



## e-Logistic Application

by

Ms. Saowanit Pinyodulyajet

A Final Report of the Six-Credit Course  
IC 6998 E-Commerce Practicum

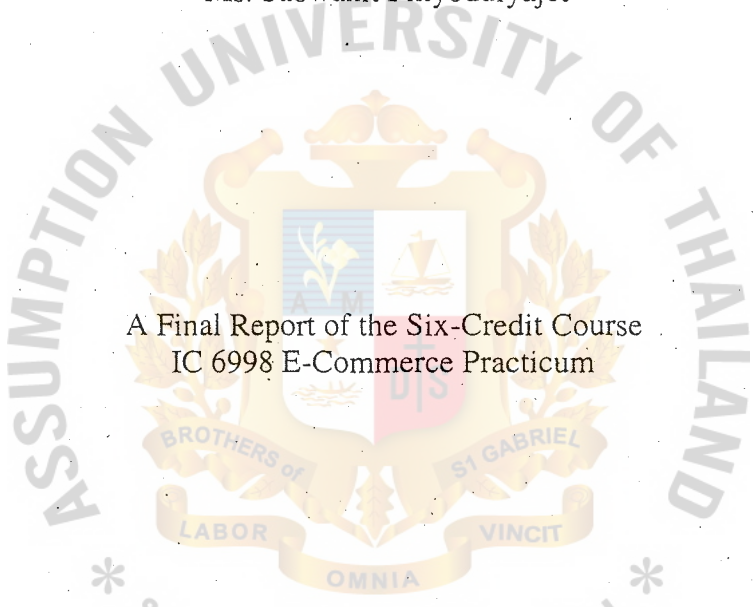
Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science  
in Internet and E-Commerce Technology  
Assumption University

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A large, faint watermark of the Assumption University of Thailand logo is centered on the page. The logo is circular with the text 'ASSUMPTION UNIVERSITY OF THAILAND' around the top and 'SINCE 1969' at the bottom. Inside the circle is a shield with a cross, a lily, and a ship. Below the shield is a banner with the text 'LABOR OMNIA VINCIT'.

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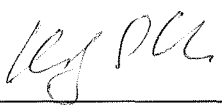
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The Graduate School of Assumption University has approved this final report of the six-credit course, IC 6998 E-Commerce Practicum, submitted in partial fulfillment of the requirements for the degree of Master of Science in Internet and E-Commerce Technology.

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## ABSTRACT

Logistics is the point of human interface, influences company brand image, makes the value of product to be acknowledge and establishes the safe, reliable and economical totally optimum chain. If any companies want to retain customers, they have to satisfy their needs by delivering them with the right products, the right quantity, in the right time and the right place. One way to support their needs is provide them logistic information.

This project is the development of the web application system providing logistic information share between vendors, customers and carriers, which is to be known as “Electronic Logistic System” or “e-Logistic”. This prototype application is developed by using ASP (Active Server Page) for server side programming and Java script as client side programming. Java script will be used for assist the web users such as calendar browsing, passing parameter to ASP file and data validation checking. ASP will be used for develop server side programming which function and contain a combination of HTML and script language are executed server side to build a resulting web page and access to the database to work with data. All interface of the web application are designed to look professional and easy to use.

The e-Logistic web application is focusing on import/export companies, as a main target market, because they have to utilize more transportation and logistic information is critical for them to be success. It provides professional and competitive service in the market and also can be count as innovative logistic information portal web site that support one stop online logistics service.

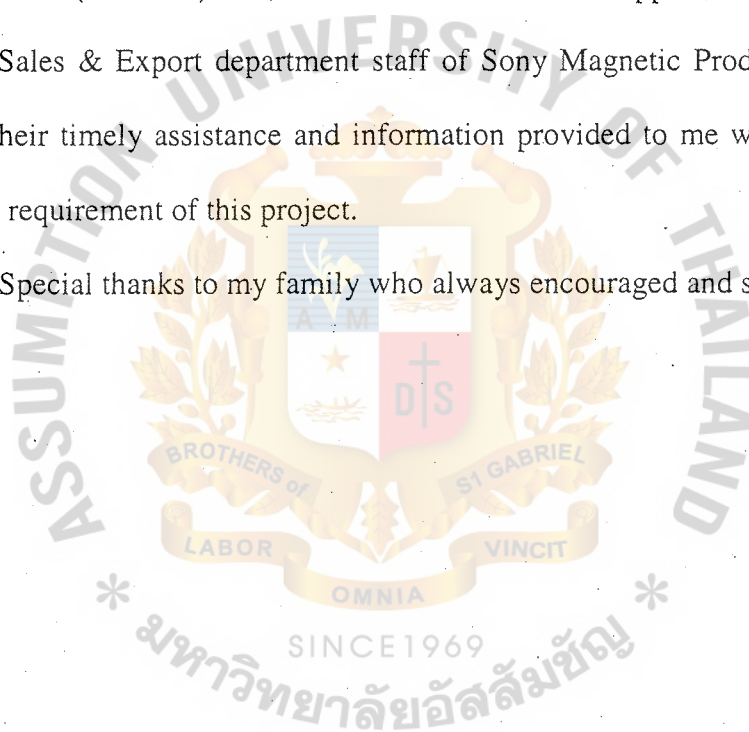
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## TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
LIST OF FIGURES	v
LIST OF TABLES	vii
I. INTRODUCTION	1
1.1 Background of the Project	1
1.2 Objectives of the Project	1
1.3 Scope of the Project	1
1.4 Deliverables	2
II. LITERATURE REVIEW	4
2.1 Global Logistic	4
2.2 Extranet	12
III. THE EXISTING LOGISTIC SYSTEM	21
IV. THE PROPOSED BUSINESS PROCESS	23
4.1 General Concept	23
4.2 Business Objectives	23
4.3 Services	23
4.4 SWOT Analysis	24
4.5 Cost and Benefit Analysis	25
4.6 Target Market	27
4.7 Marketing Plan	27

<u>Chapter</u>	<u>Page</u>
4.8 System Specification	28
4.9 Security Design	29
4.10 Database Design	30
4.11 Financial Analysis	31
V. WEB DEVELOPMENT AND DESIGN	33
5.1 Define The Audience	33
5.2 Create Scenarios	34
5.3 Web Design	35
5.4 Identify Content & Function Requirements	40
5.5 Site Structure	41
5.6 Layout Grids and Page Mockups	42
VI. WEB APPLICATION PROTOTYPE OF e-Logistic	44
VII. CONCLUSIONS AND RECOMMENDATIONS	53
APPENDIX A. WEB INTERFACE DESIGN	54
APPENDIX B. DATABASE TABLE	63
APPENDIX C. SITE MAP	71
APPENDIX D. BREAK EVEN POINT TABLE	73
BIBLIOGRAPHY	75

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
2.1 Concept of Extranet	12
3.1 Business Logistic Functions	21
3.2 Booking Procedure	22
4.1 e-Logistic Database Relation	30
5.1 Example of CSS in e-Logistic Web Page	36
5.2 Example of Java Script sing in e-Logistic Web Page	37
5.3 Example of ASP Scripting in e-Logistic Web Page	38
5.4 Web Site Structure	41
5.5 Logon Page Layout	42
5.6 Template Page Layout	43
6.1 Login Page & What's e-Logistic	44
6.2 About Page	45
6.3 Welcome Page	45
6.4 Popup Calendar	46
6.5 Transportation Schedule Inquiry Page	46
6.6 Transportation Schedule Inquiry Result Page	47
6.7 Online Booking Page	47
6.8 Booking Inquiry Page	48
6.9 Booking Inquiry Result Page	48
6.10 Online Confirm Booking Page	49
6.11 Cargo Tracking Inquiry Page	50
6.12 Port Master Inquiry	50



<u>Figure</u>	<u>Page</u>
6.13 Cargo Tracking Inquiry Result Page	50
6.14 B/L & S/I Search Page	51
6.15 B/L & S/I Search Result Page	51
6.16 B/L & S/I Result Detail Page	52
A.1 Login Page & What's e-Logistic	55
A.2 Welcome Page	55
A.3 About Page	56
A.4 Transportation Schedule Inquiry Page	57
A.5 Transportation Schedule Result Page	57
A.6 Online Booking Page	58
A.7 Booking Inquiry Page	58
A.8 Booking Inquiry Result Page	59
A.9 Online Confirm Booking Page	59
A.10 Cargo Tracking Inquiry Page	60
A.11 Cargo Tracking Inquiry Result Page	60
A.12 B/L & S/I Search Page	61
A.13 B/L & S/I Search Result Page	61
A.14 B/L & S/I Search Result Detail Page	62
B.1 User Master Table	64
B.2 Vendor Table	64
B.3 Container_trans Table	65
B.4 Container_master Table	65
B.5 BLSI_trrans Table	66
B.6 Booking_trans Table	66

<u>Figure</u>	<u>Page</u>
B.7 Transport_sch Table	67
B.8 Country_master Table	67
B.9 Port_master Table	68
B.10 Carriers Table	68
B.11 Control_tab Table	69
B.12 Delivery_ord Table	70
C.1 Site Map of e-Logistic Web site	72



## LIST OF TABLES

<u>Table</u>	<u>Page</u>
2.1 Global Shipping Trends	5
2.2 Top Container Ocean Carriers	5
2.3 Port Evaluation Factors	11
4.1 Software Specification	29
4.2 Estimated Startup Investment	31
4.3 Monthly Expense	32
D.1 Break-even Point Calculation	74



## **I. INTRODUCTION**

### **1.1 Background**

The Internet hit the business world and we quickly recognized the value of disseminating information through this inter-network. This has led to the rise of the corporate web site. The technological advances have dramatically altered the ways companies manage their supply chains. These changes have considerable implications for outsourced logistics providers. The goal of each enterprise is to distribute its goods to its customers as fast and safe as possible so it can always be tracking. Although many carriers also go online and have their own web site but e-Logistic attempted differentiated itself by providing “value added service” such as online booking for all carriers. The members just only logon to e-Logistic web site then they can do and view logistic transaction for nearly every carriers. It is impossible for any member to utilize only one carrier all the time due to the preferred transportation schedules and container availability.

### **1.2 Objectives of the Project**

- (1) To develop a prototype application of collaborated web site to share logistic information among three parties vendor, customer and carrier.
- (2) To provide the optimum logistic solution through Total Supply Chain Management such as transportation system.
- (3) To provide professional and competitive service in the market.
- (4) To setup Extranet web site by using the internet security technology.

### **1.3 Scope of the Project**

To create a prototype web application of collaborated logistic information system between vendor, customer and carrier. The application provides functions as follows.



- (1) Transportation Schedule Inquiry will let the members inquiry to view transportation schedule of many carriers by select information such as Estimated Delivery Date, Estimated Arrival Date, Port of Loader, Port of Delivery and so on.
- (2) Online Booking will function for the members to booking Transportation schedule and container they have selected.
- (3) Confirm Booking, After the members do online booking, they have to confirm the booking unless after some days such as one week before the transportation schedule that booking will be deleted.
- (4) Cargo Tracking will provide logistic information for the members to tracking by Delivery No. or Bill of Lading or they can select by group of Delivery Port, Estimated Delivery Date, Delivery Order Date and etc.
- (5) B/L&S/I Inquiry will let the members to view Bill of Lading and Shipping Instruction online.

#### **1.4 Deliverables**

This project delivers business and technical aspects as follows:

- (1) A CD of prototype of web site and source code of application (HTML & ASP).
- (2) A final report in detail covering the scope as below.

#### **Project Introduction**

- (1) Background of the Project
- (2) Objectives of the Project
- (3) Scope of the Project

#### **Review of Logistic Business**

The existing logistic process

### The proposed business process

- (1) General concept
- (2) Business Objectives
- (3) Services
- (4) SWOT Analysis
- (5) Cost and benefit Analysis
- (6) Target market
- (7) Marketing plan
- (8) System specification
- (9) Security design
- (10) Database design
- (11) Financial analysis

### Web development and Design

- (1) Define the Audience
- (2) Create scenarios
- (3) Web Design
- (4) Identify Content & Function Requirements
- (5) Site Structure
- (6) Layout Grids and Page Mockups

### Web Application prototype

## II. LITERATURE REVIEW

### 2.1 Global Logistics

Global logistics is an integral part of transportation. Foreign trade is growing in tonnage and value for most nations of the world. Further, it is a purchase or sale activity engaged in by more and more firms, even medium and small firms and carriers. Although the primary economics and techniques of carrier management efficiencies are similar in international setting to those in domestic setting, the processes, the supply of transportation, and the public policy require separate treatment.

#### 2.1.1 Ocean

Transport by ship is by far the most pervasive and important global shipment method, accounting for two thirds of all international movements. Table 2.1 provides an interesting perspective on the growth of oceangoing freight movements. In terms of millions of twenty-foot equivalent containers units (TEU), the total volume increased from 8.5 to 36.2 million TEUs between 1974 and 1989, an increase of over 400 percent. In addition, Table 2.1 shows that 90 percent of today's liner trade is containerized and that the largest ships can accommodate nearly 5,000 TEUs, almost a double of capacity since 1974. Currently, 16 percent of U.S. rail intermodal shipments have either an offshore source or an offshore destination, or both. Table 2.2 contains a ranking of ship lines based on the number of TEUs moved to and from the U.S. in 1993.

Table 2.1. Global Shipping Trends.

