: Class Diagram For The Shopping Cart Package

4.2.1.3.2 Class Diagram for the Payment Package

The Payment package consists of the classes below:

1. Payment Type – Categorized into Credit Payment, Check Payment and Alternate Payment
2. Authorization Service – Categorized into Credit Authorization service and Check Authorization service
3. Credit Card
4. Check
5. Customer Information

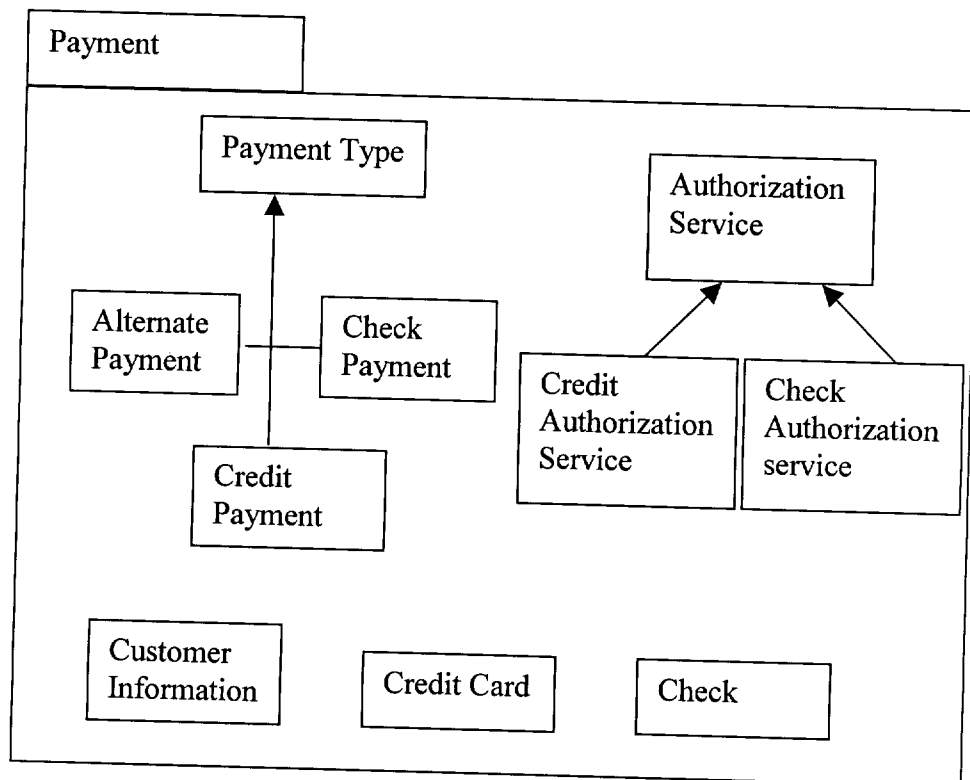


Figure 4.11: Class Diagram For The Payment Package

4.2.1.4 Main Class Diagram for the Credit Clearance Company UI Package

The Credit Clearance Company package consist of classes below:

1. Payment Authorization Transaction – Categorized into:
 - a. Payment Authorization Request - Consist of Credit Payment Approval Request and Check Payment Approval Request.
 - b. Payment Authorization Reply – Consist of Credit Payment Approval Reply, Credit Payment Denial Reply, Check Payment Approval Reply and Check Payment Denial Reply.