	1974	1989
International container loads (TEUs in millions)	8.5	36.2
Containerized world liner trade (%)	40-50	90
Largest container ships (TEUs)	2,600	4,600
Container size (feet)	20/35/40	20/40/45/48/53
U.S. intermodal rail carloads (%)	6	16

Table 2.2. Top Container Ocean Carriers.

Rank	Carrier	Rank	Carrier
1	Sea-Land Service	6	NYK Line
2	Evergreen Line	7	Hyundai Merchant Marine
3	Maerk Line	8	K Line
4	American President Line	9	Orient Overseas Container
5	Hanjin Shipping Co.	10	Mitsui OSK Line

### Structure of Ocean Shipping

Ocean shipping comprises three major categories. One is *liner service*, which offers scheduled service on regular routes. Another is *charter vessels*, which firms usually hire on a contract basis and which travel no set routes. And finally are *private carriers*, which are part of a firm's own logistics system.

*Liner carriers* offer common carrier service, sailing on set schedules over specific sea routes. They also offer set tariffs and accept certain standards of liability.



Liners usually carry break-bulk shipments of less-than-shipload size. Most containers and RO-RO (roll-on, roll-off) ships are liners. A roll-on/roll-off ship often referred to as a RORO ship. These ships carry trucks, trailers, and construction equipment much like a multilevel ferryboat. When in service with trailers, a RORO ship is like a container ship that it has the wheel chassis attached to the trailer body en route. RORO ships especially useful in carry heavy construction equipment because they are able to maintain an even keel while the equipment being loaded or unloaded. This stability allows loading and unloading without the use of dockside cranes that may not even be available.

Liners are the property of large steamship companies, many of which belong to shipping conference are voluntary associations of ocean carriers that operate over a common trade route and use a common tariff for setting rates on the commodities they handle. Conference also work together to attract customers and to utilize member ships as effectively as possible.

In general, conferences provide excellent service with frequent and reliable schedules, published daily in the Journal of commerce. Additionally, conferences help to standardize shipping on many routes by stabilizing prices and offering uniform contract rates.

Firms contract *charter ships* for specific voyages or for specified time periods. *Voyage charters* are contracts coving one voyage. The carrier agrees to carry a certain cargo from an origin port to a destination. The price the carrier quotes includes all of the expenses of the sea voyage. *Time charters* allow the use of a ship for an agreed-upon time period. The carrier usually supplies a crew as part of the contract. The charterer has exclusive use of the vessel to carry any cargo that the contract does not prohibit and assumes all expenses for the ship's operation during the charter period. *Bareboat* or *demise charter* transfers full control of the vessel to the charterer. The charterer is then

responsible for the ship and all expenses necessary for the vessel's operation, including hiring the crew.

Chartering usually take place through *ship brokers*, who track the location and status of ships that are open for hire. When a shipper needs to contract for a ship. He or she contract a broker, who then negotiates the price with a ship owner. The ship owner pays the broker a commission on the charter's cost.

In a logistic system, *private ocean carriers* play the same role as private carriage in general. In other words, companies utilize private ocean vessels to lower their overall costs and/or to improved their control over transportation service. The major differences Between domestic and international private ocean transportation are the scale of investment, the complexity of regulations, and the greater risk international transport entails. In international operations, chartering often provides a very viable substitute for the private carriage.

#### 2.1.2 Strategic Channel Intermediaries

Intermediaries play a much larger role in global logistics operation than in the domestic. To someone first exposed to global logistics, the scope of services that intermediaries offer is almost overwhelming. However, as the following sections will explain, intermediaries play a truly strategic role in helping new and established companies venture into global arena. Companies are all too grateful for assistance in unraveling operation involving sources and destinations in other countries.

#### **Foreign Freight Forwarders**

For a company with little international shipping expertise, the *foreign freight forwarder* is the answer. The foreign freight forwarder, which employs individuals who are knowledgeable in all aspects of international shipping, supplies its experts to small international shippers who find employing such individuals in their shipping department

uneconomical. Foreign freight forwarders like their domestic counterparts, consolidate small shipments into more economical sizes. In international arena, these larger sizes range from containers up to entire ships. Foreign freight forwarders also perform the routine actions that shipments require. The functions they perform include the following:

- (1) Quoting water and foreign carrier rates
- (2) Chartering vessels or booking vessel space
- (3) Obtaining, preparing and presenting all documents
- (4) Obtaining cargo insurance
- (5) Paying freight charges
- (6) Collecting and submitting money for shipments
- (7) Tracing and expediting shipments
- (8) Providing language translation
- (9) Arranging inland transport services

The forwarder derives income from different sources. One source is the fees charged for preparing export documentation. Another source is the commissions the forwarder receives from carriers. These commissions are based on the amount of revenue the forwarder generates for the carriers. The third type of income comes from the price difference between the rate the forwarder charges a shipper and the lower rate per pound it pays for the consolidated shipments.

### **Customs House Brokers**

Customs house brokers oversee the movement of goods through customs and ensure that the documentation accompanying a shipment is complete and accurate for entry into the country. Customs house brokers operate under power attorney from the shipper to pay all import duties due on the shipment. The importer is ultimately liable

for any unpaid duties. The brokers keep abreast of the import regulations and of the specific requirements of individual products.

### **Ship Brokers**

A ship broker acts as an intermediary for shippers desiring to charter a ship. The ship broker is a sales and marketing representative for ship owners and a purchasing representative for the shipper. The ship broker knows when ships will be or could be in port and coordinates this with the needs of the shipper.

### **Ship Agents**

The ship agent is the local representative of the ship operator when the ship is in dock. The ship agent arranges for the ship's arrival, berthing, clearance, loading and unloading and for the payment of all fees while the ship is in port. Shippers can contact the ship agent for information regarding the arrival of the ship, the dock location and arrangements for picking up or delivering the shipment.

### **Export Packers**

Export packers supply export packaging services for shipments when the exporter lacks either the expertise or facilities. Having a specialist package the export has two distinct advantages. First, it helps the goods move through customs more easily. Many countries assess duties on the weight of the entire package, not just the contents. Export packagers, who know various countries' requirements, know what materials and the methods to use in constructing the most economical crate or containers. A second reason to use an export packager is to ensure adequate protection for the goods. International shipments must withstand the rigors of handling as well as climatic variations. Potential savings in time and reduced damage outweigh the cost of using an export packager.



## Ports

One of the most important decisions in the global logistics arena is port selection. The port a firm selects for a global shipment must be appropriate to the cargo, since selecting the wrong port can add extra time and expense to the shipment's overall cost. The logistic manager must consider many factors simultaneously when selecting the best port for a particular shipment. The term "port authority" refers to any governmental unit or authority at any level that owns, operates or otherwise provides wharf, dock and other terminal facilities at port locations. These institutions which provide access to the capital needs to develop and fund such operations, market the port to the shipping public and to other global logistic intermediaries. Table 2.3 shows the factors that influence shippers' selection and evaluation of individual ports and port facilities. Over 90 percent of the shippers surveyed rated equipment availability as either important or very important. Factors such as cargo loss and damage frequency and pickup and delivery times also receives high rankings. Another important aspect of port selection is the type of domestic transportation available between inland points and the port facility. As with domestic shipments, the type of transportation a firm will use depends on factors such as the shipment's weight or quantity, the cargo's value and the product's special handling requirements, if any. With a global/international shipment, a firm must decide whether or not to containerize the product for shipment.

Table 2.3. Port Evaluation Factors.

Factor	Important
Has equipment available	1
Provides low frequency of cargo loss/damage	2
Offers convenient pickup and delivery t times	3
Allows large shipments	4
Offers flexibility in special handling needs	5
Has low freight handling charges	6
Provides information concerning shipments	7
Has loading/unloading facilities for the large and/or odd sizes freight	8
Offers assistance in claims handling	9



## 2.2 Extranet

Extranets combine the privacy and security of intranets with the global reach of the internet, granting access to outside business partners, suppliers and customers to a controlled portion of the enterprise network. Extranets are becoming the major platforms for B2B E-commerce replacing EDI. They provide the flexibility of serving internal and external users as shown in Figure 2.1.

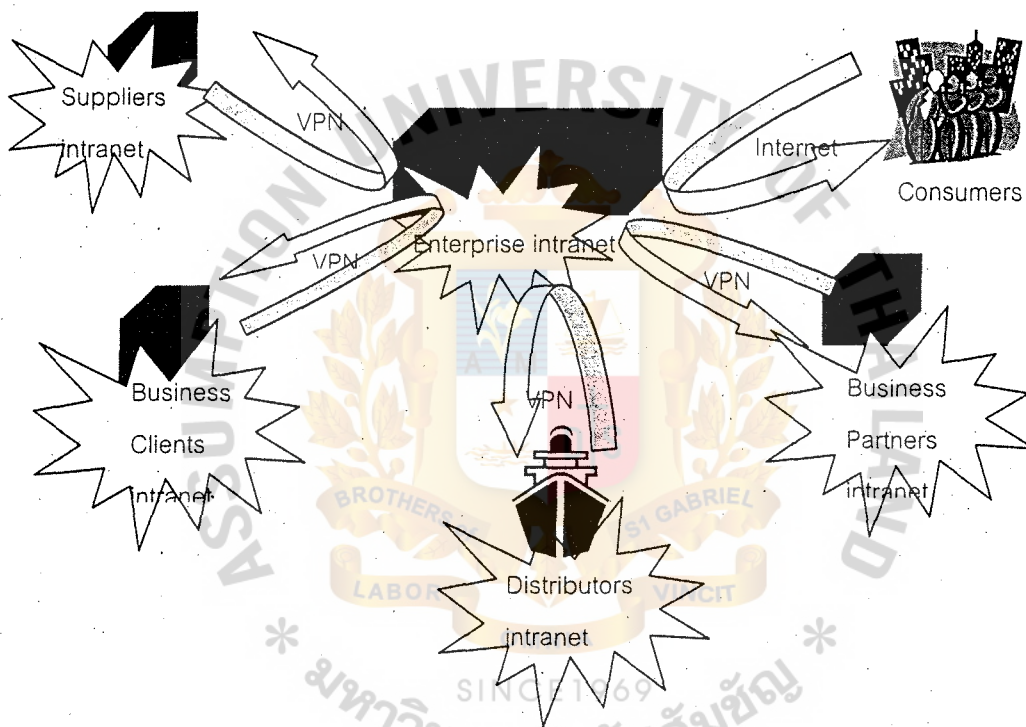


Figure 2.1. Concept of Extranet.

Since intranets are included in extranets, the forecasted potential of extranets is frequently combined with that of the intranets. This increasing acceptance is expected to surpass B2C EC, which is also expected to be conducted across intranets, by about 40 percent. Most of the B2C EC traffic will be done on the regular Internet. However, many companies will allow consumers to enter their intranet.

### 2.2.1 Planning Extranet

While extranets are easy to use, implementing an efficient extranet requires extensive coordination between the company and its business partners. Legacy systems, databases and other corporate resources must be interconnected for outside access and protected from unauthorized intruders. Companies must approach extranet design and development with a needs analysis to identify the best business opportunities.

The success of the extranet depends on security measures implemented for the system. The extranet is useless without the ability to securely transmit sensitive data between the intranet and authorized partners. Although 100 percent security is impossible, discerning actual threats from perceived threats and then selecting appropriated measures will help secure the communication environment. Is selecting the strongest possible security for the entire extranet and associated intranets the best strategy? Not necessarily, because the stronger the security measures, the more hardware and software resources are required to maintain an acceptable performance level. A balance of an initial investigation to conduct extranet development.

### 2.2.2 The structure of Extranets

#### **Element of Extranet**

Extranet are comprised of wide variety of components and participants, and there are several possible configurations. These include intranet , Web servers, firewalls, ISPs, tunneling technology, interface software, and business applications. The tunneling principle is the basic concept that makes the extranet possible. Tunneling means that data transmission across the internet can be made secure by authenticating and encrypting all IP packets. Several tunneling protocols are available, but IP security proposed by IETF(Internet Engineering Task Force) is one of the more popular protocol.



Extranets are configured by two basic methods:

- (1) They can be implemented using a direct leased line with full control over it, linking all intranets.
- (2) A secure link (tunnel) can be created across the Internet, which can be used by the corporation as a VPN, usually at a much lower cost.

Besides the security issue, the effectiveness of an extranet depends on the degree to which it is integrated with legacy system and databases. In many instances, integrating with legacy systems involves integrating a system Network architecture (SNA)-the backbone of legacy system in many corporation with TCP/IP, the Web backbone. The technical differences between the two systems are often sources of conflict.

### **Extranet Products and Services**

Categories of extranet products and services

Extranet products and services are available in four categories:

- (1) Extranet development tools provide the mean and facilities to design extranet services, a client-base, security, EC applications and electronic catalog.
- (2) Extranet hosting and network connectivity provide secure ISP connections to Internet backbones and host extranet services for corporation.
- (3) Extranet services provide extranet design expertise with proprietary tools or turn key services for building and operating extranet-based services for corporate clients.
- (4) Virtual private networks provide components specifically designed for connecting remote operators and creating IP WANs for corporations.

These products and services are designed to develop, host and enable extranets, and their numbers are increasing rapidly. Categories overlap significantly as vendors enter associated market segments-particularly among extranet hosting companies that provide extranet development tools and management services. In some cases, the differences between extranet products and services are decreasing.