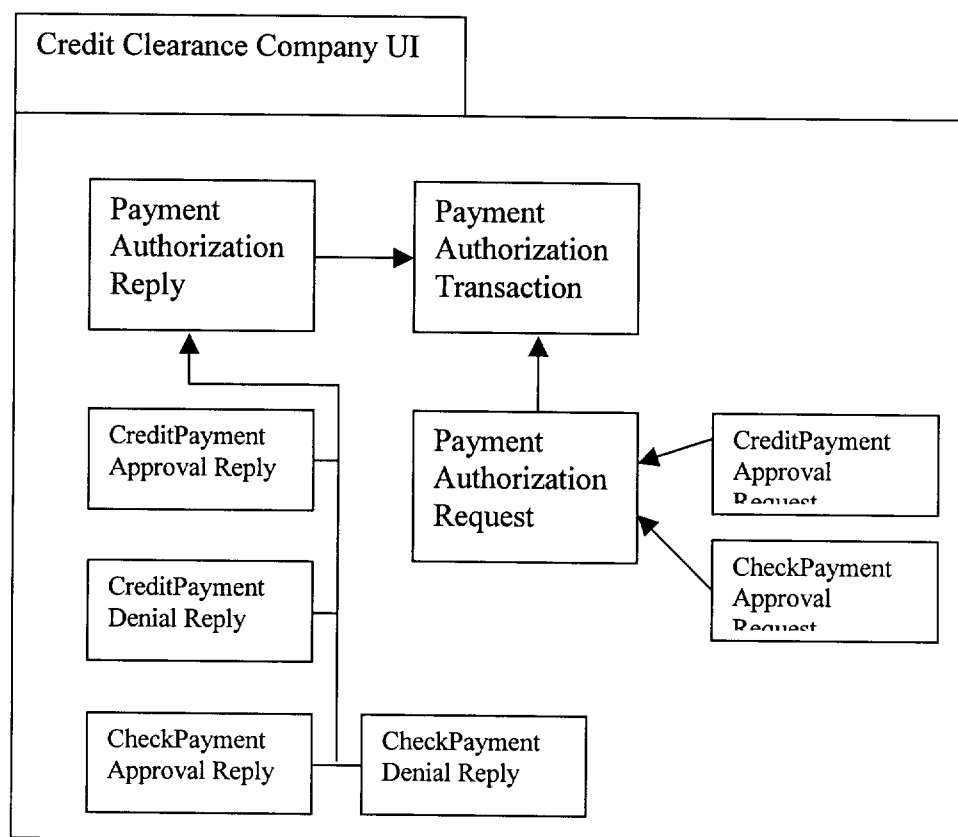


Figure 4.12: Main Class Diagram For The Credit Clearance Company UI

4.2.2 Sequence Diagram for the Model's Use Cases

4.2.2.1 Sequence Diagram for Maintenance (Update Publisher)

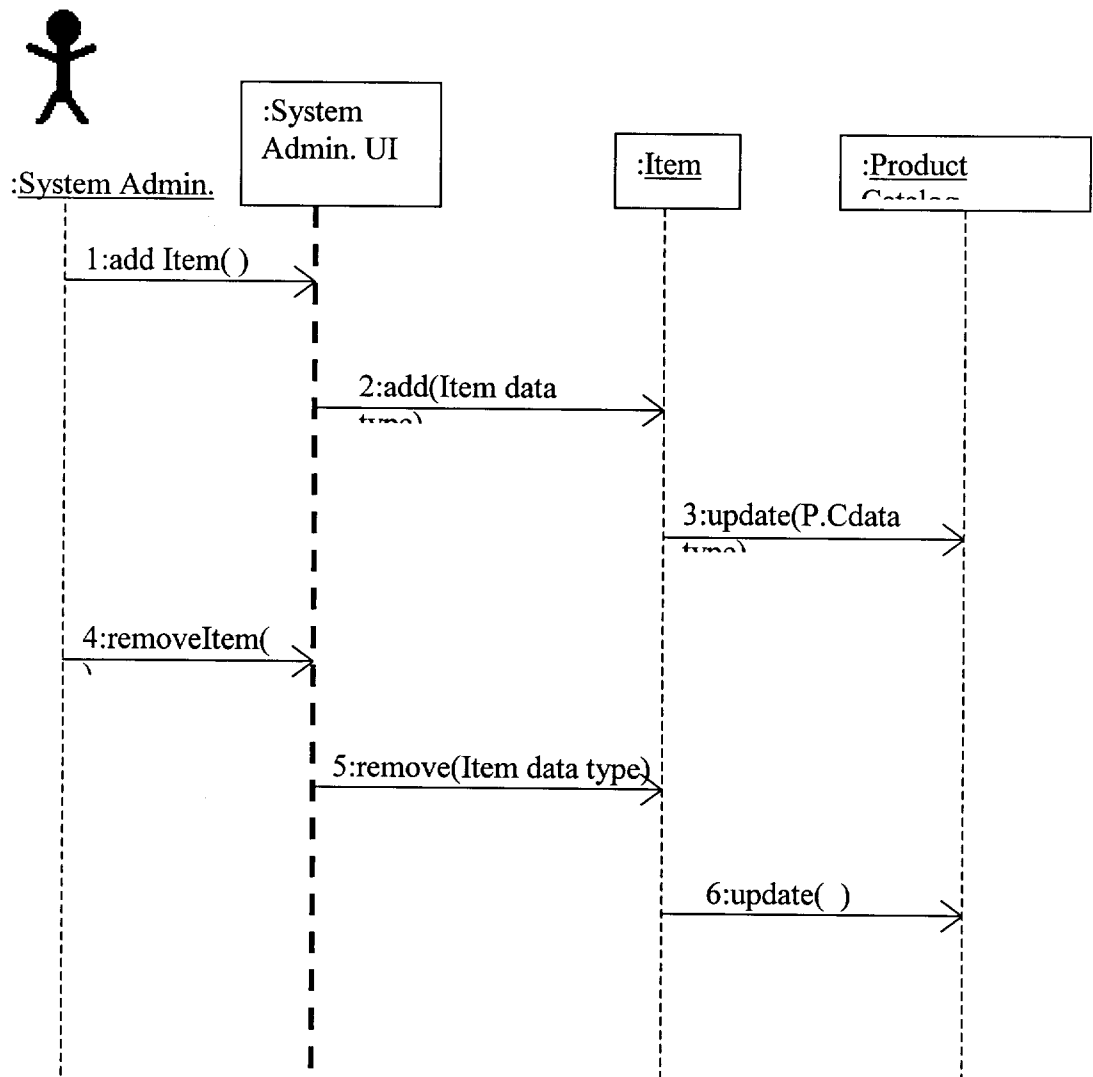


Figure 4.13: Sequence Diagram For Update Publisher

4.2.2.2 Sequence Diagram for Maintenance (Update Member Services)

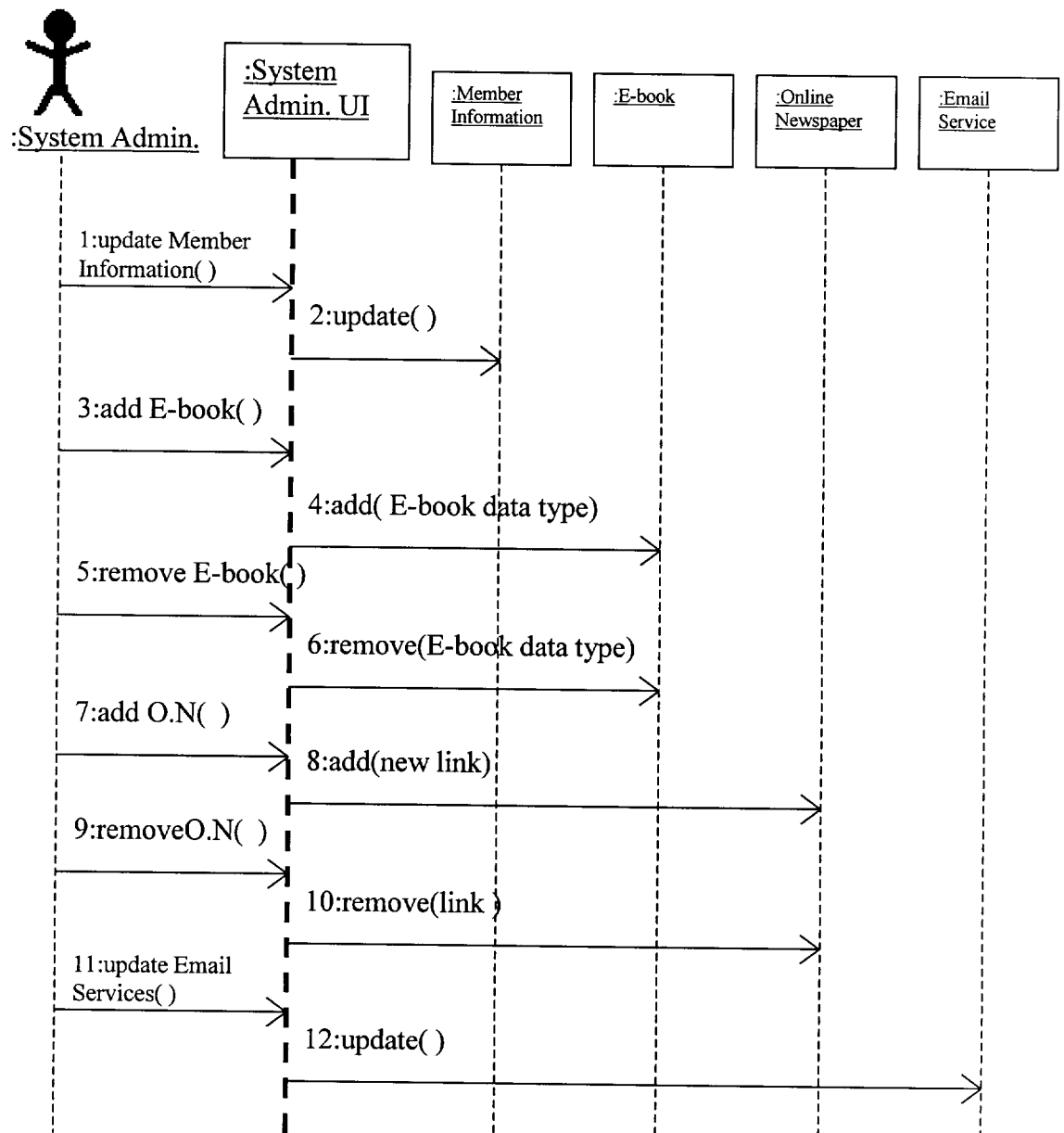


Figure 4.14: Sequence Diagram For Update Member Service

4.2.2.3 Sequence Diagram for Put Up Advertisement

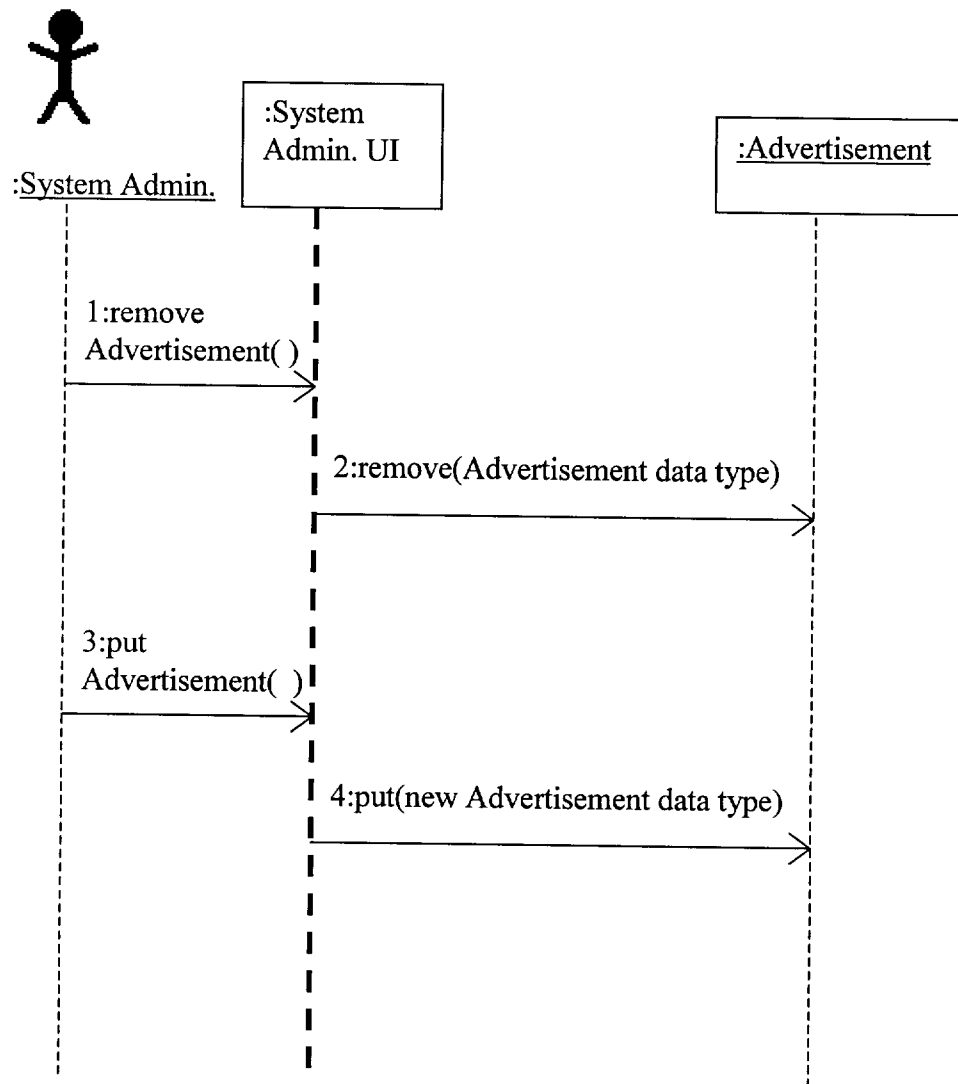


Figure 4.15: Sequence Diagram For Put Up Advertisement

4.2.2.4 Sequence Diagram for Generate Sales Report

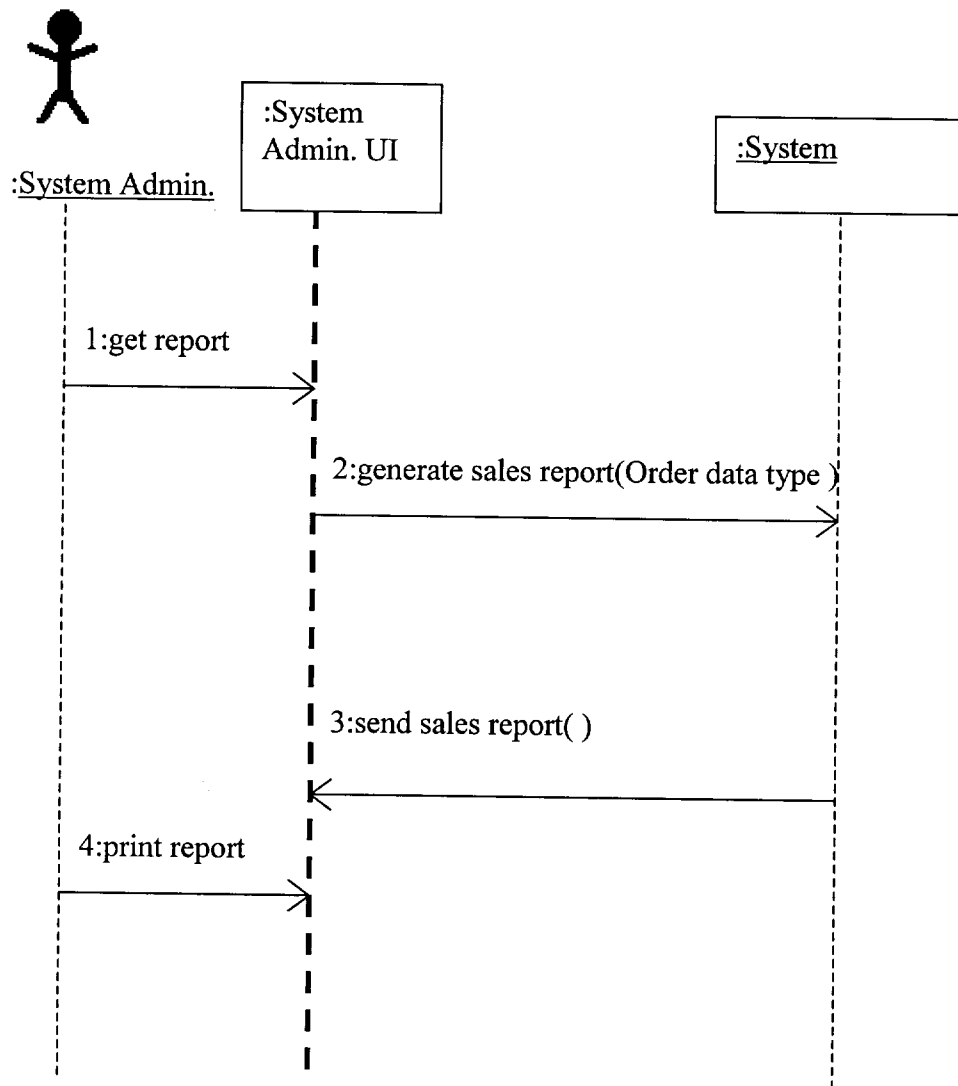


Figure 4.16: Sequence Diagram For Generate Sales Report

4.2.2.5 Sequence Diagram for Buy Books

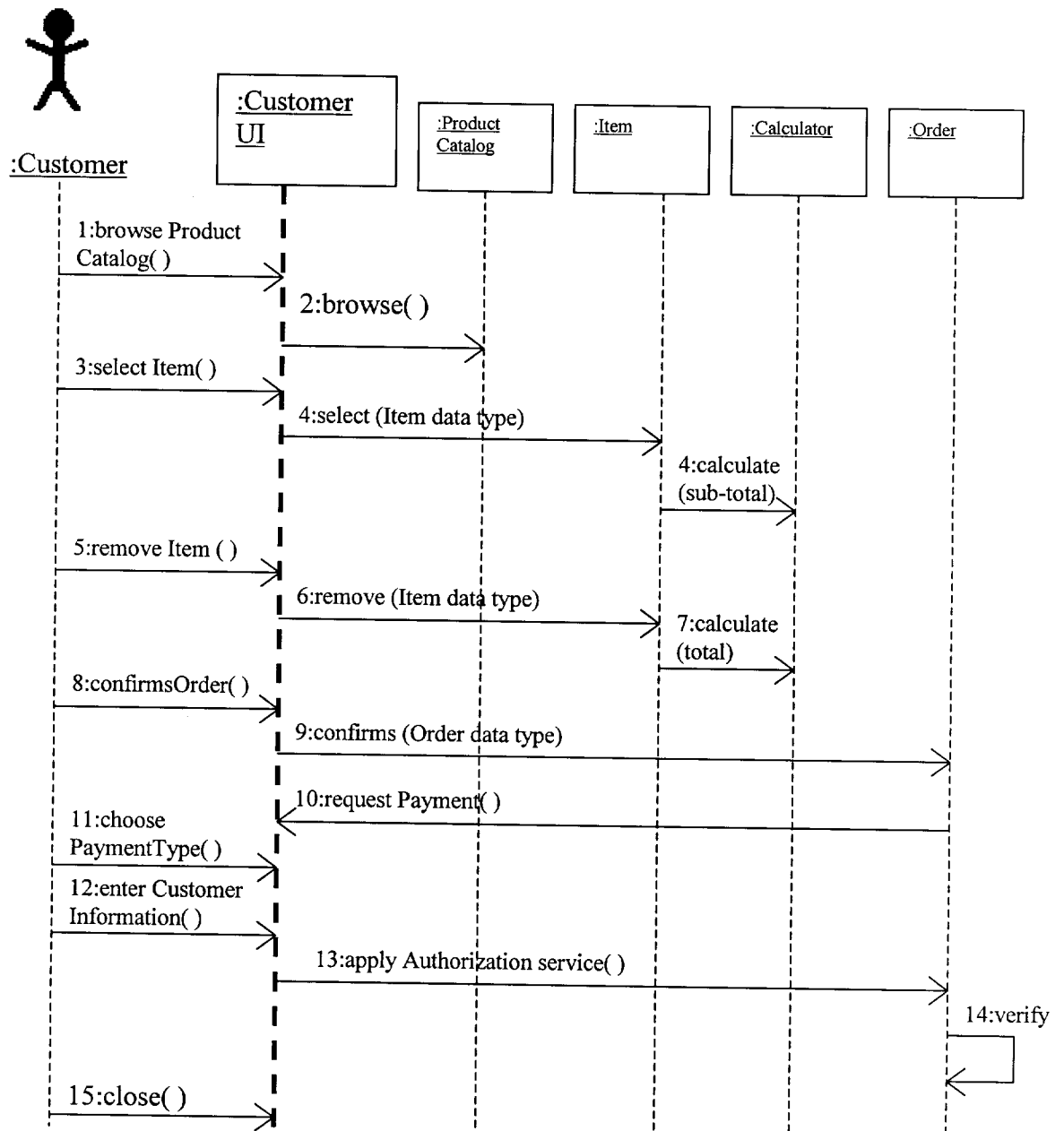


Figure 4.17: Sequence Diagram For Buy Books

4.2.2.6 Sequence Diagram for Sign Up for Member Services

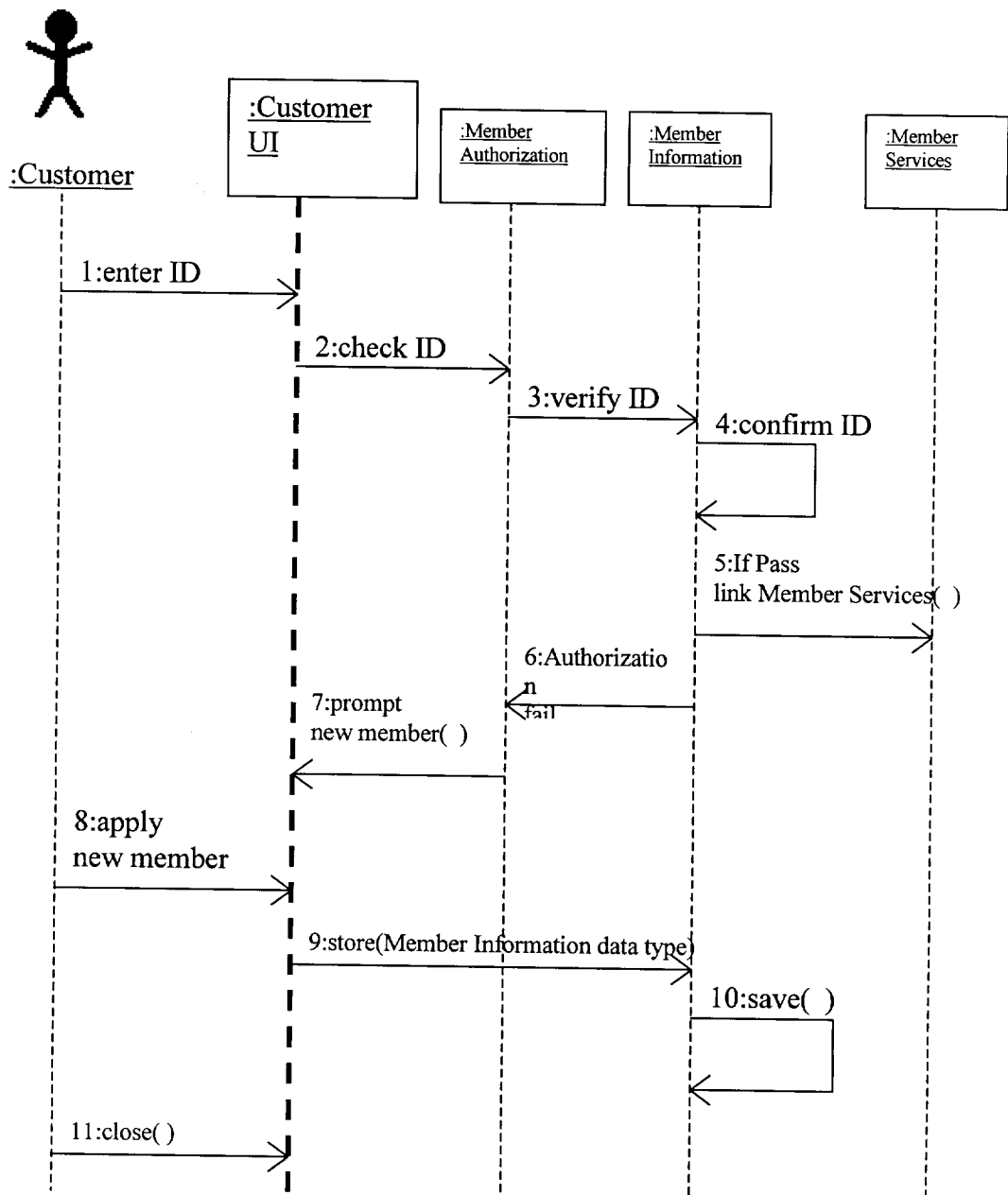


Figure 4.18: Sequence Diagram For Sign Up For Member Services

4.2.2.7 Sequence Diagram for Secure Credit card Details

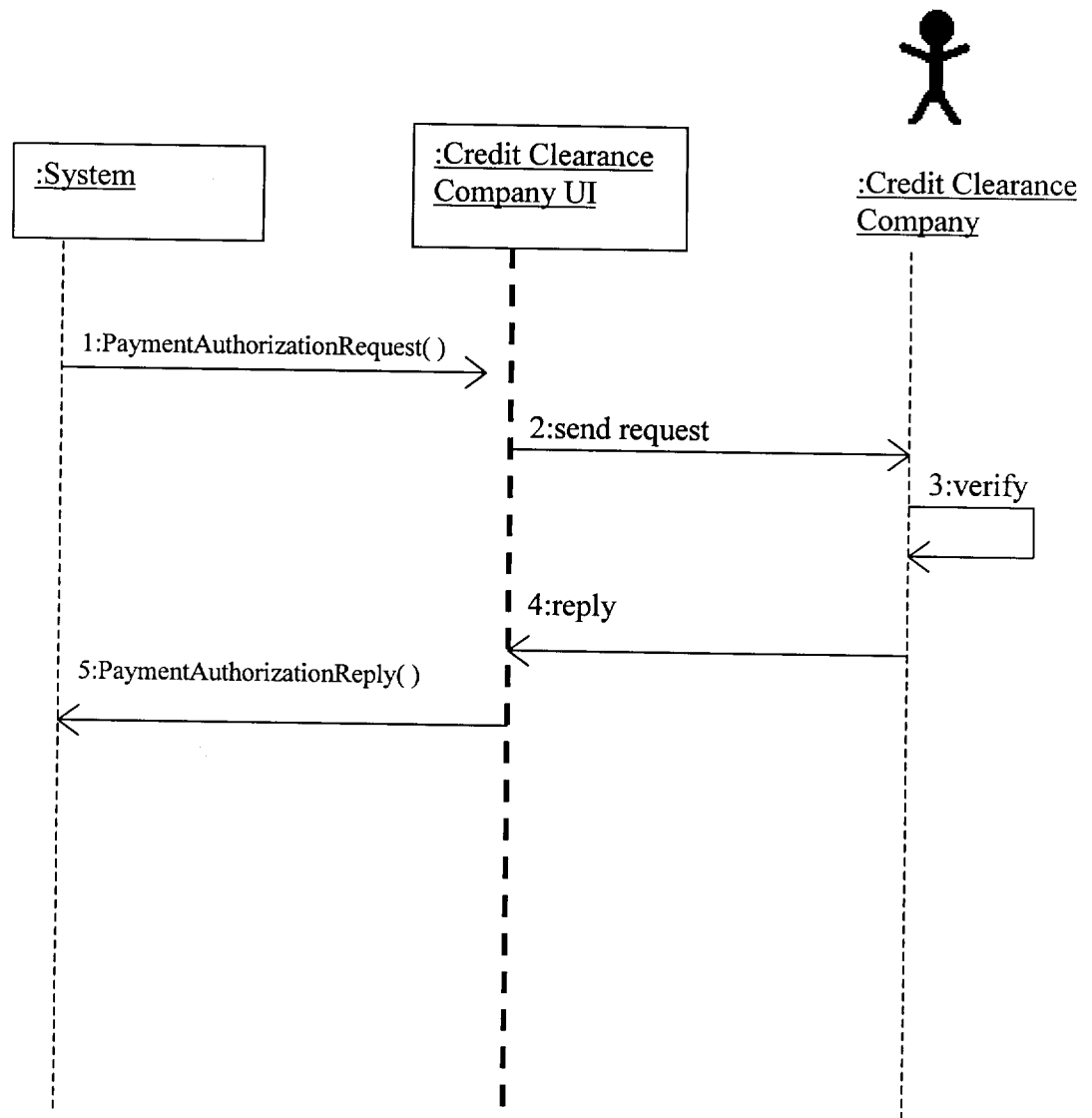


Figure 4.19: Sequence Diagram For Put Up Advertisement

4.2.3 Main Class Diagram Details

4.2.3.1 Modeling Extension for Web Based Customer User Interface

UML extension mechanism allows the inclusion of new attributes, different semantics and additional constraints [4,12]. When collected together as Tagged Values, Stereotypes and Constraints they form an Extension to UML. The problem of a web page having different scripts and variables executed on the server or on the client can be solved in one of two ways. The first would be to define the stereotypes; server method and client method. In a page object a method that executes on the server will be stereotyped as <<server method>> and functions that run on the client <<client method>>.

The Web pages are modeled in two separately stereotyped classes: server page, Sp and client page, Cp. The Customer User Interface is client based. From the Customer UI class diagram, it can be separated into 2 main parts [14]:

1. Web Interface – Main customer interface consist of:

- Index.html – has components as below:

- About.html

- Browse.html

- Publisher.html

- Search.html

- Service.html

- Guest.html

□ Email (mailto:)

2. Core System – Consist of Flat File Database (HTML + Java Script based), Member Services package and Payment Authorization service that is supporting the Web Interface in the background.

4.2.3.1.1 Web Interface

Lets take a look at the main class diagram, which is also the main web based interface for the Customer UI [12,14].