### **Extranet tools & Services Providers**

The extranet development tools include a range of products from relatively simple EC software to sophisticated catalog servers that combine software and hardware products. There are four type of extranet service providers.

- (1) Consultants who develop extranet networks for clients.
- (2) Developers who are using generally available development tools or proprietary products.
- (3) System integration firms that provide turnkey solutions, including design, development, ISP connectivity, and extranet hosting operations as a single source.
- (4) Internet service providers who already operate the Internet backbones.

### **Benefit of Extranets**

- (1) Enhanced communications
  - (a) Improved internal communications.
  - (b) Improved business partnership channels.
  - (c) Effective marketing, sales and customer support.
  - (d) Collaborative activities support.
- (2) Productivity enhancement.
  - (a) Just-in-time information delivery.
  - (b) Reduction of information overload.

- (c) Productive collaboration between work groups.
- (d) Training on demand.
- (3) Business enhancements
  - (a) Faster time to markets.
  - (b) Simultaneous engineering potential.
  - (c) Lower design and production costs.
  - (d) Improved client relationships.
  - (e) New business opportunities.
- (4) Cost reduction
  - (a) Reduced error.
  - (b) Improved comparison shopping.
  - (c) Reduced traveling and meetings.
  - (d) Reduced administrative and operational costs.
  - (e) Elimination of paper publishing costs.
- 2 (5) Information delivery
  - (a) Low-cost publishing.
  - (b) Leveraging of legacy systems.
  - (c) Standard delivery systems.
  - (d) Ease of maintenance and implementation.
  - (e) Elimination of paper publishing and mailing costs.

### 2.2.3 Extranets Security Issue

The goal of security for any kind of network is to protect the organization's resources. Fully developed security plans to go way beyond instituting a password access point on an intranet: resources can be harmed by physical catastrophe (flood, fire and earthquake, for example), as well as by theft or vandalism of equipment, failure of

key equipment or software because of manufacturing flows, software viruses and bugs, or even unauthorized use of systems or data by employees. We address only security issues that apply direct to extranets and that are susceptible to technological solutions:

- (1) Limiting extranet access.
- (2) Protecting networked assets.
- (3) Securing open channels.
- (4) Authenticating users and data

### **Limiting Extranet Access**

Limiting access to extranets is a much more complicated process, largely because extranets can not operate in isolation. Even in closed extranets linking only member organizations and individuals, access to certain resources may need to be restricted. Extranets that enable communications through the Internet or which uses the internet as a transport medium have even tougher access problems. Designers need to consider several levels of access:

- (1) Access to the extranet itself.
- (2) Access to resources connected to the extranet.
- (3) How much of the resource is permitted (e.g., name but not salaries).
- (4) Degree of access permitted (e.g., read only or read/write)

Whether dealing with a network or building or anything else with an inside and an outside, entry control can depend on three things:

- (1) **What you know** such as a shared secret, a password or something else.
- (2) **What you have** Token such as physical keys, backstage passes, ATM card or phony Ids.
- (3) **Who you are** such as biometrics, the use of fingerprints and retinal scans.

## Protecting Corporate Assets

An extranet requires a complete security infrastructure, including far more than the mechanisms by which data and network resources are protected from unauthorized access and improper tampering. For example:

- (1) Contingency plans for catastrophes.
- (2) Screening programs for system employee candidates.
- (3) Training programs to keep employees aware of good security practices and proper physical security for information system.

The protective mechanisms discussed here, however, extend beyond the features just mentioned. Two basic strategies are

- (1) Firewall gateway systems.
- (2) Virtual private networks

### Firewall

The goal of keeping unauthorized users out of sensitive networks and system requires constant vigilance as well as multiple strategies to cover all the bases. The five of most important firewall strategies are as follows:

- (1) Package filtering.
- (2) Circuit gateway.
- (3) Application proxies.
- (4) Harden operating systems.
- (5) Network address Translation (NAT).

### Securing Open Channels

The TCP/IP protocol suite is a set of open standards designed for interoperability. This openness can pose a security risk because TCP/IP data is generally transmitted in the clear, often across public networks, and usually across networks about which the



source and destination systems have no knowledge. The following sections introduce some of the security and encryption protocols currently implemented or in development for use at the application layer, and the network layer. This list is not comprehensive and it includes protocols that have been approved by standards bodies, protocols that are still being developed and widely used nonstandard protocols.

### **Application Layer Security**

Virtually any application that requires a password for access could be said to provide some application layer security, but fewer applications actually use password to secure the information passed back and forth between client and server. This section introduces some of the more popular applications that implement security of this type at the application layer.

- (1) **Secure Electronic Transaction (SET)** MasterCard International and Visa International, after much work and some apparent disagreement, released a specification for the Secure Electronic Transaction (SET) in 1996. Developed with input from GTE, IBM, Microsoft, Netscape, SAIC, Terisa and Versign and eventually supported by American Express and other credit card and charge card issuers, SET defines how transaction data flows among card users, merchants, and banks and also defines security functions (digital signatures, hashes, and encryption) that must support these transactions.
- (2) **Secure HTTP (S-HTTP)** described a mechanism for using standard cryptographic tools to encrypt HTTP data transfers.
- (3) **Pretty Good Privacy (PGP)** is a program that can be used to create and verify digital signatures, encrypt, decrypt, sign or verify data that has been transmitted or is about to be transmitted across an open network.

- (4) **Secure MIME (S/MIME)** stands for Multipurpose Internet Mail Extensions. The S/MIME specification adds a hierarchical approach to security, providing a formal definition of users and certifiers and making it more scalable to large organizations.
- (5) **CyberCash** Transactions and approvals are digitally signed. The CyberCash protocol is similar to the SET specification.

### **Transportation Layer Security**

The Secure Socket Layer (SSL) developed by Netscape for secure the web commerce which operated between the transport layer and the application layer, offering a protocol for negotiating a secure connection between client and server. By using the transport layer, SSL can encrypt the application data stream between any application clients and servers, not just web clients and servers, as long as they have been designed to interface properly with TCP through SSL. Although SSL and its apparent failings have received much attention, most of the deficiencies have been related either to problems with the way SSL was implemented or to the length of the keys used (forty-bit key at present permitted for export from US.) To date, SSL continue to be a reasonable- and widely implemented-mechanism for encrypting streams of data from applications.

### III. THE EXISTING LOGISTIC PROCESS

It is the responsibility of business to provide logistic services to their customers as shown on Figure 3.1. The traditional way to get logistic information by using telephone call and facsimile to do logistics transactions such as booking containers, confirm booking or cargo tracking enquiry. Although the emerging of internet and e-commerce, some carriers provide their logistic information and online booking via the internet with their own website but it is not convenient for them as different websites has different formats.

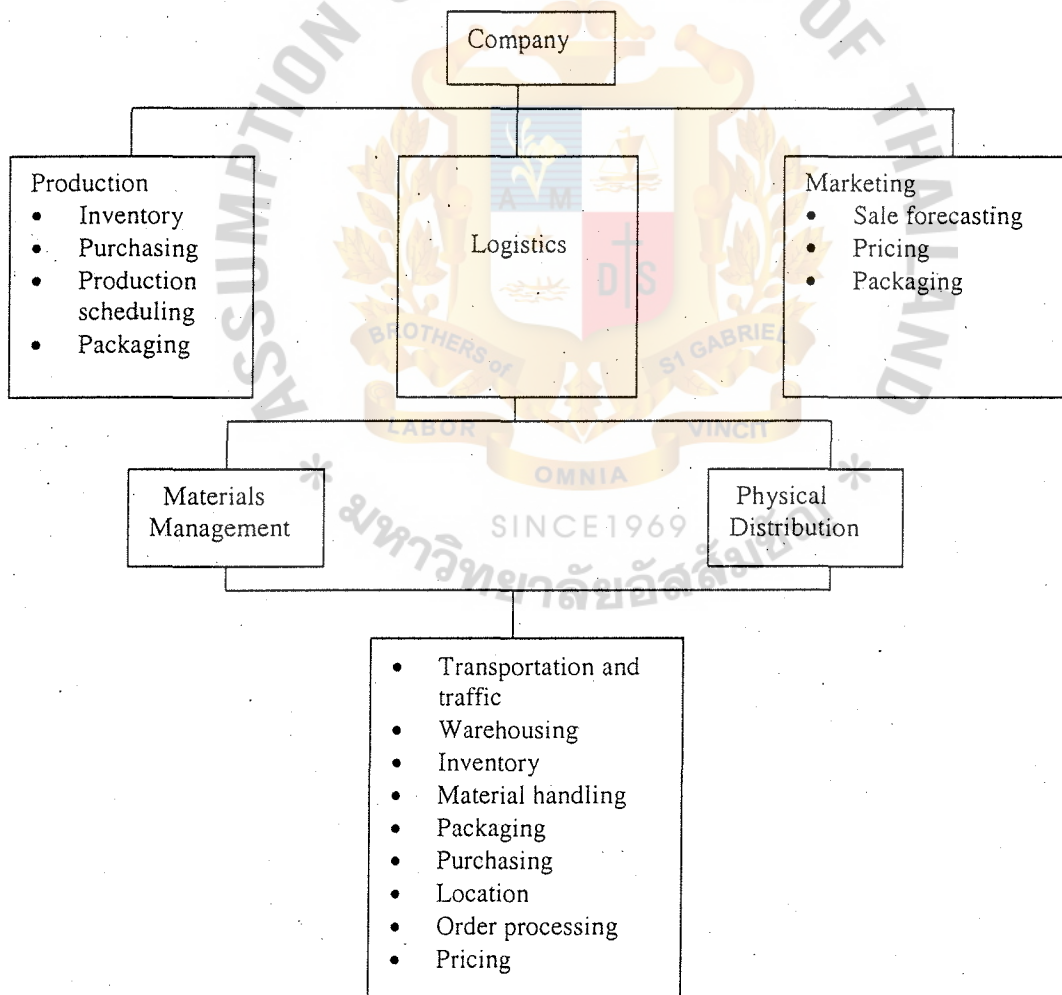


Figure 3.1. Business Logistics Functions.

The current steps to get logistic services from carrier as follows.

- (1) Search maritime newspaper, reference schedule, decide the carrier for Booking.
- (2) Call to the selected carrier for request booking (vessel and container).
- (3) Fax the delivery order and B/L Draft to the carrier.
- (4) The officer of the carrier fax the accurate B/L and call to make a confirmation.
- (5) Shipper fax invoice and packing list to consignee.
- (6) Customer inquiry for the status of transportation, the shipper could not answer or response immediately. The shipper will call to carrier to get the logistic information and call back to customer.

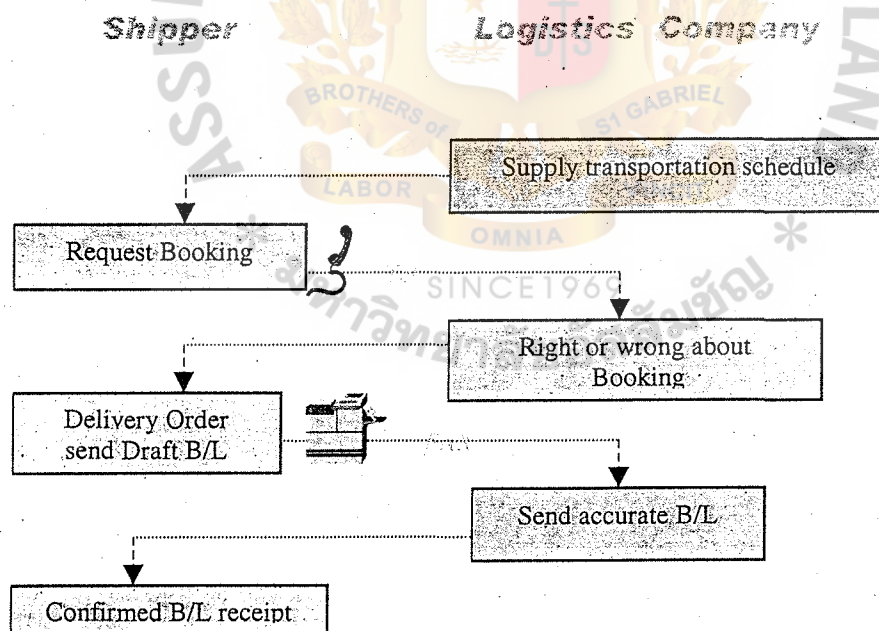


Figure 3.2. Booking Procedure.

## **IV. THE PROPOSED BUSINESS PROCESS**

### **4.1 General Concepts**

e-Logistics is a collaborated logistic web site which provides logistic service online and shares logistic information among suppliers, customers and carriers. With internet technology users can access 24x7 from anywhere and no need to install additional software or hardware. Only authorized users can logon to utilize e-Logistic web site facilities. The web site also provides users' access control system to check that every user got the right privilege to view only allowed menu and data. It is to ensure the security of the web site. Moreover the web site will adopt (SSL Certificate) encrypt/decrypt technology from "VeriSign.com" to prevent outsider interception.

### **4.2 Business Objectives**

- (1) To keep the web site members enjoying best logistic services.
- (2) To maintain high quality logistics services at reasonable price.
- (3) To reduce network cost by using internet.
- (4) To shorten logistic service lead time.
- (5) Logistic makes the value of the products to be acknowledge.
- (6) To provide professional and competitive logistic service in the market.