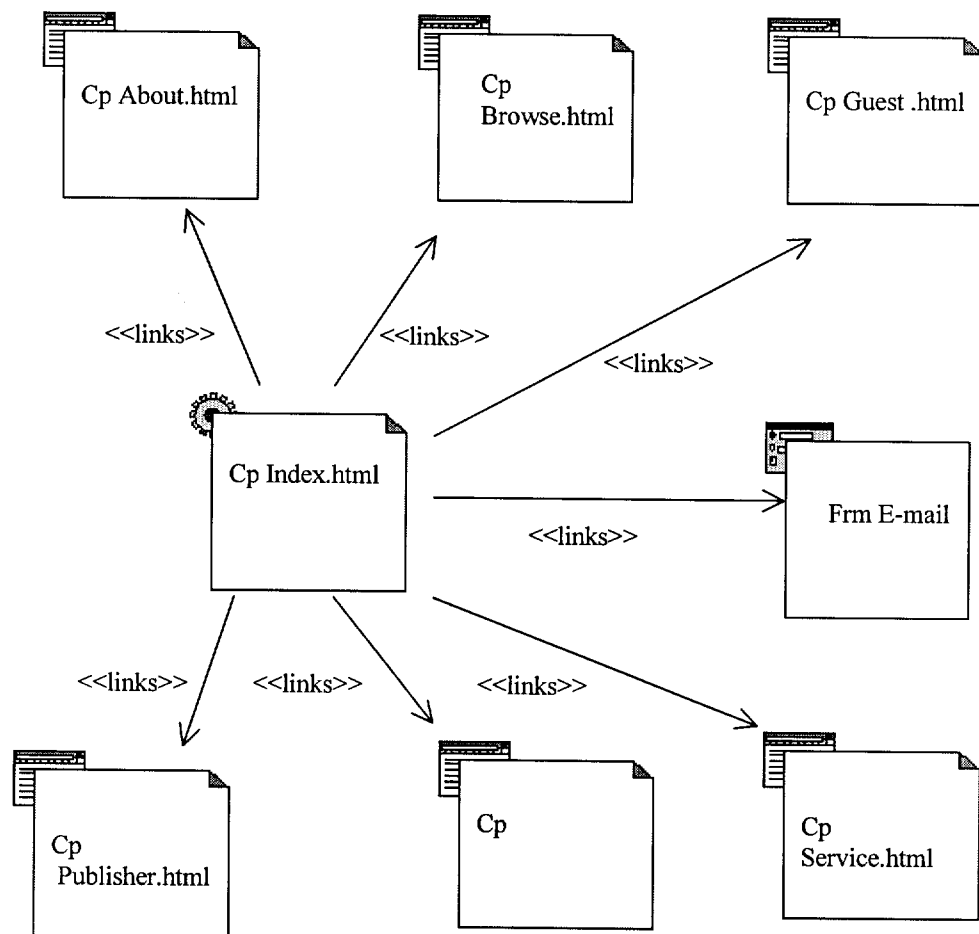


Figure 4.20: Class Diagram For The Main Web Interface

4.2.3.1.2 Customer Web Interface for Browsing Books by Subjects

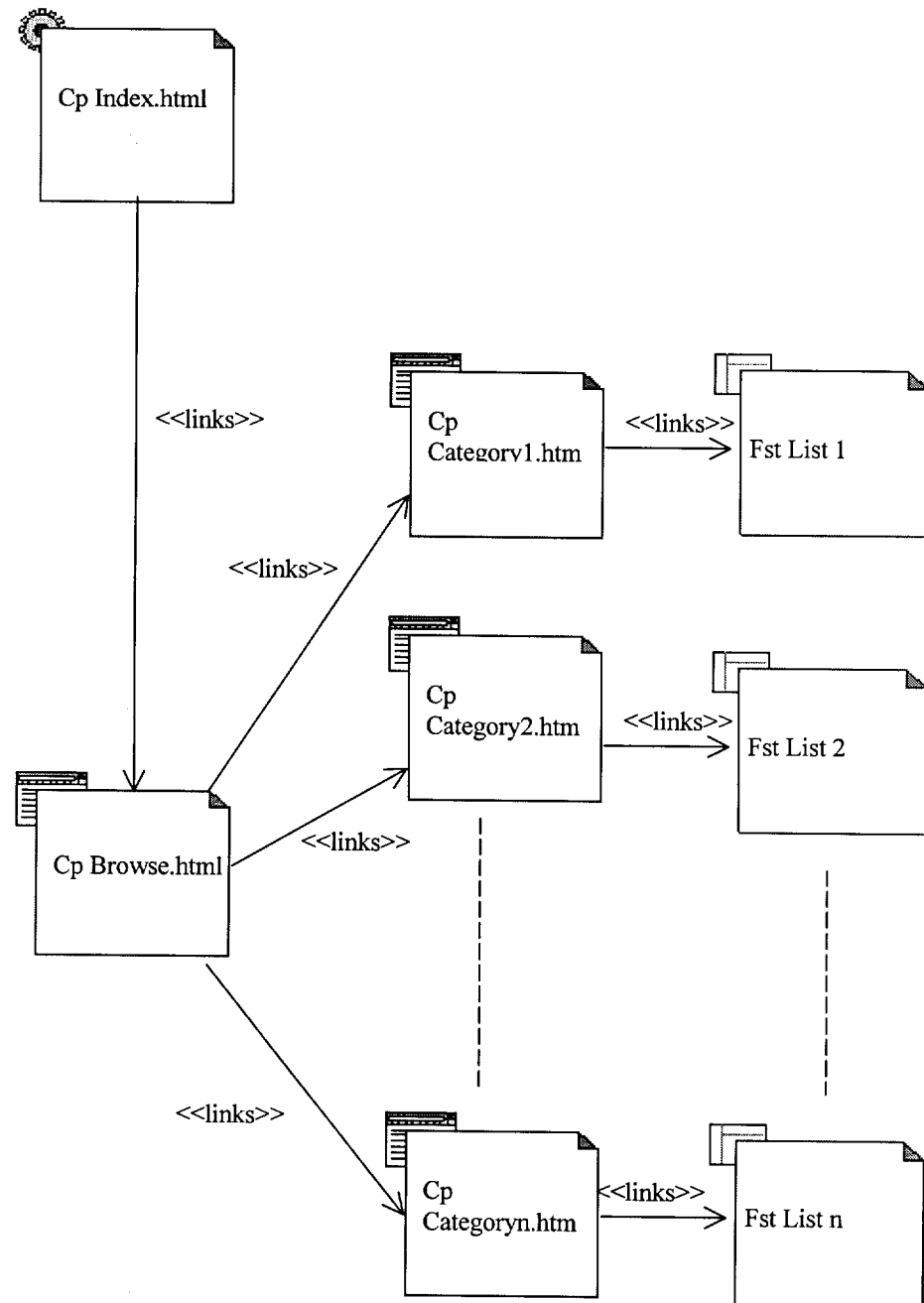


Figure 4.21: Class Diagram For Browse Subject UI

4.2.3.1.3 Customer Web Interface for Browsing Publisher

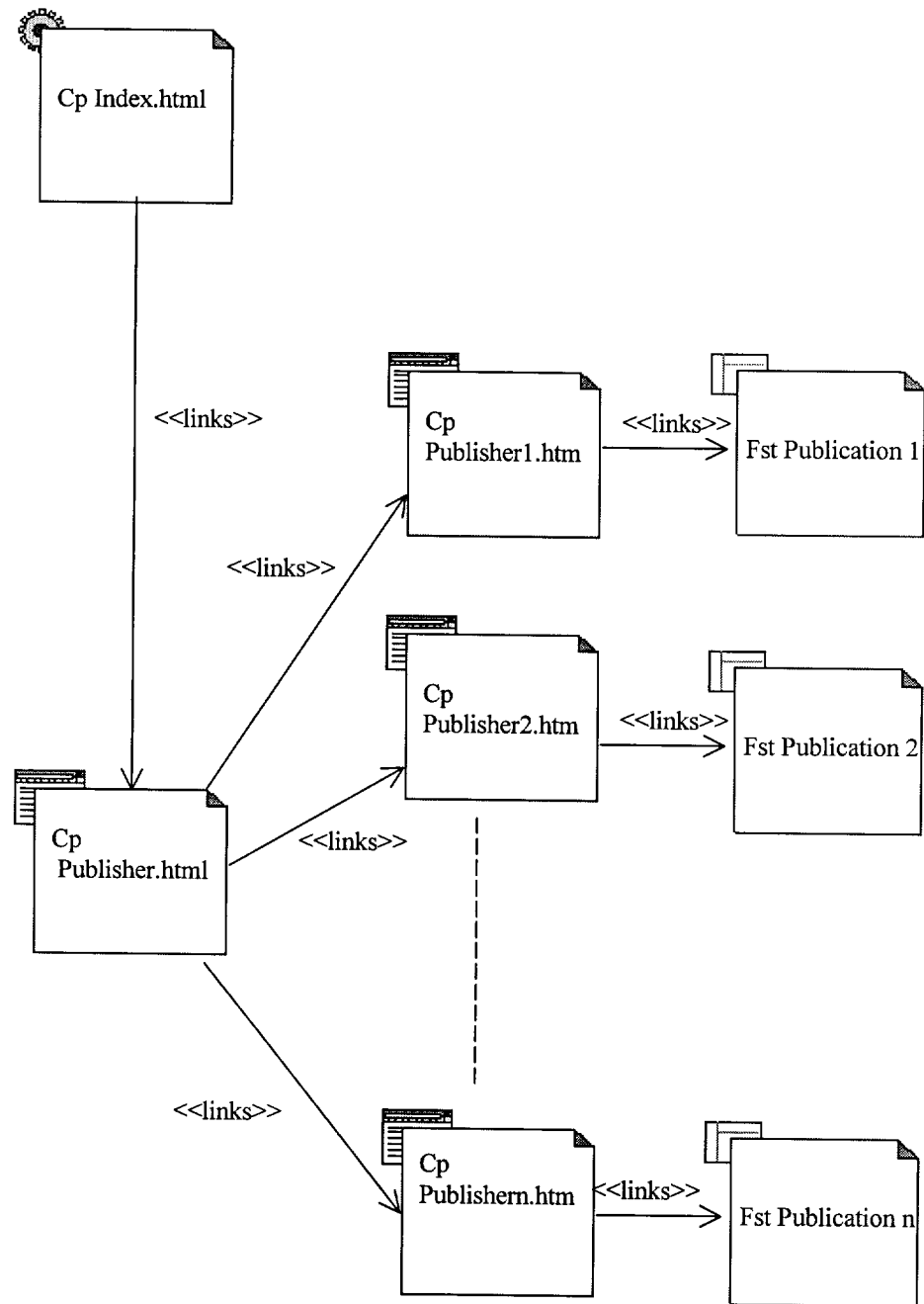


Figure 4.22: Class Diagram For Browse Subject

4.2.3.1.4 Customer Web Interface for Member Services

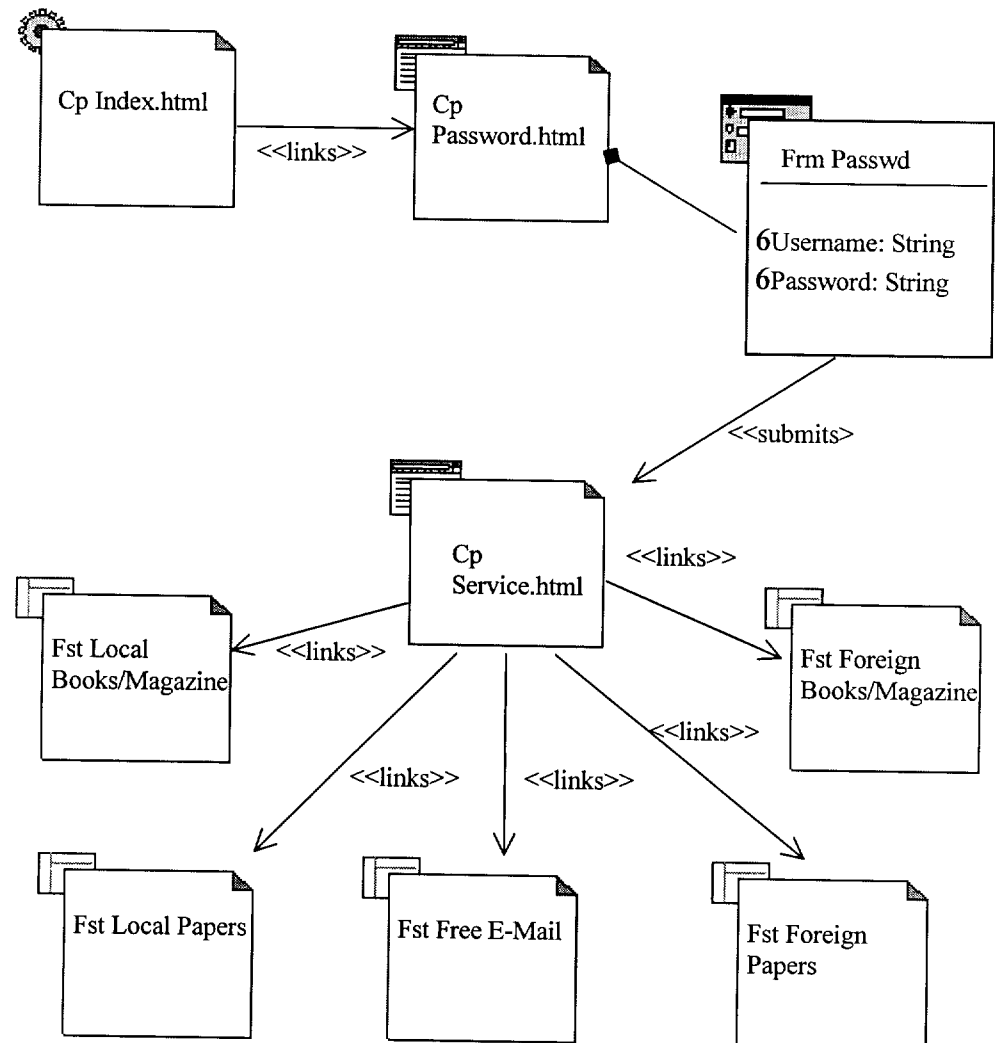


Figure 4.23: Class Diagram For Member Services

4.2.3.2 Detail Class Diagram for Customer UI Package (Payment)

After reviewing the brief class diagram and the sequence diagram for the Payment package, detail class diagram is described below:

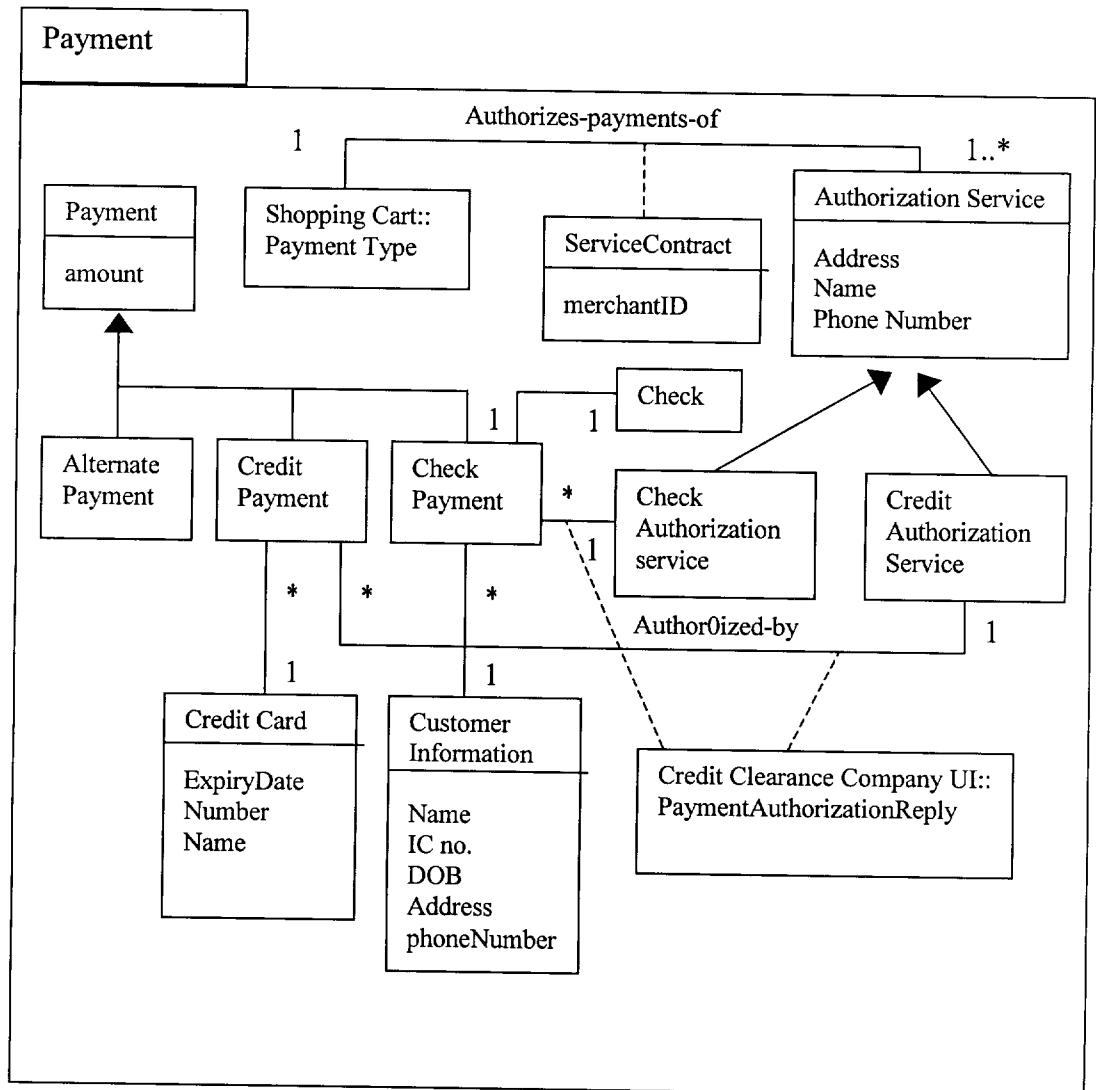


Figure 4.24: Detail Class Diagram For Payment Package

4.2.3.3 Detail Class Diagram for Credit Clearance Company UI

After reviewing the brief class diagram and the sequence diagram for the Credit Clearance Company package, detail class diagram is described below:

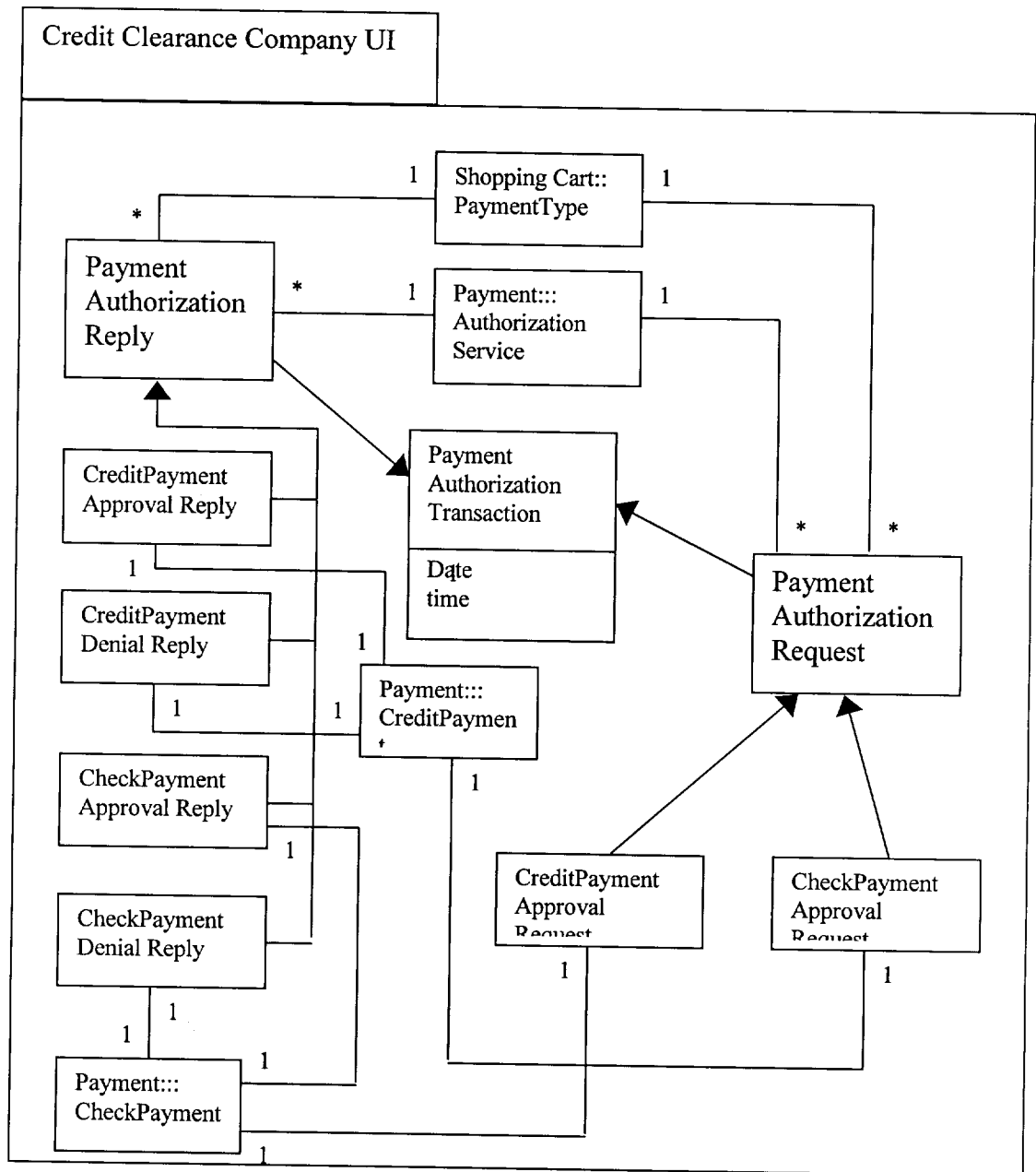


Figure 4.25: Main Class Diagram For The Credit Clearance Company UI

4.2.4 Java Wallet 1.0

The following are the main components of the Java Wallet architecture [8,18]:

- **Java Commerce Client (JCC):** The JCC is a container for *Commerce Java Beans components*, consisting of Java classes that extend the JDK specifically to enable secure electronic commerce. The JCC contains interfaces that support Commerce Java Beans components, a database, user interfaces, the Gateway Security Model, and Java Commerce Messages.
- **Database:** a basic relational database for storing user information, for registering cassettes and cassette compatibility, and for transaction logging.
- **Operations, Protocols, and Instruments:** The JCC is designed to carry out commerce *operations*. An operation is a procedure that uses protocols and instruments to accomplish a task. Examples of operations include purchase, ATM transfer, financial planning, etc.

Operations use *protocols* to carry out the basic transfers associated with commerce operations. For example, a purchase operation could use the SET protocol to transfer credit card information to the appropriate parties. Protocols use *instruments* to transfer data necessary to a transaction. In general, an instrument represents some private user information and a relationship with an institution. For example, a credit card instrument represents both private user information (billing address, credit card number) and a user-to-bank relationship (credit card number, bank name, bank brand, etc.) In the JCC, protocols “act on” instruments to perform transfers. The JCC databases maintain relations among compatible operations and protocols, and among

compatible protocols and instruments. In the JCC, operations, protocols, and instruments are *Commerce Java Beans components* contained in *cassettes*.

- Any number of **Cassettes/Commerce Java Beans TM [19]**: *Cassettes* are digitally signed Java archive (JAR) files that contain one or more *Commerce Java Beans components* and the resources (shared interfaces, graphics, etc.) used by the Bean(s). Commerce Java Beans are modular bodies of Java code that extend the Java Beans TM component model. A Commerce Java Beans component is a reusable commerce component that extends the functionality of the JCC while meeting specific interface requirements. Once installed, a cassette and its constituent Bean(s) are persistent on the client. With Commerce Java Beans, developers can compose commerce-enabled applications that can be easily installed in the JCC. The JCC defines interfaces for the following Commerce Java Beans components:
 - Operations
 - Instruments
 - Protocols
 - Services
 - Preferences
 - Wallet UIs
 - Gates

- **User Interface** [18] (including one or more graphical user interfaces): a secure wallet-like interface that allows users to easily edit preferences, perform electronic commerce operations, select and edit instruments, review transactions, control cassette downloads, modify an address database, and so on. Installing new UI Commerce Java Beans components in the JCC can extend this UI functionality. The graphical user interface that displays is controlled by a UI Commerce Java Beans component. The UI Commerce Java Beans component contains all of the views that are implemented by the JCC to display the GUI. JCC users can install a number of different UI cassettes and select one as the preferred GUI. Institutions can also develop heavily branded GUIs that display when JCC users interact with the institution's Web site. UI Beans developers have a great deal of freedom in customizing the look and feel of the JCC GUI.
- **Gateway Security Model** [20]: a system of *gates* and *permits* that restricts access among Beans and between Beans and the JCC according to the Limited Trust Model of security. Gates control access to resources in the JCC and in cassettes by passing permits to code based on the roles for which the code is digitally signed. Permits provides access to methods that act on the resources protected by the gate. Roles are established based on contractual agreements between parties involved in commercial relationships. The Gateway Security Model extends Java platform security, refining the "sandbox" model of applet containment to implement fine-grained access control. Within the JCC, the roles with which a cassette is signed determine the cassette's level of access into the JCC and into other cassettes.

- Java Commerce Messages:** a format in which commerce servers communicate with the JCC. A JCM is specific to an operation and contains the information required for the successful execution of an electronic transaction. The reception of a JCM instantiates the JCC and causes it to begin executing an operation. A JCM requests that the JCC perform an operation (such as an ATM transfer), provides information about protocols and instruments that can be used to complete the operation, and provides data necessary for a successful operation. A JCM is a text file, either static or dynamically created by applets, CGI programs, or servlets, sent to the JCC in response to a transaction call placed by a JCC user (for example, when a JCC user selects **PAY** on a merchant site or **TRANSFER FUNDS** on a bank's Web site).

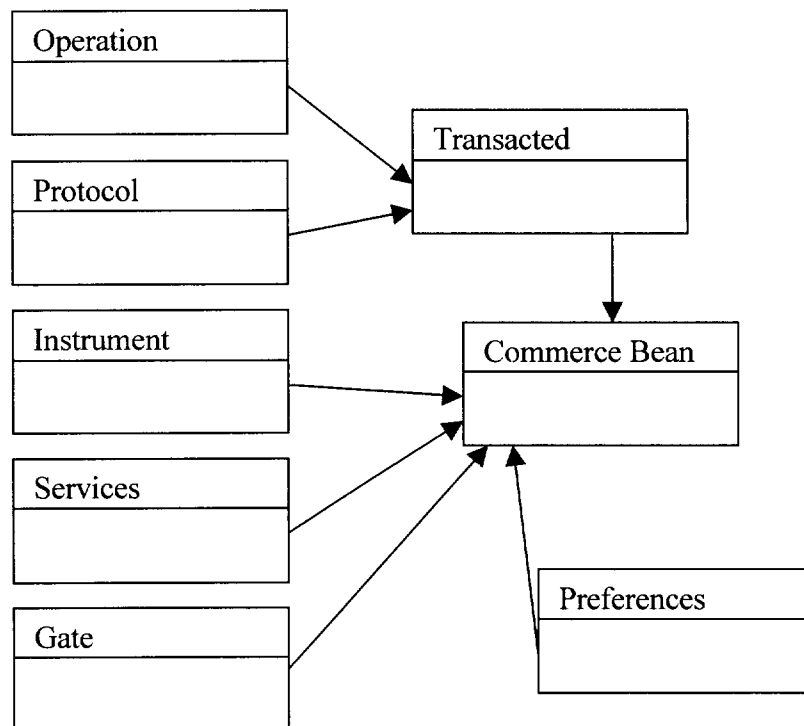


Figure 4.26: Commerce Java Beans Interfaces Class Diagram

4.2.5 Main Modules Algorithm

4.2.5.1 Shopping Cart Module

1. Module 1

```
function showProd(form){
```

- *Initialize variable & declaration*

```
prodID=parent.frames.prodID;
```

- *Set Iteration*

```
for (var i = 1; i <= prodID.length; i++)
```

```
{   prodID[ i ].show(sWin,i);
```

```
    match = true;
```

```
}
```

- *Search & Match product*

```
if(!match){
```

```
    pTotal = new makeArray(prodID.length);
```

```
    for (var i = 1; i <= prodID.length; i++){
```

```
        var pSearch = prodName.toUpperCase();
```

```
        var pInventory = prodID[ i ].name.toUpperCase();
```

```
        for(var x = 1; x <= pSearch.length; x++){
```

```

        if(pSearch.substring(0,x) == pInventory.substring(0,x)){

            pTotal[ i ] = pSearch.substring(0,x);

        }

    }

} sWin.close();

```

2. Module 2

```
function product (name,description,image,price,type,link,url){
```

- *Initialize variable & declaration*
- *Display product description*

```

if(url != ""){

    this.link=<AHREF= “ + url + “>” + link + “</A>”;

}else{this.link=“ ”+link+ “ ”;

```


3. Module 3

```
function show(w,prodIndexNum){
```

- *Display product*

```
w.write ("this.name" );
```

```
w.write("this.description");
```

```
if(this.image.length > 1){
```

```
w.write("<IMG SRC='"+ this.image + ">");
```

```
}
```

```
if(this.link != ""){w.write(this.link); }
```

4. Module 4

```
function orderProd(obj,win,index){
```

- Display object price, quantity, sub total price and total price
- Add object to cart

```
win.write(“= ‘button’ VALUE = ‘ Add to Cart ’ onClick = parent.add(“ +  
parent.count + ” , “ + index + ”)>”)
```

```
count++;
```

5. Module5

```
function add(id, oIndex){
```

- *Initialize variable & declaration*

```
var theForm = parent.frames.document.forms[id];
```

```
productName = prodID[oIndex].name;
```

```
totalSum =parent.frames.document.forms[id].subTotal.value;
```

```
totalQuantity = parent.frames.document.forms[id].q.value;
```

- *Adding item to cart*

```
if(totalQuantity == 0){
```

```
    alert("You entered a quantity of 0!\n We cannot process this order");
```

```
    parent.frames.document.forms[id].q.value = 1;
```

```
    Total(id,prodID[oIndex].price);
```

```
}else{
```

```
    if( confirm("You are adding " + totalQuantity + " order/s of " +  
productName + " \n Subtotal: " + totalSum + " to your shopping cart.")){
```

```
        store(oIndex,totalSum,totalQuantity);
```

```

}else{

    alert("\n\nThis order was not placed in your shopping cart."); } }}

```

6. Module 6

```

function store(o,ts,tq){

```

- *Set Iteration to store items chosen*

```

    orderNum++;

    order[orderNum] = new cartGoods(o,ts,tq);

    showTotal = 0;

    for(var i = 1; i <= orderNum;i++){

        showTotal += parseFloat(order[ i ].totSum);

    }

```

7. Module7

```

function cartGoods(Indx, totSum, totQ){

    this.Indx = prodID[Indx].name;

    this.totSum = totSum;

    this.totQ = totQ;

```

8. Module 8

```
function remove(item){
```

- *Re-initialize variable & declaration*

```
var newSum = 0;
```

```
for(var i = item+1; i <= orderNum; i++){
```

```
  if(item == orderNum){
```

```
    Item chosen = order[current]
```

```
    break;
```

```
  }else{
```

```
    Item chosen = order[current - 1]
```

```
  }
```

```
}
```

```
orderNum--;
```

```
for(var i = 1; i <= orderNum; i++){
```

```
  newSum += parseFloat(order[ i ].totSum);
```

```
} }
```

9. Module 9

```
function checkOut(){
```

```
    if(orderNum != 0){
```

```
        alert('This will direct you to Order Confirmation page');
```

- *Open new widow*

```
        cin=window.open('', 'x', 'scrollbars=yes');
```

```
        cWin=cin.document;
```

- *Show object price, quantity, sub total price and total price*
- *Display links to shipping information*
- *Submit order*

4.2.6 Flat File Database – Add/Delete Publisher Category Module

- *Java Script embedded in HTML flat file database*

```
<Script Language='JavaScript'>
```

```
function go(loc){ parent.frames.location= “+loc+‘/1.htm’; }
```

</Script>

- *Publisher's Category listing*

<a href="javascript: go('category n ')"

4.2.7 Flat File Database – Add/Delete Item Module

- *Initialize array and Set Iteration*

```
function makeArray(n){    this.length = n;    for(var i = 1; i <= n; i++){  
this [ i ] = 0;    }    return this; }
```

```
function product (name,description,image,price,type,link,url){
```

- *Add/Delete product, product information or details in the array*

```
prodID[n]=newproduct('AsasKaunselingDrug','ISBN','DRUG.gif','16.00','  
Katalog Buku','Azmi Shariff');
```

- *Call function show(w,prodIndexNum)*
- *Call function orderProd(obj,win,index)*

Chapter 5

EVALUATION

In this chapter, we will evaluate the web based bookstore model for portability and correctness.

5.1 Website Test and Validation

Test was carried out using two well-known browsers in the market, Netscape Navigator 4.7 and Internet Explorer 4.0. All the tests were carried out by stand-alone personal computers, which operate under Windows 95 and Windows 98. The Pentium series processor speed varies from 200Mhz to 500Mhz. Evaluation of the model are based on two criteria:

- 1) **Operational Testing** is an individual test step, which may involve a variety of checks on individual pages in the model's Website. Here are four key areas where test will have a significant impact.
 - a) **Page Consistency.** Is the entire page identical with a prior version? Are key parts of the text the same or different?
 - b) **Table and Form Consistency.** Are all of the parts of a table or form present? Are they correctly laid out? Can you confirm that selected texts are in the "right place"?
 - c) **Page Relationships.** Are all of the links on a page the same as they were before? Are there new or missing links? Are there any broken links?