### **4.3 Services**

- (1) Online Transportation Schedule.
- (2) Online Transportation & Container Booking.
- (3) Online Booking Confirm.
- (4) Online Cargo Tracking.
- (5) Online B/L & S/I Search & Print Out.



#### 4.4 SWOT Analysis

The analysis of **e-Logistics**'s internal strengths and weaknesses and external opportunities and threats (SWOT) provides a broad examination of company's services from a marketing perspective, while bringing to light several key issues for the future success of **e-Logistics**. The SWOT analysis identifies certain issues as *both* a strength and a weakness, or *both* an opportunity and a threat. Moreover, the SWOT can serve as a tool to prioritize issues facing PR.

##### Strengths

- (1) Innovative business web site for provide one stop service logistic service.
- (2) Full functions for support logistic operation.
- (3) Graduated in computer science.
- (4) Seven years experience in computer programming
- (5) Four years as System analyst.
- (6) Experience in ERP system implementation.
- (7) Flexible in customized programming.
- (8) Unique service provider.
- (9) Familiar with Supply chain management system.
- (10) High experience staffs in system development and implementation.
- (11) Minimum cost of investment in this project as the web site design and develop in house by the founder.
- (12) Integrated technology.

##### Weakness

- (1) Not much Financial back up to support to support the business.
- (2) Few staff to hired for operation.

- (3) New to the market, the web site has to strong introduce to the target customers or members.
- (4) Lack of trust from customers as this web site and service are new for them.
- (5) Efficiency in customer service.

### **Opportunities**

- (1) The internet and E-business has much attention is because business people realize that this network collection of technology innovations is changing many things so quickly that traditional activities in physical economy are being displaced by this situation. We know that enterprises are evolving when they use this technology for greater use of collaboration and alliances.
- (2) Currently, there are no direct competitors in Thailand who do same business.
- (3) Offering new services for customer at a profit.
- (4) Law and regulation about internet and E-commerce be coming effective.
- (5) Government has policy to support E-business.
- (6) Import/Export companies are interested in new service which fulfill their requirements with a cost effectiveness.

### **Threats**

- (1) Security on the internet technology has no 100% reliable.
- (2) Large international enterprises will establish the same concept web site to support their operation within their group company.
- (3) Emergence of a new competitor to do the same business.

## **4.5 Cost and Benefit Analysis**

### **Vendor Benefit**

- (1) Shorten lead time for logistic operation.
- (2) Improve logistic information management.
- (3) Reduce local & international fax cost and paper.
- (4) Get good image from customer for using internet technology to improve company 's services and operation.

#### **Vendor Cost**

- (1) Membership fee.
- (2) Pc Investment.
- (3) Internet connection charge.

#### **Customer Benefit**

- (1) Online cargo tracking.
- (2) Online B/L and S/I inquiry.
- (3) Shorten lead time for logistic request or inquiry.

#### **Customer Cost**

- (1) PC investment.
- (2) Internet connection charge.

#### **Carrier Benefit**

- (1) Improve logistic service management.
- (2) Reduce labor cost to support logistic services and inquiries.
- (3) Good image for provide online information.

#### **Carrier Cost**

- (1) Develop online interface with the website.
- (2) Internet connection charge.

#### **4.6 Target Market**

The internet is the tool that lets us communicate to the public widely throughout the world. On the other hand the service that we launch through the internet targets only the specific group.

The main objective of this project is to respond to the small import/export business owner who has only limited human resource and also limited investment. They can use our website as a tool to provide and get logistic information and make it to be the useful path to have effective logistic services. As in Thailand, the government has promoted the SME project, which this website will match with those groups of people. Therefore we could say that we are the partners of small import/export business and everyone will be treated at the same level.

#### **4.7 Marketing Plan**

##### **Marketing Objective**

- (1) Promote the company to be well known.
- (2) Let the customer recognize our image on the fastest service.
- (3) Reduce the cost and time of sales and marketing activities to catch the customer and also get worldwide customer.
- (4) Increase the number of member.

##### **Service Differentiation**

Our service is differentiated by the fastest real-time results, with 24-hours availability, in which customers can get and do logistic service from most carriers all time. They will save time and cost for sending document by fax and international telephone call for cargo tracking. Moreover it is not necessary to allocate man power to support this function, just leave it to e-Logistics.

## **Pricing Strategy**

The company uses the low price strategy with this service, because it seems as our promotion that we would give the special discount to customers for the more they generate transaction . But we didn't use the loss strategy. It will not lose from those price because the cost of operate and manage for provide service is low and fix. We invest just the initial cost and operation cost, which has only the maintenance. We hire a few staff to manage the traffic of program only. Thus, the price that we set will be based reasonably, besides that , the cheaper prices could make the customers to be loyal to our company more easily.

## **Distribution Plan**

As we know this new service is provided via the Internet. So it is the best location in the world. We could provide service throughout world, 24 hours a day and 7 days a week. The product that we provide is the pure e-information because the customer could inquiry and get logistic service by themselves in real time. We also use the banner and the search engine in order to let the customers enter our web easier from several alternative channels.

## **4.8 System Specification**

### **Hardware Specification**

In order to support this project which is designed to handle huge transaction data and many concurrent users and online interface with other systems in real time, the server should have high speed and capacity enough to support. Below are the lists of minimum hardware specification.

- (1) CPU PII 1.26 GHz x2
  - (2) 1024 MB. 133 MHz ECC SDRAM up to 4GB, 4DIMM (Kingston).
- (18.2+36.4=54.6) GB Wide Ultra160 SCSI /Max 293.6GB Non H/S.



- (3) Integrated 10/100 Mbps Ethernet.
- (4) Integrated Single Channel Ultra160 SCSI Controller.
- (5) Support 4 bays non hot plug drive.
- (6) S3 Savage 4 SVGA 8 MB SDRAM.
- (7) CD-ROM 48x, Ethernet 100/101.
- (8) Expandable 5 PCI (free 4), 7 Bay(free 4).
- (9) Monitor 15" Color.

### Software Specification

This project is developed by using Active Server Pages (ASP) technology which run on Window2000 operating system. All software used in this project are based on Microsoft Windows because it is easy to learn and manage. Moreover, there are many software companies have developed new components to support ASP. Java Script is a script language programming to make the project look more attractive and assist users in entry and inquiry screen.

Table 4.1. Software Specification.

Function	Software
Operating System	Window2000
Web Server	IIS5.0 (Internet Information System)
Application Server	ASP
Database Server	Mricrosoft SQL

### 4.9 Security Design

This project is separating security level of the web site into two parts. The first one is Access Control Table which keep user privilege information in USER\_MASTER

Table. Every user of the web site will have User Id and Password and allow to input and inquiry data of only its own. Each user has its own privilege for web page viewing such as Some pages can be viewed by vendor or some pages can be viewed by customers. Another security is preventing outsider interception. We will secure the web site by installing Versign SSL Certificate then establish secure communications with any customer using a browser from Netscape or Microsoft Internet Explorer.

#### 4.10 Database Design

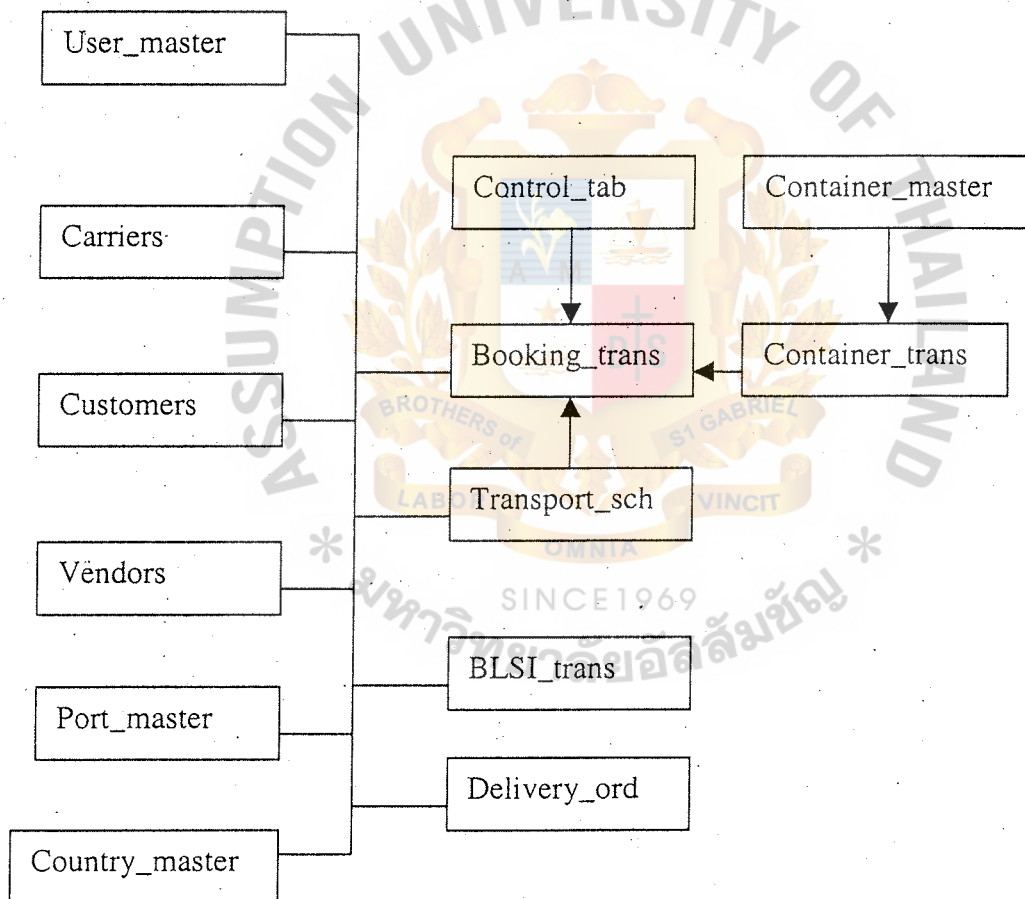


Figure 4.1. e-Logistics Database Relation.

#### 4.11 Financial Analysis

This section will be separated into two parts. The first one is source of income which is forecast income of the project and another one involves investment such as startup investment, operation expense forecast.

##### (1) Investment

The source of the fund comes from the owner's saving and family loans which have a limit on investment. We will break this investment into two parts, startup or initial investment and monthly operation expense. The startup cost will be shown on Table 4.2 and the monthly operation expense will be shown on Table 4.3 as followings:

Table 4.2. Estimated Startup Investment.

Description	Baht
Domain Registration (2 Years)	2,000
Company Registration	5,000
Internet Connection (include Modem,Router)	70,000
Web Server	140,000
Computer Workstation * 2	60,000
LAN System installation (Hub , Wiring)	10,000
Leased line ISDN	8,000
Salary Cost * 2	20,000
Other	10,000
<b>Total</b>	<b>325,000</b>

Table 4.3. Monthly Expense.

Description	Baht
Salary for Programmer & Clerk	20,000
Internet Connection (Leased Line)	30,000
Utilities and other expense	5,000
Hardware Maintenance	4,000
<b>Total</b>	<b>59,000</b>

(2) **Source of income**

We will get the income from two sources. The first one is get from member fee which all the members who use this service have to pay for a contract with the web site year by year and pay for member fees charged by monthly. We will charge 1000 baht per member and another 500 baht per User\_Id and Password if they request for more than 2 users . The other income charge from transaction. Each transaction will be charged 10 baht per invoice or B/L and we also have discount rate 10% for 100 transactions and 15% for more than 100 transactions. Estimated income and Break even point will be on Table D.1 .

**Return on Investment**

$ROI = [(Payback - Investment)/Investment)] * 100$ , in one year

$[(1,768,000-974,000)/1,768,000] * 100 = 44.9\%$

## V. WEB DEVELOPMENT AND DESIGN

After research and feasibility study from previous section thus we determine that the web site should be built and the web development and design will be proceed as details below:

### 5.1 Define The Audience

Most of the members of the web site which consider to be the main target market are those small and medium companies in Thailand that have business to involve in import/export jobs. So the audience are the employees of those mentioned companies whose job concerns with logistics. Only authorized members are allowed to utilize function and facilities provided by the web site. However, we also provide information about the web site via the link "What's e-Logistics" at the logon or home page.

Since the web site provides logistic information, we expect our web site's audience or users to have some background of logistic activities and internet or computer knowledge. We can classify our web user as follows.

- (1) Novice user is one who may have little knowledge of a site or even of how the web works. A novice user will need extra assistance. We have to strongly support and train them.
- (2) Power users are those users who understand the web and familiar with using computer application software. They do not need our assist so much.
- (3) The third group of users, the intermediate user is actually the largest category of user on the web. Most users are infrequent intermediate users because they pretty much understand how the web works therefore we provide support to them upon request.



## 5.2 Create Scenarios

Mr. Somchai works as a shipper in logistic department at ABC factory which usually export some finished goods to overseas by ship and some products have a domestic sale. After he gets shipment schedule from order management department, he will prepare the export plan every month and issue some revision export plans if necessary. He has to check transportation schedule and make a decision to select carrier a week before shipment schedule. He will access the internet and go to our web site then search or enquire his preferred transport schedule and carrier. After he does the booking, he will get confirmation of that booking from the response carrier within 1 hour via E-Mail after that he will access the web site again and go to "Booking Confirmation" menu to do the confirmation and use that transportation schedule information to prepare necessary logistic document which will be attached with shipment goods such as Invoice, Packing List, Shipping Instruction and Bill of lading. Then Mr. Somchai will inform and distribute logistic document to concerned person.