- d) **Performance Consistency, Response Times.** Is the response time for a user action the same as it was (within a range)?
- 2) **E-Commerce Evaluation** involves product order situation using the model.

5.2 Methods of Testing

5.2.1 Page Consistency

The steps involved are:

- 1) User loads file named Index.html in Netscape Navigator 4.7
- 2) Browse all the pages available in the Website.
- 3) Notes the Website special features like Java Applet and Java script effect on the page.
- 4) Repeats the steps with Internet Explorer 4.0
- 5) Makes a comparison list.

5.2.2 Table and Form Consistency

The steps involved are:

- 1. User loads file named Index.html in Netscape Navigator 4.7
- 2. Browse all the pages with forms and table available in the Website.

3. Notes the Website's layout of the tables and form.
4. User keys in numerical and text value in the available fields.
5. User validates the response for error checking for field inputs.
6. The Website response is recorded.
7. Repeats the steps with Internet Explorer 4.0
8. Makes a comparison list.

5.2.3 Page Relationships

The steps involved are:

1. User loads file named Index.html in Netscape Navigator 4.7
2. Browse all the pages available in the Website.
3. Notes for broken link and anchors in the Website.
4. Repeats the steps with Internet Explorer 4.0
5. Makes a comparison list.

5.2.4 Performance Consistency, Response Times

The steps involved are:

1. User loads file named Index.html in Netscape Navigator 4.7
2. Browse all the pages available in the Website.

3. Notes the Website's response time when loading each page.
4. Repeats the steps with Internet Explorer 4.0
5. Makes a comparison list.

5.2.5 E-Commerce Evaluation

The steps involved are:

1. Selecting an item for the shopping cart.
2. Confirming order.
3. Ordering it.
4. Examining the confirmation page to assure that the transaction was successful.
5. Repeats the steps with Internet Explorer 4.0
6. Makes a comparison list.

5.3 Results and Discussion

Operation Testing analysis of the model showed 100% consistency and compatibility with Internet Explorer 4.0 while Netscape Navigator 4.7 produces inconsistent text and table paragraph alignment. The glitch in the page consistency is quite negligible. However, overall operation of the Website is still the same with the both browsers. The main reason of the glitch is due to tools used to develop the Website. The Website was developed using Microsoft FrontPage 2000. **E-Commerce Evaluation** analysis produced no glitch in both browsers.

Load analysis is needed to proceed by having a special purpose browser act like a human user. This assures that the performance checking experiment indicates true performance, not performance on simulated but unrealistic conditions. There are many servers that generate large numbers of http requests, but that is not necessarily the way real-world users generate requests. Sessions should be recorded live or edited from live recordings to assure correct timing. There should be adjustable speed up and slow down ratios and intervals. Load generation should proceed from:

- Single Browser Sessions - One session played on a browser with one or multiple responses. Timing data should be put in a file for separate analysis.
- Multiple Independent Browser Sessions - Multiple sessions played on multiple browsers with one or multiple responses. Timing data should be put in a file for separate analysis. Multivariate statistical methods may be needed for a complex but general performance model.

5.4 Summary

All of these needs and requirements impose constraints on the test used to confirm the quality and reliability of the model's Website. At the same time they present a real life analyst of capabilities. Better, more reliable test methodologies should be created in order to validate the functionality of the developed model.

CHAPTER 6

CONCLUSION

In this chapter, we will review the project's overall progression. This includes problems and limitations faced during the development phases. Finally, suggestion for further development of this project is discussed.

6.1 Review of the Overall Project Development

This project is developed to cater for the e-commerce development in the book industry in Malaysia. Throughout the development process, this project has developed a standard in e-commerce framework for the book industry. The project has introduced new business process model, which resembles Supply Chain Model. The model also has the features below:

- A standardized ordering and payment scheme using Java Wallet.
- A new approach in web based design and analysis using Unified Modeling Language (UML) as the modeling language, which is supported by Rational Unified Modeling Process.

6.2 Problems and Limitation

The major problems and limitations faced during the development of the model are:

1. Time - Project development phase was limited to conceptual design. A Website model was developed to simulate the real world implementation but on a stand-alone personal computer. The scope of this project is quite wide if were to be implemented.
2. Technology – This Website needs to be put on an active secure transaction server. This kind of server setup is expensive. An alternative is to rent a commerce server available by Internet service providers.
3. Software – The model design phase was done manually. The use of Rational Rose 4.0 above as the UML modeling tool would have speed up the modeling process. Microsoft FrontPage 2000 as the Website development tool is not compatible with some browsers.
4. Evaluation – Test methodology to validate the Website is limited to test for correctness and portability.
5. Funding – This project was not funded by any organization or personnel. Due to this the project was kept simple without removing or rendering the main concept that was originally perceived.

6.3 Model Design Issues

A need for flexible design is essential for a variety of business models. Keeping this in view, our main design considerations for the model are the following:

1. Product catalog structures

In a large market place, one of the fundamental requirements is the mechanism to register and advertise prices and properties of products by the publishers. In reality, due to the complex nature of defining products, no single catalog structure will provide a unified framework for defining products.

2. Query languages for customers to query for products based on constraints on attributes.

The query language must be capable of supporting the following: protocols for commerce; specification on product constraints, aggregation of products and buyer, publisher and reseller preferences.

3. Distributed searching and matching.

In order to facilitate this, the following are required: language for the customers to query the Online Bookstore, collection of inter-faces for publishers and resellers to advertise their products and attribute value pairs, and a product naming scheme to capture the hierarchy of product types.

4. Commerce flow:

The marketplace has to provide mechanisms and tools for the customers and businesses to guide each commerce transaction through a set of commerce functions. These functions, for example, include search and matchmaking, negotiation, order processing, settlement and fulfillment.

6.4 Future Design and Development Considerations

The developed online bookstore model is started with a scratch model that applied the perceived concept of a Malaysian virtual book Mall. This project needs to be developed further in order to implement it. Below are a few design suggestions that can be look into:

1. The model need to be broken into several sub modules:

- Payment Module
- Shipment Module
- Test & Maintenance Module
- Encryption Module
- Server Security
- Smart Shopping Cart Application
- Database Module
- Interface Module

2. UML Modeling would be easier and accurate with Rational Rose 4.0 and above.
3. Multi-platform language should be used to develop the model. HTML and DHTML has a lot of interoperability issues. The usage of Extensible Markup Language (XML) will solve this problem.
4. Need to develop an interactive Website which supports Active-X and other related multimedia pluggins such as Flash, Media Player and many more. This can boost the Website hits on the Internet.
5. This project requires a secure transaction server. Some funding is required in order to implement the Website and evaluate its commercial actions.
6. A dynamic database supporting the catalogs, customers and publishers need to be developed. Currently this project used HTML based flat file database, which requires manual updates from time to time. SQL and Oracle can be used to support the virtual bookstore's dynamic database.

6.5 Summary

The extension of design techniques with document structure and document navigation modeling has been proposed for the design of Web based Online Bookstore. From workflow management, document flow among actors and task triggering was adopted. This extension is actually necessary, because the object oriented techniques are not appropriate to the adequate semantic modeling of the model. Finally, it is convenient to merge the system dynamic modeling with the document structure and navigational models, as they represent very useful aspects of hypertext applications. It is also important to specify the interactions that occur between HTML documents and the database, because the information shown in a page may result from a query (possibly with complex rules) involving many persistent objects.

In future, further development should be carried out in sub modules, which then can be integrated into the main model. This project has paved a clear pathway for future e-commerce development for the book industry in Malaysia. It can also be remodeled to adapt other commercial industries venturing into e-commerce.

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APPENDIX

SOURCE CODE USED FOR THE PROJECT

1. About.html

```
<html>
<HEAD>
<TITLE> About </TITLE>
</HEAD>
<body bgcolor="#000000">
<table border=0 width=100% cellpadding=0 cellspacing=0 height=426
bgcolor="#000000"><tr><td align=center valign=middle height="392">
<table border=0 width=634 cellpadding=0 cellspacing=0 bgcolor="#000000"
height="412">
<tr>
<td width="51" height="310"></td>
<td bgcolor="#000000" align=left width="579" bordercolor="#000000"
height="412" style="background-image: url('images/page/bgmotion.gif');
background-repeat: repeat-y; border-style: solid" valign="top" rowspan="2">
<blockquote>
<blockquote>
<blockquote>
<applet code="fphover.class" width="333" height="30">
<param name="textcolor" value="#FFFFFF">
<param name="effect" value="glow">
<param name="text" value="UNIVERSITI UTARA MALAYSIA">
<param name="color" value="#000000">
<param name="hovercolor" value="#FF9900">
</applet>
</blockquote>
</blockquote>
</blockquote>
<blockquote>
<blockquote>
```

```

<blockquote>
  <p align="center">
    <applet code="fphover.class" width="333" height="30">
      <param name="textcolor" value="#FFFFFF">
      <param name="text" value="THESIS PROJECT (TZ6996)
PROPOSAL For MSc. IT ">
      <param name="effect" value="glow">
      <param name="color" value="#000000">
      <param name="font" value="Helvetica">
      <param name="fontstyle" value="regular">
      <param name="fontsize" value="12">
      <param name="hovercolor" value="#999999">
    </applet>

    <applet code="fphover.class" width="333" height="30">
      <param name="textcolor" value="#FFFFFF">
      <param name="text" value="SEMESTER : INTERSESSION 2000 ">
      <param name="effect" value="glow">
      <param name="color" value="#000000">
      <param name="font" value="Helvetica">
      <param name="fontstyle" value="regular">
      <param name="fontsize" value="12">
      <param name="hovercolor" value="#999999">
    </applet>

    <applet code="fphover.class" width="333" height="30">
      <param name="textcolor" value="#FFFFFF">
      <param name="text" value="TITLE : ">
      <param name="effect" value="glow">
      <param name="color" value="#000000">
      <param name="font" value="Helvetica">
      <param name="fontstyle" value="regular">
      <param name="fontsize" value="12">
      <param name="hovercolor" value="#999999">
    </applet>

    <applet code="fphover.class" width="333" height="30">
      <param name="textcolor" value="#FFFFFF">
      <param name="text" value="DESIGN OF A WEB BASED
BOOKSTORE MODEL : ">
      <param name="effect" value="glow">
      <param name="color" value="#000000">

```

```

    <param name="font" value="Helvetica">
    <param name="fontstyle" value="regular">
    <param name="fontsize" value="12">
    <param name="hovercolor" value="#999999">
</applet>

<applet code="fphover.class" width="333" height="30">
    <param name="textcolor" value="#FFFFFF">
    <param name="text" value="&quot; ONE STOP MALAYSIAN BOOK
MALL &quot;">
    <param name="effect" value="glow">
    <param name="color" value="#000000">
    <param name="font" value="Helvetica">
    <param name="fontstyle" value="regular">
    <param name="fontsize" value="12">
    <param name="hovercolor" value="#999999">
</applet>

<applet code="fphover.class" width="333" height="30">
    <param name="textcolor" value="#FFFFFF">
    <param name="text" value="THESIS SUPERVISOR :PROF. MADYA
NAZIB NORDIN">
    <param name="effect" value="glow">
    <param name="color" value="#000000">
    <param name="font" value="Helvetica">
    <param name="fontstyle" value="regular">
    <param name="fontsize" value="12">
    <param name="hovercolor" value="#999999">
</applet>
<applet code="fphover.class" width="333" height="30">
    <param name="textcolor" value="#FFFFFF">
    <param name="text" value=" PREPARED BY : M.VEERA
VIGNESVARAN (81006)">
    <param name="effect" value="glow">
    <param name="color" value="#000000">
    <param name="font" value="Helvetica">
    <param name="fontstyle" value="regular">
    <param name="fontsize" value="12">
    <param name="hovercolor" value="#999999">
</applet>

```



```

<td width="51" height="174"></td>
<td bgcolor="#000000" align=left width="579" style="background-image:
url('images/page/bgmotion.gif'); background-repeat: repeat-y" valign="top"
height="347" rowspan="2">
<blockquote>
<blockquote>
<blockquote><p>&nbsp;</p>
<a
onmouseover="document['fpAnimswapImgFP3'].imgRolln=document['fpAnim
mswapImgFP3'].src;document['fpAnimswapImgFP3'].src=document['fpAnims
wapImgFP3'].lowsrc;"
onmouseout="document['fpAnimswapImgFP3'].src=document['fpAnimswapI
mgFP3'].imgRolln" href="publisher.html">
</a>
<applet code="fphover.class" width="300" height="24">
<param name="hovercolor" value="#0000FF">
<param name="textcolor" value="#FFFFFF">
<param name="text" value="Arts and Entretainment">
<param name="effect" value="glow">
<param name="color" value="#000000">
</applet>
<a
onmouseover="document['fpAnimswapImgFP2'].imgRolln=document['fpAni
mswapImgFP2'].src;document['fpAnimswapImgFP2'].src=document['fpAnims
wapImgFP2'].lowsrc;"
onmouseout="document['fpAnimswapImgFP2'].src=document['fpAnimswapI
mgFP2'].imgRolln" href="publisher.html">
</a>
<applet code="fphover.class" width="300" height="24">
<param name="hovercolor" value="#0000FF">
<param name="textcolor" value="#FFFFFF">
<param name="text" value="Automotive">