When the response carrier receive that document, the carrier will input additional necessary information in to the database like D/O no., Goods description and so on. During shipping transportation, the carrier will always update the status of each Bill of lading (B/L) until the shipment goods delivery to the intended destination.

Ms. Somsri works in Order Management department same company as Mr. Somchai. She directly contact with customer on behalf of the company. She will get order, enquiry, request and complain from customer. Most of customer enquiry is about asking for their shipment status. Ms. Somsri will easily access the internet and go to "Cargo Tracking" menu enquiry to see and report to the customer about the status in case customer can not access to the internet. If they can Ms. Somsri will give them user Id & Password to logon to the web site to check the status of their shipment goods using

“Cargo Tracking” menu and view the detail of their Bill of Lading via “BL & SI Inquiry” menu. Without the web site service, every time the customer call to ask about status of the shipment Ms. Somsri has to call to concerned carrier asking for the information then respond to the customer.

### 5.3 Web Design

The web site aims for its design to look professional, attractive and reliable but at the same time it should not be so complicated and will be easy to use. It will be designed with shade of blue, black, white, red and some yellow color through out the web pages in web site, because color is important to the web design as it makes pages both pleasing and meaning thus we try to use color to cover in both ways. The background or shade of web site is blue color. This color has a hidden positive meaning of trust, reliability and peace. Besides, there are some researches which support that blue color is the most favorite color among business men. There are not so much images to display except logo, logon screen and some buttons as we intend to make the web pages load as fast as possible and due to the web site focus on information providing. The text which is displayed on the web site is also designed for effective readability in various screen resolutions.

There are others tools which will be selected to develop the web site and have to consider in design state to make the web site present with stylish, attractive and effective dynamic pages as below lists.

- (1) **Style Sheet Technologies** Mark up languages like HTML do not excel at presentation. We will choose CSS (Cascading Style Sheets) to control the design element in web page, therefore CSS is used to specify the look of a web page as CSS is finally becoming a viable prospect for page layout. CSS-based style sheets specify rules that define the presentation of a type of

a type (for example, <h1>)- a group or more correctly, class of tags or a single tag as indicated by its id attribute. Style sheet rules can be used to define a variety of visual aspects of page objects, including color, size and position. The various style rules will be combined for tag usage. Example of CSS which we use in the web site will be shown in Figure 5.1.

```

Browse | Design |
<title>e-Logistics</title>
<style type="text/css">

// simple table
.simpleTableParent ( background-color:#CCCCC; border-width:0px; padding:0px; )
.simpleTable ( width:88%; border-width:0px; )
.simpleTableTitle ( background-color:#63619C; border-width:0px; color:#E6E9FF; font-size:10pt; text-align:center; font-weight:normal; )
.simpleTableField ( background-color:#FFFFFF; border-width:0px; color:#000000; font-size:9pt; font-family:arial; padding-left:5px; )

// Detail Table
.detailTableParent ( background-color:#CCCCC; border-width:0px; padding:0px; )
.detailTable ( width:88%; border-width:1px; )
.detailTableTitle ( background-color:#63619C; border-bottom-width:0px; border-top-width:1px; border-left-width:1px; border-right-width:1px; border-bottom-width:1px; border-top-width:1px; border-left-width:1px; border-right-width:1px; font-family:arial; )
.detailTableField ( background-color:#FFFFFF; border-bottom-width:0px; border-top-width:1px; border-left-width:1px; border-right-width:1px; border-bottom-width:1px; border-top-width:1px; border-left-width:1px; border-right-width:1px; )
.detailTableFieldRepeat ( background-color:#FFFFFF; border-color:#CCCCC; border-style:solid; border-top-width:0px; border-right-width:0px; border-bottom-width:0px; border-left-width:0px; )
.detailTableFieldBlank ( background-color:#FFFFFF; border-color:#CCCCC; border-style:solid; border-top-width:0px; border-right-width:0px; border-bottom-width:0px; border-left-width:0px; )
.detailTableFieldBlank ( background-color:#63619C; padding-left:4px; padding-right:5px; border-top-width:0px; border-bottom-width:0px; border-left-width:0px; border-right-width:0px; font-family:arial; )
.detailText ( background-color:#CCCCC; color:#000000; font-size:9pt; font-weight:normal; font-family:arial; )

.tblCell1 ( background-color:#FFEF00; font-size:9pt; font-family:arial; )
.tableLabel ( background-color:#63619C; padding-left:4px; padding-right:5px; border-style:solid; border-width:1px 1px 0px 10px; border-left-width:0px; border-right-width:0px; border-bottom-width:0px; border-top-width:0px; )
.tableField ( background-color:#E6EAD6; font-size:9pt; font-family:arial; )
.SIinput ( margin-bottom:1px; font-family:arial,sans-serif; font-size:9pt; background-color:#0000CC; height:20px; border-style:solid; border-width:1px; color:#FFFFFF; font-weight:bold; font-size:9pt; font-family:arial; )
.note ( color:#FFFFFF; font-weight:bold; font-size:9pt; font-family:arial; )

</style>
</head>

```

Figure 5.1. Example of CSS in e-Logistic Web Page.

## (2) Programming

For client side programming, we use Java script to be web site script language to program for assist web user and check validation of server request information before sending to server, because Java script is a loosely typed scripting language that has simple uses for tasks like form data validation or minor page embellishments, such as rollover buttons. The interaction between HTML and Java script is significant and mastery markup is required to reap the most benefits from this technology. The example of Java script used in the web site will be shown in Figure 5.2. This

script will pass parameters to Server script “address\_popup.asp” which program for browsing the address from the web database as web user requested and opening new windows to display the out put result.

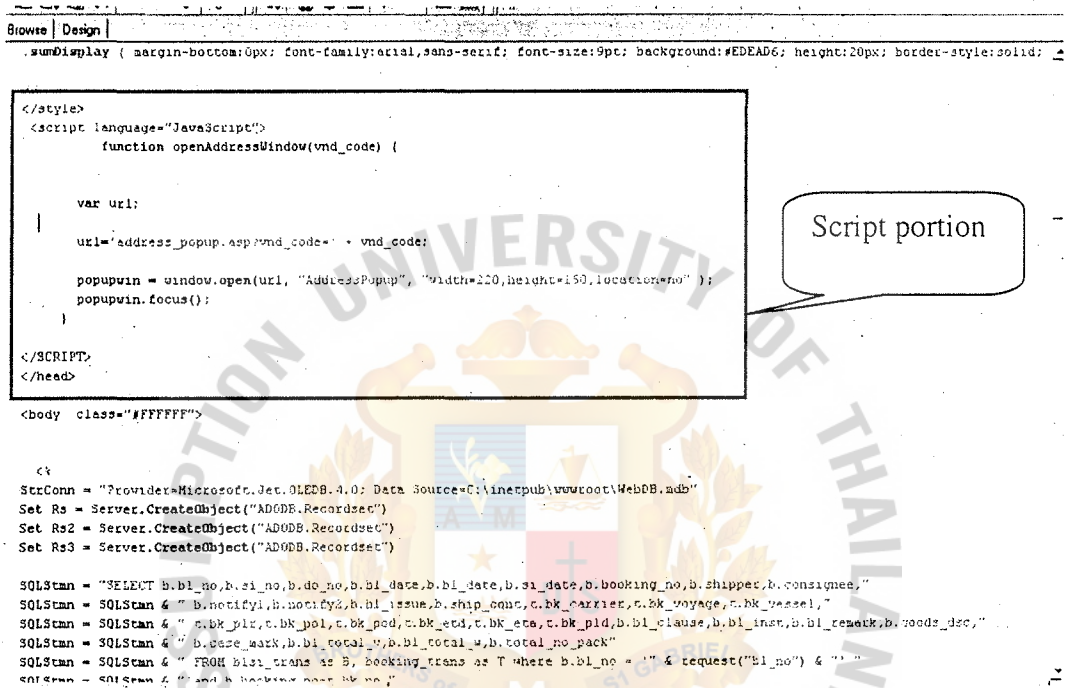


Figure 5.2. Example of Java Script Using in e-Logistic Web Page.

*For Server-side scripting*, server-side scripting which function and contain a combination of HTML and script language are executed server side to build a resulting web page. we use Microsoft 's Active Server Pages (ASP) to build dynamic page from the web site database, personalize content for users. Because ASP technology is easy to learn, program and maintain. In the future, it will be replaced if we can find a better server-side scripting. The example of Server-side script will be shown in Figure 5.3. This

scripting will respond for a request to browse booking transactions from the web site database to display in a web page.

```

<html>

<head>
<title>e-logistic</title>
</head>

<body bgcolor="#000099">
<div id="Layer1" style="position:absolute; left:39px; top:18px; width:833px; height:538px; z-index:1">
<p><font face="Tahoma"><b><font color="#FFFFFF" size="4">Booking
Inquiry</font></b></font></p>
<hr>

<%
StrConn = "Provider=Microsoft.Jet.OLEDB.4.0; Data Source=C:\inetpub\wwwroot\WebDB.mdb"
Set Rs = Server.CreateObject("ADODB.Recordset")
Set Rs2 = Server.CreateObject("ADODB.Recordset")
SQLStmn = "SELECT * FROM booking_trans where bk_user=" & session("user_id") & " and bk_rec='AC'"

if request("txt_bk1")<>"" then SQLStmn=SQLStmn & " and bk_no >=" & request("txt_bk1") & ""
if request("txt_bk2")<>"" then SQLStmn=SQLStmn & " and bk_no <=" & request("txt_bk2") & ""
if request("txt_bkd1")<>"" then
wk_temp = mid(request("txt_bkd1"),7,4) & mid(request("txt_bkd1"),4,2) & mid(request("txt_bkd1"),1,2)
SQLStmn=SQLStmn & " and bk_date >=" & wk_temp
end if
if request("txt_bkd2")<>"" then
wk_temp = mid(request("txt_bkd2"),7,4) & mid(request("txt_bkd2"),4,2) & mid(request("txt_bkd2"),1,2)
SQLStmn=SQLStmn & " and bk_date <=" & wk_temp
end if

SQLStmn=SQLStmn & " order by bk_no"

Rs.Open SQLStmn, StrConn, , adCmdText
if not rs.eof then
While Not Rs.EOF
tmp=tmp+1
rs.movenext
wend
rs.movefirst
response.write "<FONT FACE='MS Sans Serif' SIZE=1 font color='#FFFFFF'> There are " & tmp & " records
found"
if tmp > 100 then
response.write " but only about 100 recods to be shown. </font>"
end if
end if
%>

<Table width="100%" border="1">
<%
if not rs.eof then
w_count =0
%>
<tr bgcolor="#CCFFFF">
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">Confirm</font></td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">Booking no.</font></td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">Booking date</font></td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">Carrier</font></td>

```

Figure 5.3. Example of ASP Scripting in e-Logistic Web Page.



```

<tr bgcolor="#CCFFFF">

<TD><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">Place of Delivery</font></td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">POD</font></td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000">ETA</font></td>

</TR>
<%
While Not Rs.EOF and w_count <= 100
    w_count=w_count+1

    SQLStmn=" select * from transport_sch where ts_no=" & rs("bk_ts_no") & ""
    Rs2.Open SQLStmn, StrConn, , adCmdText
    if not rs2.eof then
%>
        <TR bgcolor="#FFFFFF">

<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000"><A HREF="booking_cf.asp?bk_no=
<%=Rs("bk_no")%>">Confirm</A></font></TD>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000"> <%=Rs("bk_no")%> </font> </td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=mid(Rs("bk_date"),7,2) & "." &
mid(Rs("bk_date"),5,2) & "." & mid(Rs("bk_date"),1,4) %></font></td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000"> <%=Rs2("ts_carrier")%> </font> </td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000"> <%=Rs2("bk_weight")%> </font> </td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=Rs2("bk_volume")%> </font> </td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=Rs2("ts_plr")%> </font></td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=Rs2("ts_pol")%></font> </td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=mid(Rs2("ts_etd"),7,2) & "." & mid(Rs2
("ts_etd"),5,2) & "." & mid(Rs2("ts_etd"),1,4) %></font></td>
<TD rowspan=2><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=mid(Rs2("ts_ddate"),7,2) & "." &
mid(Rs2("ts_ddate"),5,2) & "." & mid(Rs2("ts_ddate"),1,4) %></font></td>
</FONT>
</TR>

<TR bgcolor="#FFFFFF">

<TD><FONT FACE="MS Sans Serif" SIZE=1 font color="#000000"> <%=Rs2("ts_pld")%> </font></td>
<TD> <FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=Rs2("ts_pod")%> </font></td>
<TD><FONT FACE="MS Sans Serif" SIZE=1 font color=""#000000"> <%=mid(Rs2("ts_eta"),7,2) & "." & mid(Rs2
("ts_eta"),5,2) & "." & mid(Rs2("ts_eta"),1,4) %></font></td> </FONT>

</TR>
<%
rs2.close
end if
Rs.MoveNext
Wend
else
response.write "<FONT FACE='MS Sans Serif' SIZE=1 font color='#FFFFFF'> No Responding data found </font>"
end if

%>

</div>
</body>
</html>

```

Figure 5.3. Example of ASP Scripting in e-Logistic Web Page.