```

```

        <param name="effect" value="glow">
        <param name="color" value="#000000">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP4'].imgRolln=document['fpAnimswapImgFP4'].src;document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].lowsrc;"
onmouseout="document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].imgRolln" href="publisher.html"></a>
        <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Business">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP5'].imgRolln=document['fpAnimswapImgFP5'].src;document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].lowsrc;"
onmouseout="document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].imgRolln" href="publisher.html"></a>
        <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Computer and IT">
    </applet>

```

```

<a
onmouseover="document['fpAnimswapImgFP6'].imgRolln=document['fpAnimswapImgFP6'].src;document['fpAnimswapImgFP6'].src=document['fpAnimswapImgFP6'].lowsrc;"
onmouseout="document['fpAnimswapImgFP6'].src=document['fpAnimswapImgFP6'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Current Issue">
    </applet>
<a
onmouseover="document['fpAnimswapImgFP7'].imgRolln=document['fpAnimswapImgFP7'].src;document['fpAnimswapImgFP7'].src=document['fpAnimswapImgFP7'].lowsrc;"
onmouseout="document['fpAnimswapImgFP7'].src=document['fpAnimswapImgFP7'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Education">
    </applet>
<a
onmouseover="document['fpAnimswapImgFP8'].imgRolln=document['fpAnimswapImgFP8'].src;document['fpAnimswapImgFP8'].src=document['fpAnimswapImgFP8'].lowsrc;"

```

```

onmouseout="document['fpAnimswapImgFP8'].src=document['fpAnimswapI
mgFP8'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Health">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP9'].imgRolln=document['fpAni
mswapImgFP9'].src;document['fpAnimswapImgFP9'].src=document['fpAnims
wapImgFP9'].lowsrc;"
onmouseout="document['fpAnimswapImgFP9'].src=document['fpAnimswapI
mgFP9'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Home">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP10'].imgRolln=document['fpAn
imswapImgFP10'].src;document['fpAnimswapImgFP10'].src=document['fpAn
imswapImgFP10'].lowsrc;"
onmouseout="document['fpAnimswapImgFP10'].src=document['fpAnimswap
ImgFP10'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Pets and Animals">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP11'].imgRolln=document['fpAnimswapImgFP11'].src;document['fpAnimswapImgFP11'].src=document['fpAnimswapImgFP11'].lowsrc;"
onmouseout="document['fpAnimswapImgFP11'].src=document['fpAnimswapImgFP11'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Religion">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP12'].imgRolln=document['fpAnimswapImgFP12'].src;document['fpAnimswapImgFP12'].src=document['fpAnimswapImgFP12'].lowsrc;"
onmouseout="document['fpAnimswapImgFP12'].src=document['fpAnimswapImgFP12'].imgRolln" href="publisher.html"></a>
    <applet code="fphover.class" width="300" height="24">

```

```

        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Sports">
    </applet>
    <a
onmouseover="document['fpAnimswapImgFP13'].imgRolln=document['fpAn
imswapImgFP13'].src;document['fpAnimswapImgFP13'].src=document['fpAn
imswapImgFP13'].lowsrc;"
onmouseout="document['fpAnimswapImgFP13'].src=document['fpAnimswap
ImgFP13'].imgRolln" href="publisher.html"></a>
        <applet code="fphover.class" width="300" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="effect" value="glow">
        <param name="color" value="#000000">
        <param name="text" value="Travel">
        </applet>
    </blockquote>
</blockquote>
</blockquote>
</td>
</tr>
<tr>
<td width="51" height="173"></td>
</tr></table>
</td></tr><tr><td align=right>
<a href="index.html"></a>
</td></tr></table>
</body>
</html>

```

3. Guest.html

```
<html>
<HEAD>
<TITLE> Guestbook </TITLE>
</HEAD>
<body bgcolor="#000000" text="#FFFFFF">
<table border=0 width=100% cellpadding=0 cellspacing=0
height=100%><tr><td align=center valign=middle>
<table border=0 width=667 cellpadding=0 cellspacing=0 bgcolor="#000000"
bordercolor="#000000">
<tr>
<td width="51" align="left" style="background-image:
url('images/page/bgmotion.gif'); background-repeat: repeat-y"><font
color="#FFFFFF" face="Arial Black"></font></td>
<td bgcolor="#000000" align=left width="612" bordercolor="#000000"
valign="top" style="background-image: url('images/page/bgmotion.gif');
background-repeat: repeat-y" rowspan="2">
<form method="POST" action="--WEBBOT-SELF--"
name="FrontPage_Form1">
  <!--webbot bot="SaveResults" U-File="E:\web themes\glass\sign_in"
  S-Format="HTML/BR" S-Label-Fields="TRUE" B-Reverse-
Chronology="FALSE"
  S-Built-in-Fields S-Form-Fields -->
  <blockquote>
    <blockquote>
      <blockquote>
        <p><font color="#FFFFFF" face="Arial Black">
          <applet code="fphover.class" width="78" height="24">
            <param name="hovercolor" value="#0000FF">
            <param name="textcolor" value="#FFFFFF">
            <param name="text" value="Name">
            <param name="color" value="#000000">
            <param name="effect" value="glow">
          </applet>
          <select size="1" name="D1" tabindex="0">
            <option selected>Mr.</option>
            <option>Ms.</option>
            <option>Mrs.</option>
            <option>Mdm.</option>
          </select><!--webbot bot="Validation" S-Data-Type="String"
```



```

        B-Allow-Letters="TRUE" B-Value-Required="TRUE" I-Minimum-
Length="1"
        I-Maximum-Length="50" --><input type="text" name="T1" size="21"
maxlength="50"></font></p>
        <p><font color="#FFFFFF" face="Arial Black">
        <applet code="fphover.class" width="79" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="text" value="E-mail">
        <param name="color" value="#000000">
        <param name="effect" value="glow">
        </applet>
        <!--webbot bot="Validation" S-Data-Type="String" B-Allow-
Letters="TRUE"
        B-Allow-Digits="TRUE" B-Value-Required="TRUE" I-Minimum-
Length="5"
        I-Maximum-Length="50" --><input type="text" name="T3" size="29"
maxlength="50"></font></p>
        <p><font color="#FFFFFF" face="Arial Black">
        <applet code="fphover.class" width="80" height="24">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="text" value="Tel #">
        <param name="color" value="#000000">
        <param name="effect" value="glow">
        </applet>
        <!--webbot bot="Validation" S-Data-Type="Integer" S-Number-
Separators="x"
        B-Value-Required="TRUE" I-Minimum-Length="7" I-Maximum-
Length="16" --><input type="text" name="T4" size="29"
maxlength="16"></font></p>
        <p align="left"><font color="#FFFFFF" face="Arial Black">
        <applet code="fphover.class" width="81" height="37">
        <param name="hovercolor" value="#0000FF">
        <param name="textcolor" value="#FFFFFF">
        <param name="text" value="Address">
        <param name="color" value="#000000">
        <param name="effect" value="glow">
        </applet>
        <!--webbot bot="Validation" S-Data-Type="String" B-Allow-
Letters="TRUE"

```



```

</td></tr></table>
</body>
</html>

```

Index.html

```

<html>
<HEAD>
<TITLE>ONE STOP MALAYSIAN BOOK MALL</TITLE>
<script language="JavaScript" fptype="dynamicanimation">
<!--
function dynAnimation() {}
function clickSwapImg() {}
//-->
</script>
<script language="JavaScript1.2" fptype="dynamicanimation"
src="animate.js">
</script>
</HEAD>
<body bgcolor="#000000" onload="dynAnimation()">
<script language="JavaScript"><!--
browserName = navigator.appName;
browserVer = parseInt ( navigator.appVersion );
version = "n2";
if ( browserName == "Netscape" && browserVer >= 3 ) version = "n3";
if ( browserName == "Microsoft Internet Explorer" && browserVer >=4 )
version = "e4";
if ( version == "n3" || version == "e4" )
{
    about_on = new Image ( 134, 94 );
    about_on.src = "images/about_on.jpg";
    services_on = new Image ( 119, 44 );
    services_on.src = "images/services_on.jpg";
    publisher_on = new Image ( 119, 44 );
    publisher_on.src = "images/publisher_on.jpg";
    search_on = new Image ( 134, 94 );
    search_on.src = "images/search_on.jpg";
    browse_on = new Image ( 71, 69 );
    browse_on.src = "images/browse_on.jpg";
    guestbook_on = new Image ( 134, 94 );

```

```

        guestbook_on.src = "images/guestbook_on.jpg";
about_off = new Image ( 134, 94 );
        about_off.src = "images/about_off.jpg";
        services_off = new Image ( 119, 44 );
        services_off.src = "images/services_off.jpg";
        publisher_off = new Image ( 119, 44 );
        publisher_off.src = "images/publisher_off.jpg";
        search_off = new Image ( 134, 94 );
        search_off.src = "images/search_off.jpg";
        browse_off = new Image ( 71, 69 );
        browse_off.src = "images/browse_off.jpg";
        guestbook_off = new Image ( 134, 94 );
        guestbook_off.src = "images/guestbook_off.jpg";
    }
function button_on ( imgName )

{
    if ( version == "n3" || version == "e4" )
    {
        butOn = eval ( imgName + "_on.src" );
        document [imgName].src = butOn;
    }
}
function button_off ( imgName )
{
    if ( version == "n3" || version == "e4" )
    {
        butOff = eval ( imgName + "_off.src" );
        document [imgName].src = butOff;
    }
}
// -->
</script>
<center>
<TABLE BORDER=0 cellpadding=0 cellspacing=0 height=100%
width=100%>
<TR>
<td align=center valign=middle>
<table border=0 cellpadding=0 cellspacing=0>
<tr>
<td rowspan=6></td>

```

```

<td colspan=3><a
onmouseover="document['fpAnimswapImgFP2'].imgRolln=document['fpAnim
mswapImgFP2'].src;document['fpAnimswapImgFP2'].src=document['fpAnims
wapImgFP2'].lowsrc;"
onmouseout="document['fpAnimswapImgFP2'].src=document['fpAnimswapI
mgFP2'].imgRolln" href="index.html"></a></td>
<td rowspan=6></td></tr>
<tr>
<td><a href="about.html"onmouseout="button_off('about'); return true"
onmouseover="button_on('about'); return true">
</a></td>
<td><a href="publisher.html"onmouseout="button_off('publisher'); return
true" onmouseover="button_on('publisher'); return true">
</td>
<td><a
onmouseover="document['fpAnimswapImgFP1'].imgRolln=document['fpAni
mswapImgFP1'].src;document['fpAnimswapImgFP1'].src=document['fpAnims
wapImgFP1'].lowsrc;"
onmouseout="document['fpAnimswapImgFP1'].src=document['fpAnimswapl
mgFP1'].imgRolln" href="mailto:veeravv@hotmail.com"></a></td></tr>
<tr>
<td><a href="browse.html" onmouseout="button_off('browse'); return true"
onmouseover="button_on('browse'); return true">
</a></td>
<td></td>
<td><a href="search.html"onmouseout="button_off('search'); return true"
onmouseover="button_on('search'); return true">
</td></tr>
<tr>
<td colspan=3></td>
</tr>
<tr>

```

```

<td><a href="guest.html" onmouseout="button_off('guestbook'); return true"
onmouseover="button_on('guestbook'); return true">
</a></td>
<td></td>
<td><a href="passwd.htm" onmouseout="button_off('services'); return true"
onmouseover="button_on('services'); return true">
</a></td></tr>
<tr>
<td colspan=3>
<p dynamicanimation="fpAnimelasticRightFP1"
id="fpAnimelasticRightFP1" style="position: relative !important; visibility:
hidden" language="Javascript1.2"></p>
</td>
</tr>
</table>
</td>
</tr>
<tr><td align=center valign=middle>
<font face="Arial" size="1">
<applet code="fphover.class" width="70" height="24">
<param name="textcolor" value="#FFFFFF">
<param name="text" value="About">
<param name="color" value="#000000">
<param name="hovercolor" value="#999999">
<param name="effect" value="glow">
<param name="url" valuetype="ref" value="about.html">
</applet>
<applet code="fphover.class" width="126" height="24">
<param name="textcolor" value="#FFFFFF">
<param name="color" value="#000000">
<param name="hovercolor" value="#999999">
<param name="effect" value="glow">
<param name="text" value="Browse Subjects">
<param name="url" valuetype="ref" value="browse.html">
</applet>
<applet code="fphover.class" width="90" height="24">
<param name="textcolor" value="#FFFFFF">

```

```

<param name="color" value="#000000">
<param name="hovercolor" value="#999999">
<param name="effect" value="glow">
<param name="text" value="Guest Book">
<param name="url" valuetype="ref" value="guest.html">
</applet>
<applet code="fphover.class" width="90" height="24">
  <param name="textcolor" value="#FFFFFF">
  <param name="color" value="#000000">
  <param name="hovercolor" value="#999999">
  <param name="effect" value="glow">
  <param name="url" valuetype="ref" value="publisher.html">
  <param name="text" value="Publishers">
</applet>
<applet code="fphover.class" width="70" height="24">
  <param name="textcolor" value="#FFFFFF">
  <param name="color" value="#000000">
  <param name="hovercolor" value="#999999">
  <param name="effect" value="glow">
  <param name="text" value="Search">
  <param name="url" valuetype="ref" value="search.html">
</applet>
<applet code="fphover.class" width="70" height="24">
  <param name="textcolor" value="#FFFFFF">
  <param name="color" value="#000000">
  <param name="hovercolor" value="#999999">
  <param name="effect" value="glow">
  <param name="text" value="Services">
  <param name="url" valuetype="ref" value="passwd.htm">
</applet>
<applet code="fphover.class" width="60" height="24">
  <param name="textcolor" value="#FFFFFF">
  <param name="text" value="E-Mail">
  <param name="color" value="#000000">
  <param name="hovercolor" value="#999999">
  <param name="effect" value="glow">
  <param name="url" valuetype="ref" value="mailto:veeravv@hotmail.com">
</applet>
</font>
</td></tr>