#### 5.4 Identify Content & Function Requirements

As the list of goals, the needs of web site audience which we have collected from previous sections can be concluded as below . Most of the content of the web site is dynamic information which is always up to date for online inquiry.

- (1) **Logon page** function to authenticate the website's member with User Id. and Password before utilize facilities and services.
- (2) **About us** provides company profile and web site service explanation. This content will be the medium to communicate to public.
- (3) **Transportation Schedule Inquiry** will let the members inquiry to view transportation schedule of many carriers by select information such as Estimated Delivery Date, Estimated Arrival Date, Port of Loader, Port of Delivery and so on.
- (4) **Online Booking** will function for the members to booking Transportation schedule and container they have selected.
- (5) **Confirm Booking** After the members do online booking , they have to confirm the booking unless after some days such as one week before the transportation schedule that booking will be deleted.
- (6) **Cargo Tracking** will provide logistic information for the members to tracking by Delivery No. or Bill of Lading or they can select by group of Delivery Port, Estimated Delivery Date, Delivery Order Date and etc.
- (7) **B/L&S/I Inquiry** will let the members to view Bill of Lading and Shipping Instruction online.

5.5 Site Structure

The web site structure will be shown in Figure 5.4. It describes the web site content and function. The web site will be developed base on this structure.

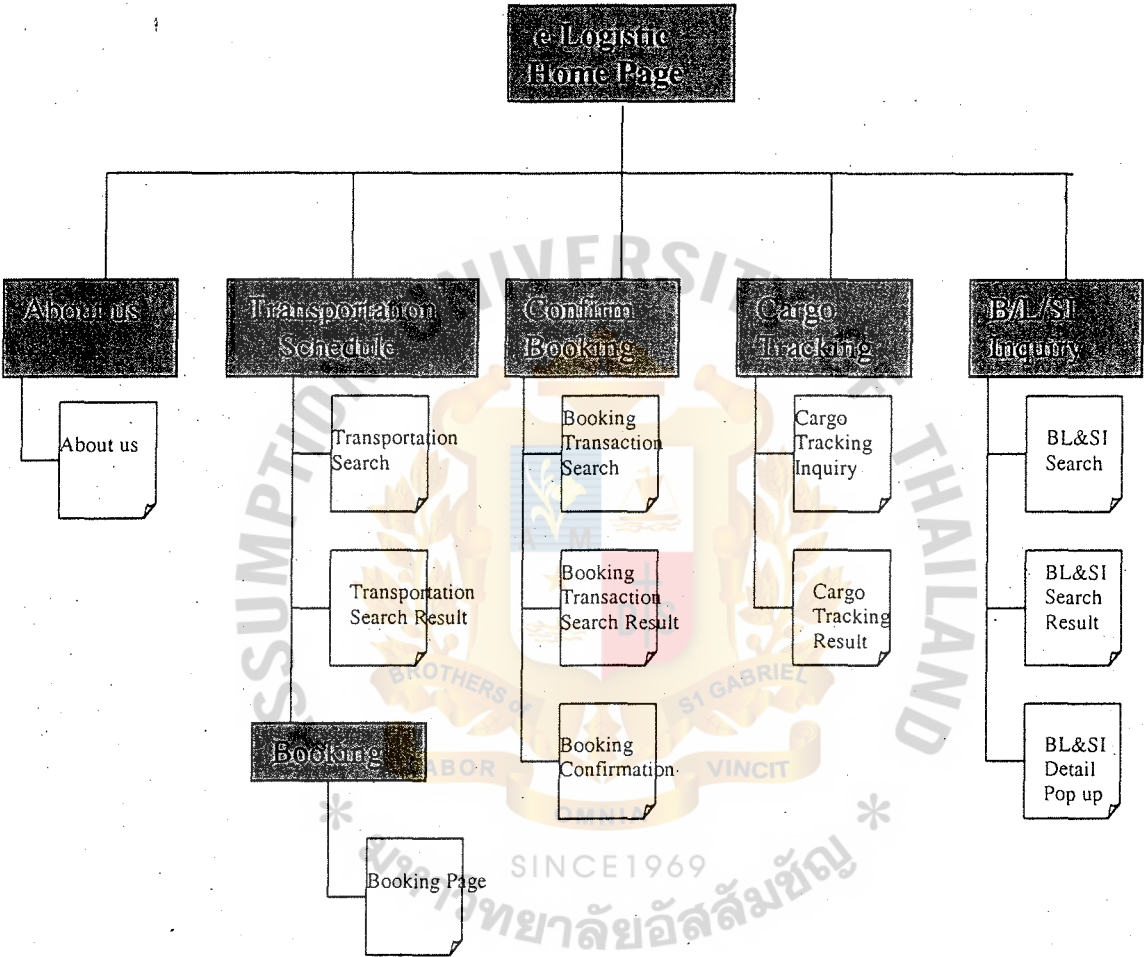


Figure 5.4. Web Site Structure.

5.6 Layout Grids & Page Mock-ups

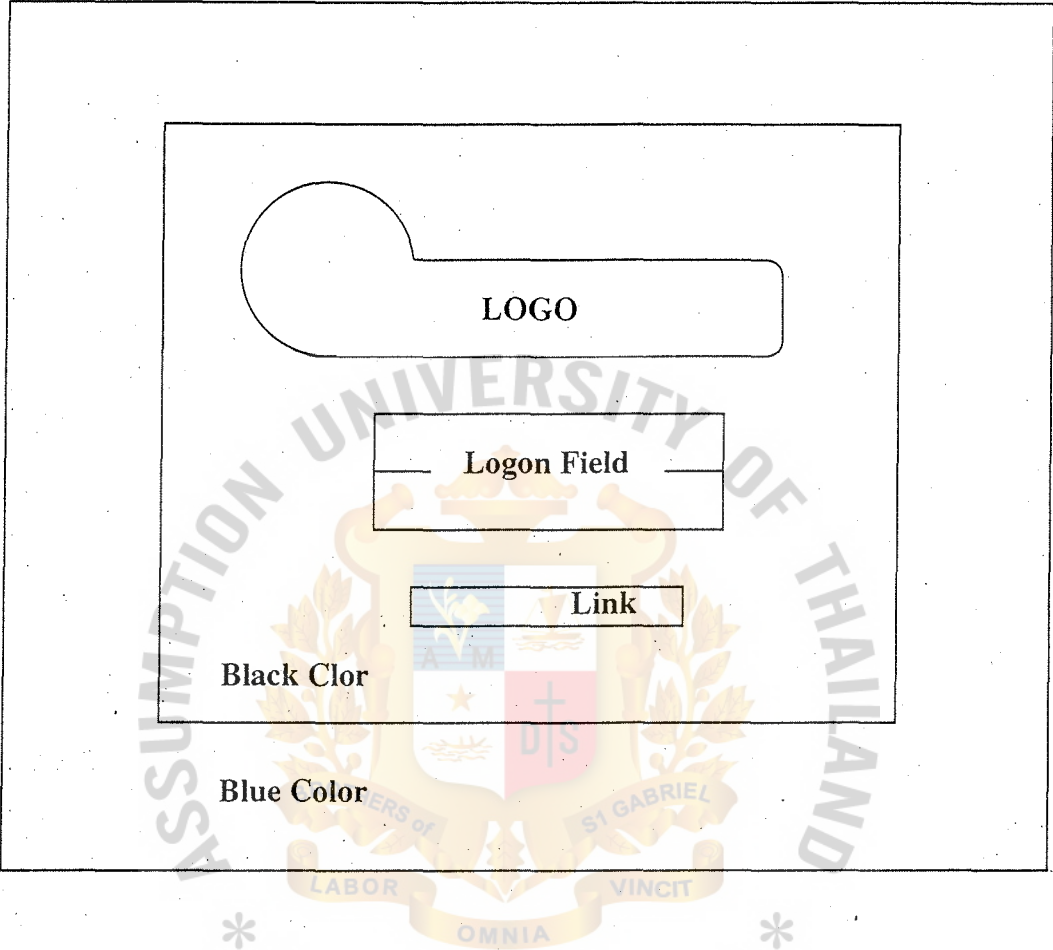


Figure 5.5. Logon Page Layout.

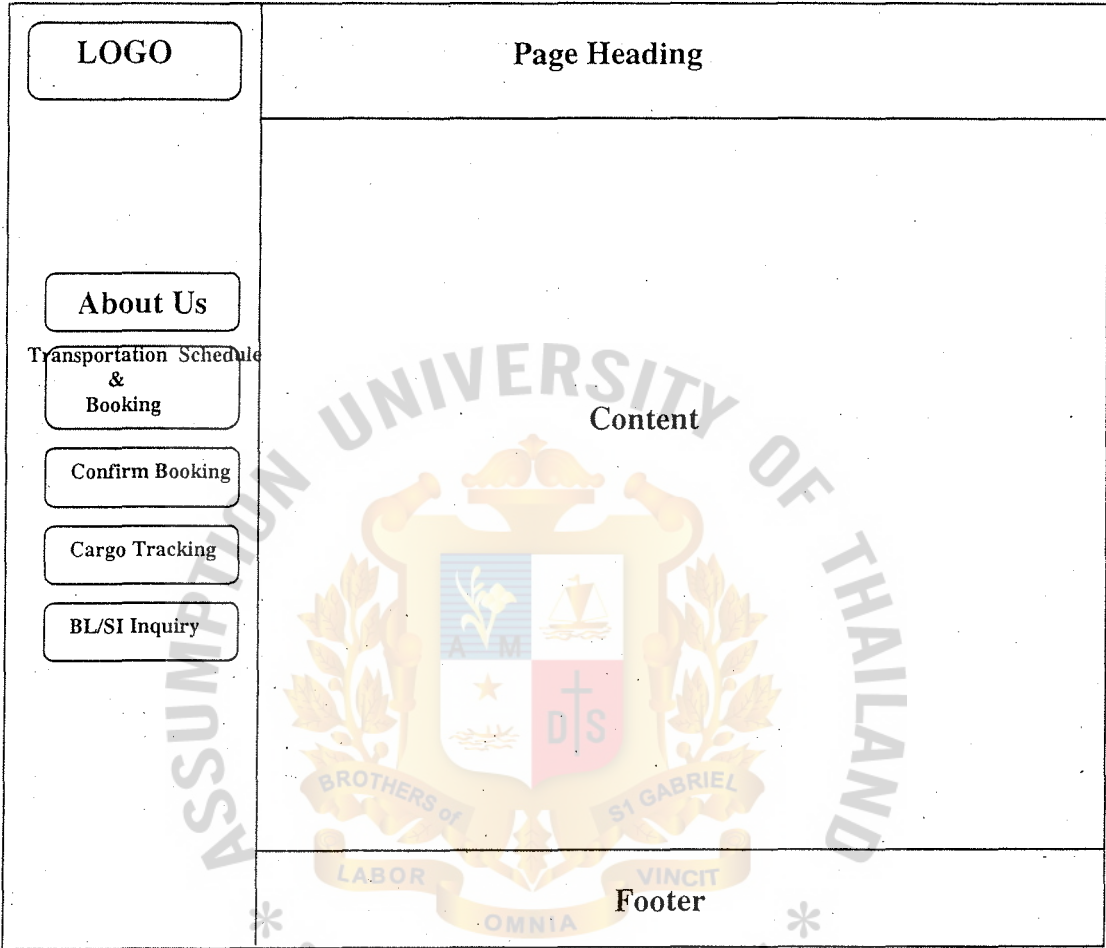


Figure 5.6. Template Page Layout.



## VI. WEB APPLICATION PROTOTYPE OF E-LOGISTIC

This web application prototype develop by using Active Server Page(ASP) and Java script for friendly assist web users. Database is Microsoft Access. All interfaces design to look professional and easy to use.

- (1) The Figure 6.1 below is a first page or home page of this web site all web users have to logon to access to utilize all their allowed service functions and authenticated checking. The “What’s e-Logistic” link will communicate with non member about this web site which show on Figure 6.2. This page will describe of profile of the company. If they are interesting, they can contact us to be our members.



Figure 6.1. Login Page & What's e-Logistic.

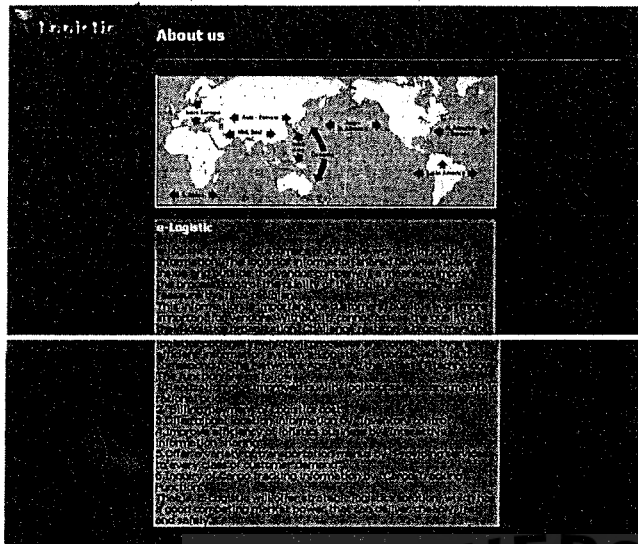
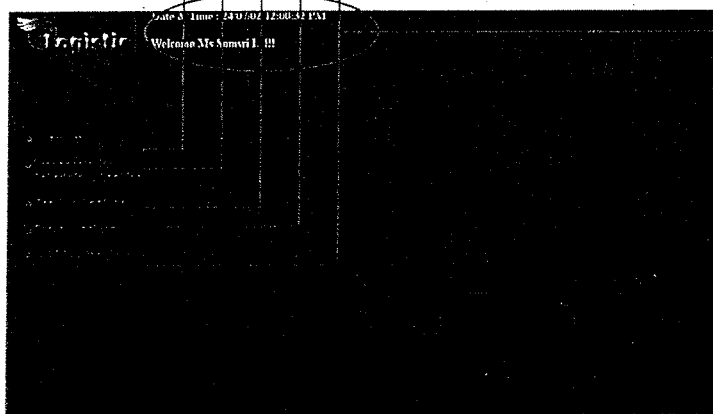


Figure 6.2. About Page.

(2) After web user logon with valid user id and password they will see the menu screen as shown on Figure 6.3. There are several menu as followings:

- (1) About us
- (2) Transportation Schedule & Booking
- (3) Confirm Booking
- (4) Cargo Tracking
- (5) B/L & S/I Inquiry



→ Display full name of user and logon date and time

Figure 6.3. Welcome Page.

- (3) When the users want to export their goods they have to click menu “Transportation Schedule and Booking” then search for their prefer Departure area , Destination area and Carriers which have a dropdown list to select. Estimated delivery date, estimated arrival date and Delivery date have a “Calendar” button to click desired date shown on Figure 6.4.



Figure 6.4: Popup Calendar.

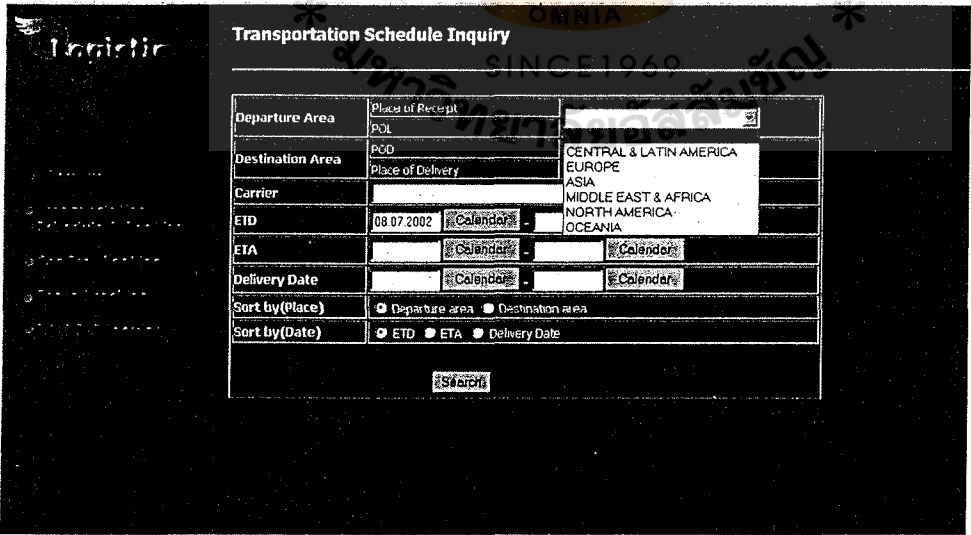


Figure 6.5. Transportation Schedule Inquiry Page.

After the users input all necessary information for search as shown on Figure 6.5 and click “Search” button to submit for inquiry to all matching transportation schedule data. The result will be shown as Figure 6.6.

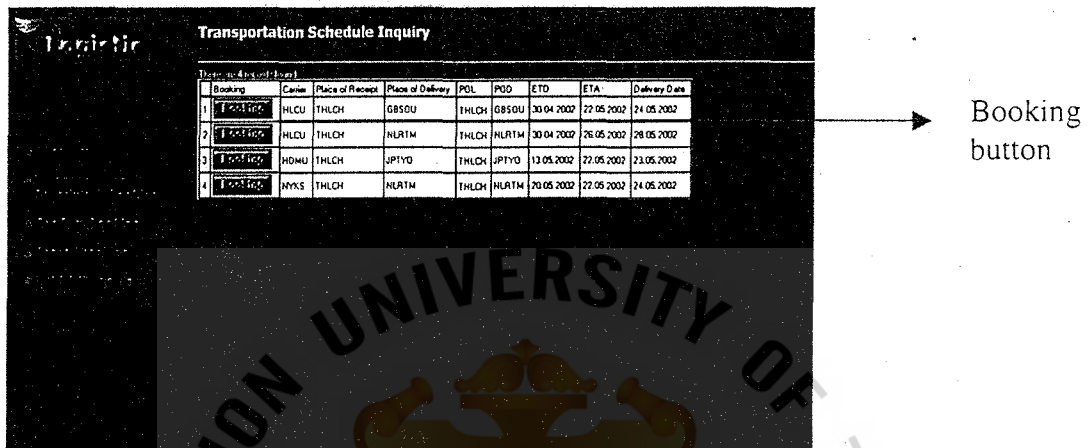


Figure 6.6. Transportation Schedule Inquiry Result Page.

- (4) For booking, the users can click any “Booking” button in any row of transportation schedule result . After that the booking screen will be shown as Figure 6.7 for input booking information Total volume, Total weight and Container booking. Then click the “Submit” button.

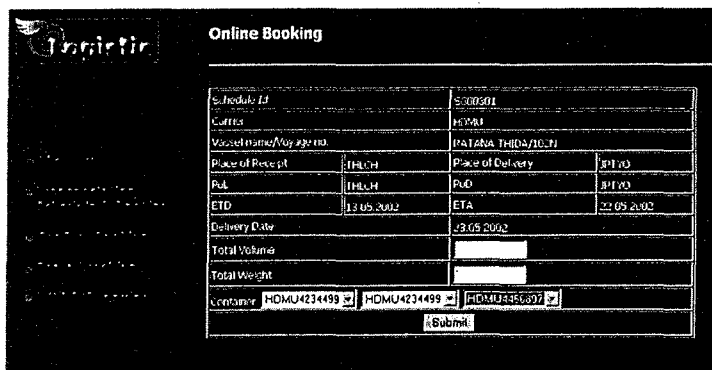


Figure 6.7. Online Booking Page.

- (5) A week before transport schedule, the users have to confirm their booking transaction as shown on Figure 6.10 unless it will not be effective. The first step, the users will go to “Booking Inquiry” screen which provide range booking no. and/or booking date for searching as shown on Figure 6.8. When the users click “Search” button, the result screen on Figure 6.9 will be shown. Hence , the users can select any booking no. in each row of the result to go to “Confirm Booking “ screen that show on Figure 6.10. After checking, the users have to click “Confirm Booking” button to complete the confirmation

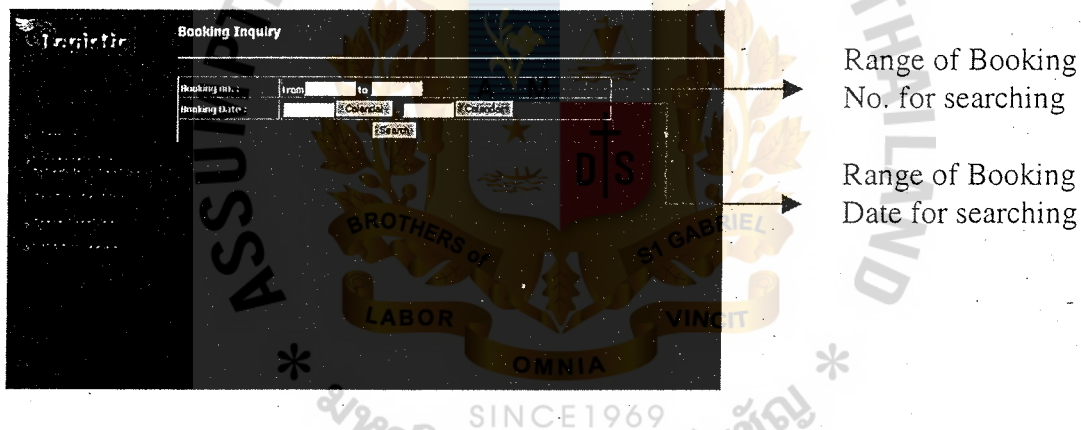


Figure 6.8. Booking Inquiry Page.

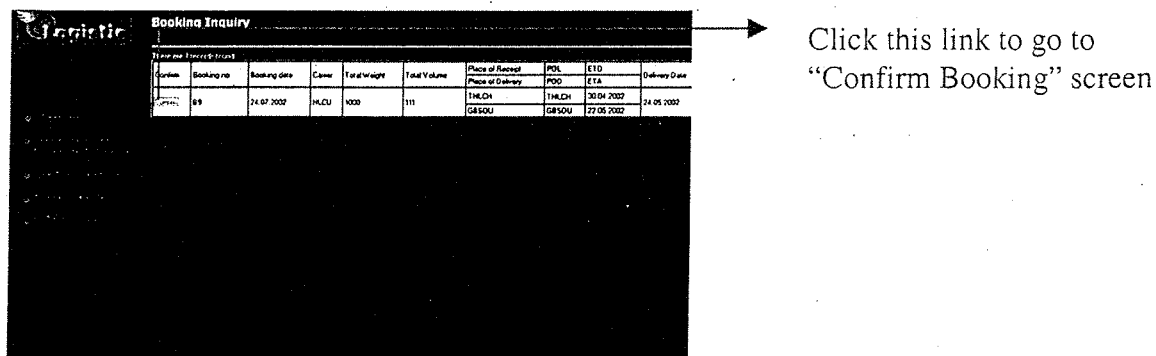


Figure 6.9. Booking Inquiry Result Page.



Booking No.		123456789	
Booking Date		2023-10-27	
Status		Booked	
Origin Port		Port of Origin	
Destination Port		Port of Destination	
Vessel		Vessel Name	
ETD		ETD Date	
ETA		ETA Date	
Delivery Date		Delivery Date	
Total Volume		Total Volume	
Total Weight		Total Weight	
Container No.		Container No.	
Booking Ref.		Booking Ref.	

Confirm Booking

After checking, the users verify by clicking this button

Figure 6.10. Online Confirm Booking Page.

- (6) During the goods in transit, the users can utilize 'Cargo Tracking' menu as shown on Figure 6.11 to track the status of the logistic. The Detail for searching criteria are PORT (From and To) which provide "Search" button to assist them to browse from port master table by created pop up window as shown on Figure 6.12 and the users can either input any character of the port code or leave in blank. If the users leave it blank the Java program will browse to all port in the table. If the users input any character for example "A" the program will browse only port code which start with "A" character. The other searching criteria like range of delivery date (D/O Date), estimated delivery date (ETD), status of logistic and D/O no. or B/L no. The users can select and/or input any criteria which mentioned above for searching for their desire Cargo tracking and the result will show only their own transaction. The result page will be shown as Figure 6.13 which display all the detail logistic status of each D/O such as status, estimated date and time and actual date and time of Shipment, Export Custom and so on.

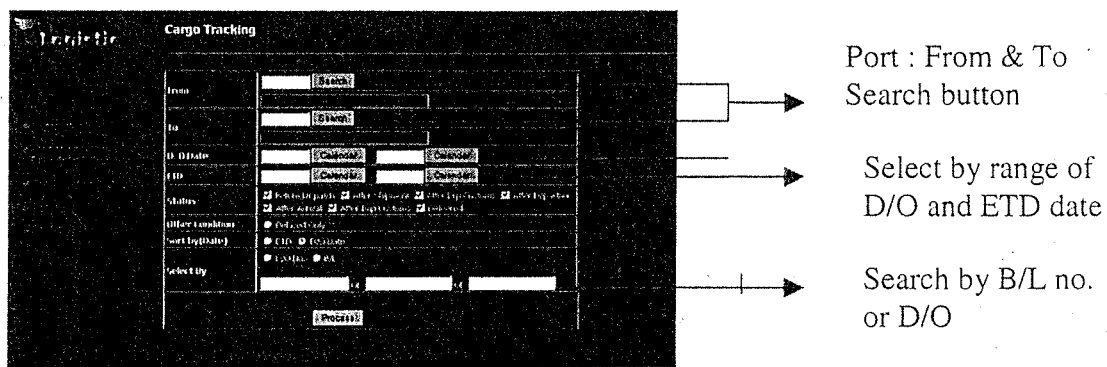


Figure 6.11. Cargo Tracking Inquiry Page.

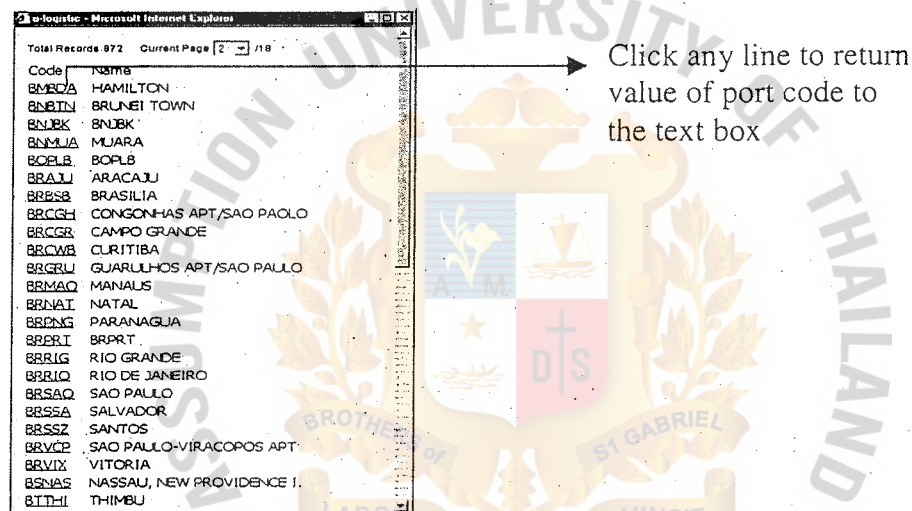


Figure 6.12. Port Master Inquiry.