```

```

</table>
</center>
<p>&nbsp;</p>
</body>
</html>

```

Olpapers_local.htm

```

<HTML>
<HEAD>
  <TITLE></TITLE>
  <META name="description" content="">
  <META name="keywords" content="">
  <META name="author" content="Freewebtemplates.com">
  <META name="revisit-after" content="7days">
  <META name="robots" content="index, follow">
  <style type="text/css">
<!--
    A:link {text-decoration: none;}
    A:visited {text-decoration: none;}
    A:hover {text-decoration: underline;}
-->
</style>
  <script language="JavaScript" fptype="dynamicanimation">
<!--
function dynAnimation() {}
function clickSwapImg() {}
//-->
</script>
  <script language="JavaScript1.2" fptype="dynamicanimation"
src="animate.js">
</script>
</HEAD>

<BODY BGCOLOR="000000" TEXT="White" LINK="Silver"
VLINK="Silver" Marginwidth=0 marginheight=0 leftmargin=0 topmargin=0
BACKGROUND="e-books/bg.gif" onload="dynAnimation()"
language="Javascript1.2">

<TABLE BORDER=0 CELLPADDING=0 CELLSPACING=0 height="1">
<TR>

```



```

<TD valign=top rowspan="2" height="1">
<IMG SRC="e-books/1.gif" border=0 width="162" height="61"><BR>
<a
onmouseover="document['fpAnimswapImgFP1'].imgRolln=document['fpAnimswapImgFP1'].src;document['fpAnimswapImgFP1'].src=document['fpAnimswapImgFP1'].lowsrc;"
onmouseout="document['fpAnimswapImgFP1'].src=document['fpAnimswapImgFP1'].imgRolln" href="javascript:void(0)">
<IMG SRC="e-books/2.gif" border=0 width="162" height="41"
id="fpAnimswapImgFP1" name="fpAnimswapImgFP1"
dynamicanimation="fpAnimswapImgFP1"
lowsrc="emails/2_on.gif"></a><BR>
<a
onmouseover="document['fpAnimswapImgFP2'].imgRolln=document['fpAnimswapImgFP2'].src;document['fpAnimswapImgFP2'].src=document['fpAnimswapImgFP2'].lowsrc;"
onmouseout="document['fpAnimswapImgFP2'].src=document['fpAnimswapImgFP2'].imgRolln" href="javascript:void(0)">
<IMG SRC="e-books/3.gif" border=0 width="162" height="40"
id="fpAnimswapImgFP2" name="fpAnimswapImgFP2"
dynamicanimation="fpAnimswapImgFP2"
lowsrc="emails/3_on.gif"></a><BR>
<a
onmouseover="document['fpAnimswapImgFP3'].imgRolln=document['fpAnimswapImgFP3'].src;document['fpAnimswapImgFP3'].src=document['fpAnimswapImgFP3'].lowsrc;"
onmouseout="document['fpAnimswapImgFP3'].src=document['fpAnimswapImgFP3'].imgRolln" href="javascript:void(0)">
<IMG SRC="e-books/3.gif" border=0 width="162" height="40"
id="fpAnimswapImgFP3" name="fpAnimswapImgFP3"
dynamicanimation="fpAnimswapImgFP3"
lowsrc="emails/3_on.gif"></a><BR>
<a
onmouseover="document['fpAnimswapImgFP4'].imgRolln=document['fpAnimswapImgFP4'].src;document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].lowsrc;"
onmouseout="document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].imgRolln" href="javascript:void(0)">
<IMG SRC="e-books/4.gif" border=0 width="162" height="39"
id="fpAnimswapImgFP4" name="fpAnimswapImgFP4"

```

```

dynamicanimation="fpAnimswapImgFP4"
lowsrc="emails/3_on.gif"></a><BR>
<a
onmouseover="document['fpAnimswapImgFP5'].imgRolln=document['fpAnimswapImgFP5'].src;document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].lowsrc;"
onmouseout="document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].imgRolln" href="javascript:void(0)">
<IMG SRC="e-books/4.gif" border=0 width="162" height="39"
id="fpAnimswapImgFP5" name="fpAnimswapImgFP5"
dynamicanimation="fpAnimswapImgFP5"
lowsrc="emails/4_on.gif"></a><BR>
<a href="../services.html">
<IMG SRC="e-books/5.gif" border=0 width="162" height="77"></a><BR>

</TD>

<TD valign=top height="1">
<IMG SRC="e-books/topright.gif" border=0 width="618" height="58">
</TD>
</TR>
<TR>

<TD valign=top height="72">
<iframe name="cwindow" style="border:1 solid black" width=490 height=300
src="doc.htm"></iframe>

</TD>
</TR>
</TABLE>
</BODY>
</HTML>

```

4. Olpapers_local.htm

```
<HTML>
<TITLE></TITLE>
<META name="description" content="">
<META name="keywords" content="">
<META name="author" content="Freewebtemplates.com">
<META name="revisit-after" content="7days">
<META name="robots" content="index, follow">
<style type="text/css">
<!--

A:link {text-decoration: none;}

A:visited {text-decoration: none;}

A:hover {text-decoration: underline;}

-->

</style>

<script language="JavaScript" fptype="dynamicanimation">

<!--

function dynAnimation() {}

function clickSwapImg() {}

//-->

</script>

<script language="JavaScript1.2" fptype="dynamicanimation"
src="animate.js">

</script>

</HEAD>

<BODY BGCOLOR="000000" TEXT="White" LINK="Silver"
VLINK="Silver" Marginwidth=0 marginheight=0 leftmargin=0 topmargin=0
```

```
BACKGROUND="e-books/bg.gif" onload="dynAnimation()"
language="Javascript1.2">
```

```
<TABLE BORDER=0 CELLPADDING=0 CELLSPACING=0 height="1">
```

```
<TR>
```

```
<TD valign=top rowspan="2" height="1">
```

```
<IMG SRC="e-books/1.gif" border=0 width="162" height="61"><BR>
```

```
<a
onmouseover="document['fpAnimswapImgFP1'].imgRolln=document['fpAni
mswapImgFP1'].src;document['fpAnimswapImgFP1'].src=document['fpAnims
wapImgFP1'].lowsrc;"
onmouseout="document['fpAnimswapImgFP1'].src=document['fpAnimswapI
mgFP1'].imgRolln" href="javascript:void(0)">
```

```
<IMG SRC="e-books/2.gif" border=0 width="162" height="41"
id="fpAnimswapImgFP1" name="fpAnimswapImgFP1"
dynamicanimation="fpAnimswapImgFP1"
lowsrc="emails/2_on.gif"></a><BR>
```

```
<a
onmouseover="document['fpAnimswapImgFP2'].imgRolln=document['fpAni
mswapImgFP2'].src;document['fpAnimswapImgFP2'].src=document['fpAnims
wapImgFP2'].lowsrc;"
onmouseout="document['fpAnimswapImgFP2'].src=document['fpAnimswapI
mgFP2'].imgRolln" href="javascript:void(0)">
```

```
<IMG SRC="e-books/3.gif" border=0 width="162" height="40"
id="fpAnimswapImgFP2" name="fpAnimswapImgFP2"
dynamicanimation="fpAnimswapImgFP2"
lowsrc="emails/3_on.gif"></a><BR>
```

```
<a
onmouseover="document['fpAnimswapImgFP3'].imgRolln=document['fpAni
mswapImgFP3'].src;document['fpAnimswapImgFP3'].src=document['fpAnims
wapImgFP3'].lowsrc;"
onmouseout="document['fpAnimswapImgFP3'].src=document['fpAnimswapI
mgFP3'].imgRolln" href="javascript:void(0)">
```

<IMG SRC="e-books/3.gif" border=0 width="162" height="40"
id="fpAnimswapImgFP3" name="fpAnimswapImgFP3"
dynamicanimation="fpAnimswapImgFP3"
lowsrc="emails/3_on.gif">

<a
onmouseover="document['fpAnimswapImgFP4'].imgRolln=document['fpAnimswapImgFP4'].src;document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].lowsrc;"
onmouseout="document['fpAnimswapImgFP4'].src=document['fpAnimswapImgFP4'].imgRolln" href="javascript:void(0)">

<IMG SRC="e-books/4.gif" border=0 width="162" height="39"
id="fpAnimswapImgFP4" name="fpAnimswapImgFP4"
dynamicanimation="fpAnimswapImgFP4"
lowsrc="emails/3_on.gif">

<a
onmouseover="document['fpAnimswapImgFP5'].imgRolln=document['fpAnimswapImgFP5'].src;document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].lowsrc;"
onmouseout="document['fpAnimswapImgFP5'].src=document['fpAnimswapImgFP5'].imgRolln" href="javascript:void(0)">

<IMG SRC="e-books/4.gif" border=0 width="162" height="39"
id="fpAnimswapImgFP5" name="fpAnimswapImgFP5"
dynamicanimation="fpAnimswapImgFP5"
lowsrc="emails/4_on.gif">

</TD>

<TD valign=top height="1">

</TD>

</TR>

<TR>

<TD valign=top height="72">

<iframe name="cwindow" style="border:1 solid black" width=490 height=300
src="doc.htm"></iframe>

</TD>

</TR>

</TABLE>

</BODY>

</HTML>

5. Passwd.htm

<html>

<head>

<meta http-equiv="Content-Type" content="text/html; charset=windows-
1252">

<meta name="GENERATOR" content="Microsoft FrontPage 4.0">

<meta name="ProgId" content="FrontPage.Editor.Document">

<title>New Page 1</title>

<meta name="Microsoft Theme" content="zero 011">

</head>

<body background="zertxtr.gif" bgcolor="#000000" text="#FFFFFF"
link="#6699CC" vlink="#669966" alink="#999999">

<!--mstheme-->

```

<SCRIPT LANGUAGE="JavaScript">

<!-- Begin

var password = "

password=prompt('Please enter your password:','');

if (password != null) {

location.href= password + ".html";

}

// End -->

</SCRIPT>

<blockquote>

  <p align="center">&nbsp;</p>

  <p align="center">&nbsp;</p>

  <p align="center">&nbsp;</p>

  <p align="center"><font color="#FFFFFF" size="5"><b>Login
Failure</b></font></p>

  <p align="center">&nbsp;</p>

  <p align="center"><font color="#808080" size="6">Access
Denied</font></p>

  <p align="center">&nbsp;</p>

  <p align="center">&nbsp;</p>

</blockquote>

<p align="center">

```

```

<applet code="fphover.class" width="120" height="24">

  <param name="textcolor" value="#FFFFFF">

  <param name="color" value="#000000">

  <param name="hovercolor" value="#808080">

  <param name="effect" value="glow">

  <param name="url" valuetype="ref" value="index.html">

  <param name="text" value="Click Here">

</applet>

</p>

<!--mstheme--></font>

</body>

```

```

</html>

```

6. Publisher.html

```

<html>
<HEAD>
<TITLE> News </TITLE>
<script language="JavaScript">
<!-- hide from JavaScript-challenged browsers
onerror=null;
function openWin(url) {
  var winFeatures = 'popupwindow,scrollbars=auto,';
  var page = " + url;

```



```

win = open(page,'PreView',winFeatures);

}

// done hiding -->

</script>

<script language="JavaScript" fptype="dynamicanimation">

<!--

function dynAnimation() {}

function clickSwapImg() {}

//-->

</script>

<script language="JavaScript1.2" fptype="dynamicanimation"
src="animate.js">

</script>

</HEAD>

<body bgcolor="000000" onload="dynAnimation()">

<table border=0 width=100% cellpadding=0 cellspacing=0
height=100%><tr><td align=center valign=middle>

```


[illegible]

[illegible]


```

    <param name="font" value="Helvetica">

    <param name="hovercolor" value="#800080">

    <param name="textcolor" value="#FFFFFF">

</applet>

</font></font>

</td>

</tr></table>

</td></tr><tr><td align=right>

<a href="index.html"></a>

</td></tr></table>

</body>

</html>

```

7. Search.html

```

<html>
<HEAD>
<TITLE> Links </TITLE>
</HEAD>
<body bgcolor="000000">

```



```

<option>Penerbit Pelanduk</option>

<option>Other</option>

</select></p>

<p align="center">

<applet code="fphover.class" width="340" height="24">

  <param name="textcolor" value="#FFFFFF">

  <param name="color" value="#000000">

  <param name="effect" value="glow">

  <param name="text" value="Title">

  <param name="hovercolor" value="#808080">

</applet>

</p>

<p align="center"><input type="text" name="T1" size="28"></p>

<p align="center">

<applet code="fphover.class" width="340" height="24">

  <param name="textcolor" value="#FFFFFF">

  <param name="color" value="#000000">

  <param name="effect" value="glow">

  <param name="text" value="Author">

  <param name="hovercolor" value="#808080">

</applet>

```

```

</p>

<p align="center"><input type="text" name="T2" size="28"></p>

<p align="center"><input type="submit" value="Search"
name="B1"><input type="reset" value="Reset " name="B2"></p>

<p align="center">&nbsp;</p>

</form>

</blockquote>

</blockquote>

</blockquote>

</td>

,</tr>

<tr>

<td width="51" height="170"></td>

</tr></table>

</td></tr><tr><td align=right>

<a href="index.html"></a>

</td></tr></table>

</body>

</html>

```