The screenshot shows the 'Cargo Tracking Inquiry Result' page. The table below displays tracking data for a specific cargo.

These are the results									
Code No	Code	Status	Entered	Entered	Entered	Entered	Entered	Entered	Entered
1	12400228	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
2	11.04.2002	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
3	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
4	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
5	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
6	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
7	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
8	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
9	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH
10	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH	THLCH

Figure 6.13. Cargo Tracking Inquiry Result Page.

(7) The users can utilize B/L & S/I Inquiry Menu as shown on Figure 6.14 to inquiry for Bill of lading (B/L) and Shipping Instruction (S/I). The parameter for searching nearly same way as Cargo Tracking Inquiry page except has more detail of search criteria such as POL (port of loader), POD (port of delivery), Carriers and B/L date. The result page will be shown as Figure 6.15 and the users also can click on the “Detail Info.” button of each row to see more detail of Basic Information, Detail Information and Packing Information and print out this information for prepare for custom clearing as show on Figure 6.16.

**B/L & S/I Search**

From: [Search]  
To: [Search]  
POL: [Search]  
POD: [Search]  
B/L No.: [Calendar]  
S/I No.: [Calendar]  
B/L Date: [Calendar]  
LTA: [Calendar]  
Carrier: [Search]  
B/L Date: [Calendar]  
Document Status: ☒ B/L No. ☒ S/I No. ☒ B/L Date  
Means of Transport: ☒ Air ☒ Sea ☒ Land ☒ Other

Figure 6.14. SB/L & S/I Search Page.

**B/L & S/I Search Result**

From	To	POL	POD	B/L No.	S/I No.	Document Status	D/O No.	Booking No.	Means of Transport	Place of Receipt	Place of Delivery	ETA
THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND	THAILAND
<a href="#">Detail Info</a>												

Detail Info  
button to link  
for more detail

Figure 6.15. B/L & S/I Search Result Page.

e-logistic - Microsoft Internet Explorer

### Basic Information

B/L No.	HLCUBIK020411285	B/L Date	30.04.2002
S/I No.	04221982	B/L on Board Date	30.04.2002
D/O No.	G2403635	S/I Date	28.04.2002
		B/L Issued Place	THLCH
		Doc Type/Required	Way Bill Original 1 Copy 0
		Contract	Port to Port

Booking No. B4

Shipper	490100 Address	Consignee	XXXXX Address
---------	----------------	-----------	---------------

Carrier	Boal HLCU	Bill of Lading Clause	
Voyage/Flight No.	1515	Bill Remarks	THE CONTRACT OF CARRIAGE IS COVERED BY GERMAN LAW WITH PLACE OF
ID of Vessel/Lloyd's No.		Bill Instruction	
Vessel Name	xyz	Goods Description	1 X 40' S.T.C 37 CTNS (73 PR) ABC PRODUCT CAR RADIO SPEAKER XS-F6932//Q EUR (36497695) INV.NO.G2403635
Place of Receipt	THLCH	Case Mark	ABC
POL/ETD	THLCH 30.04.2002		
POD/ETA	OBSSU 22.05.2002		
Place of Delivery	THLCH		
Service Class			
Transport Charges Method	Prepaid		
Price Base			

### Packing Information

Dangerous Goods		Outer Level	Intermediate Level	Inner Level
Cargo Operating Temperature	MIN MAX	37 Carton	=	=
B/L Total Weight	330.89 KGM	Package Total	=	=
B/L Total Volume	1.697 MTQ		=	=
B/L Total No. of Packages	37		=	=

Container No.	Container Type	Weight/Container	Volume/Container	No. of Package	Seal No.
HLXU4446944	40 feet	330.89 KGM	1.697 MTQ	37	

Star corp  
11/1236  
11/1236  
Bangkok ... 10010  
Thailand ... 6621230001

Figure 6.16. B/L & S/I Result Detail Page.

## VII. CONCLUSIONS AND RECOMMENDATIONS

This project web site offers a new online logistics service application to support company operations as a part of supply chain management which will much more benefit them than ever with low cost. It is a collaborated web site that provides logistics service online and shares logistics information among suppliers, customers and carriers via internet. The existing system is mostly a manual system which mainly using telephone call and facsimile that take time, consume a lot of man power, telephone cost and human errors. So this problem has lead to the idea of this project, the opportunity to establish an online business.

The proposed system expects to reach the break even point on the ninth month and source of the income is member fees and transaction charges. The forecast return on investment for one year is about 47%. During operation of the website the problem will be defined and resolved. Additional customer needs and demands and many measures will be used to ensure of the web site objective achievement, therefore the web site will be improved according to those information after sometime to sustain and get new members.

In the future, the technology such as web site security technology will also be adopted to generate high value and trust to members. After the success of the web site the company aims to expand to enhance new function for example, EDI interface with Thai custom and online customer helpdesk. The company plans to develop the logistics package based on this project to be able to capture big enterprise companies who want to host and operate their own web site by themselves.





APPENDIX A

WEB INTERFACE DESIGN

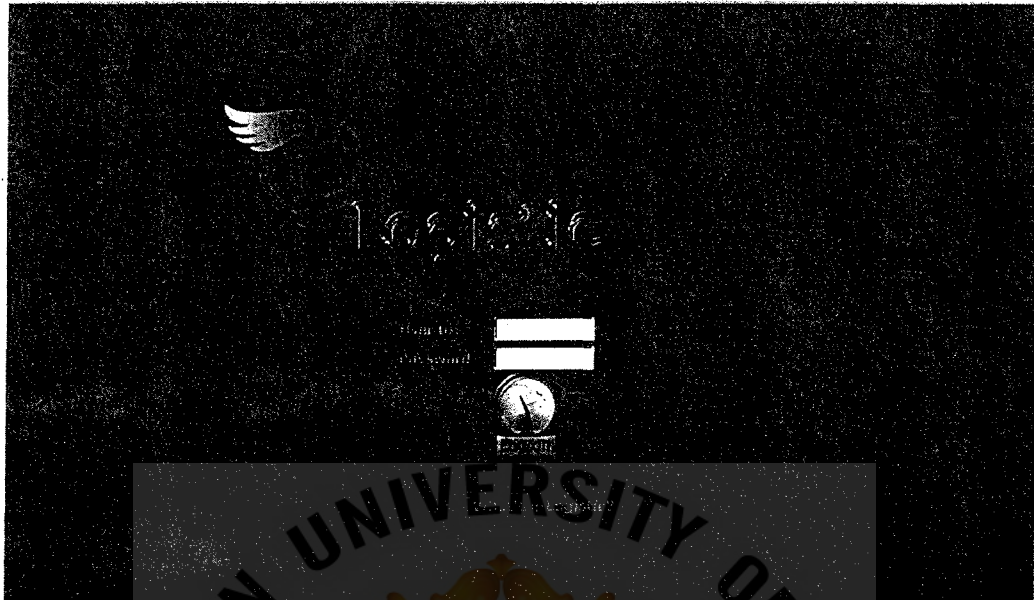


Figure A.1. Login Page & What's e-Logistic.

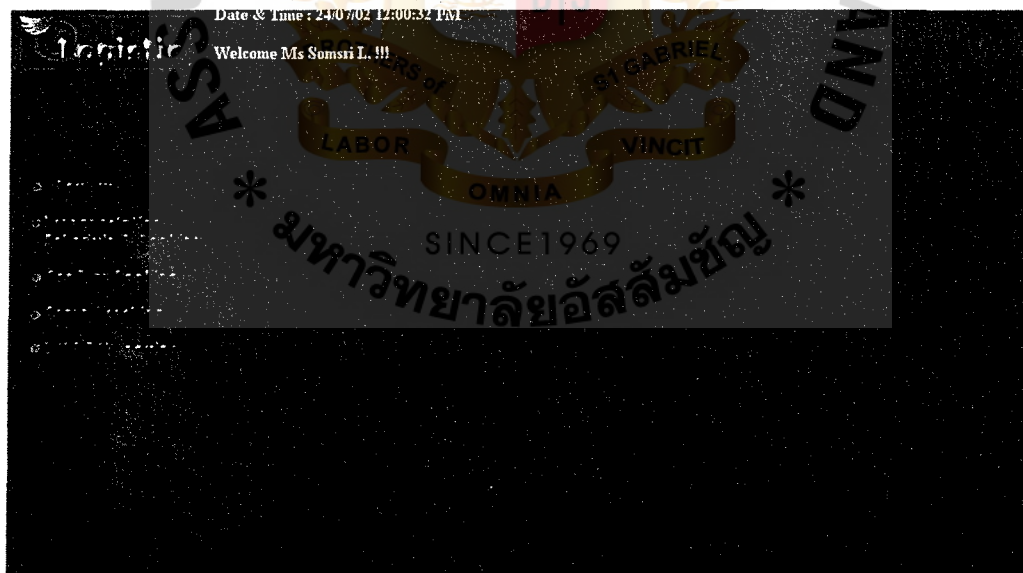



Figure A.2. Welcome Page.



Figure A.3. About Page.


<b>Transportation Schedule Inquiry</b>	
<b>Departure Area</b>	Place of Receipt DCU Place of Delivery DCU
<b>Destination Area</b>	CENTRAL & LATIN AMERICA EUROPE ASIA MIDDLE EAST & AFRICA NORTH AMERICA OCEANIA
<b>Carrier</b>	
<b>ETD</b>	08.07.2002
<b>ETA</b>	-
<b>Delivery Date</b>	-
<b>Sort by(Place)</b>	<input checked="" type="radio"/> Departure area <input type="radio"/> Destination area
<b>Sort by(Date)</b>	<input type="radio"/> ETD <input checked="" type="radio"/> ETA <input type="radio"/> Delivery Date
<input type="button" value="Search"/>	

Transportation Schedule Inquiry									
There are 4 record(s) found									
Booking	Carrier	Place of Receipt	Place of Delivery	POL	POD	ETD	ETA	Delivery Date	
1	HLCH	THLCH	GBSDU	THLCH	GBSDU	30.04.2002	22.05.2002	24.05.2002	
2	HLCH	THLCH	NLATM	THLCH	NLATM	30.04.2002	28.05.2002	28.05.2002	
3	HOMU	THLCH	JPTYO	THLCH	JPTYO	13.05.2002	22.05.2002	23.05.2002	
4	NYKS	THLCH	NLATM	THLCH	NLATM	20.05.2002	22.05.2002	24.05.2002	


**Online Booking**

Schedule Id.		S000300	
Carrier		HLCU	
Vessel name/Voyage no.		P&O HEDDLO/D ROTTERD/36W17	
Place of Receipt	THCH	Place of Delivery	NRTH
Pol	THCH	Pod	NRTH
ETD	30.04.2002	ETA	26.05.2002
Delivery Date		28.05.2002	
Total Volume			
Total Weight			
Container			
<input type="button" value="Submit"/>			

Figure A.6. Online Booking Page.



**Booking Inquiry**

Booking no. :
From
to

Booking Date :
Calendar
Calendar

Figure A.7. Booking Inquiry Page.





**Booking Inquiry**

These are 1 records found

Confirm	Booking no.	Booking date	Carrier	Total Weight	Total Volume	Place of Receipt	POL	ETD	Delivery Date
	89	24.07.2002	HLCU	1000	111	THLCH	THLCH	30.04.2002	24.05.2002
						GBSOU	GBSOU	22.05.2002	

Figure A.8. Booking Inquiry Result Page.


**Online Confirm Booking**

Booking no.		89	
Booking date		24.07.2002	
Carrier		HLCU	
Vessel name/Voyage no.		OOCL SAN FRANCISCO/10W17	
Place of Receipt	THLCH	Place of Delivery	GBSOU
Pol	THLCH	PoD	GBSOU
ETD	30.04.2002	ETA	22.05.2002
Delivery Date		24.05.2002	
Total Volume		111	
Total Weight		1000	
Container	HLXU4446944	User Id.	user1
<div>Confirm Booking</div>			

Figure A.9. Online Confirm Booking Page.



ASSA

# Logistics

## Cargo Tracking Inquiry Result

There are 1 record found

	Shipment	Exp Customs	Departure	Arrival	Imp Customs	Delivery
<div> <div> <div>Doc No</div> <div>T400238</div> </div> <div> <div>Doc Date</div> <div>11.04.2002</div> </div> </div>	<div> <div>THLCH</div> </div>	<div> <div>THLCH</div> </div>	<div> <div>GBSOU</div> </div>	<div> <div>GBSOU</div> </div>	<div> <div>GBSOU</div> </div>	<div> <div>GBSOU</div> </div>
<div> <div>Carrier</div> <div>HLCU</div> </div>	<div> <div>Status</div> <div>Finished</div> </div>	<div> <div>Est Date</div> <div>15.04.2002</div> </div>	<div> <div>Est Time</div> <div>12:00:00 AM</div> </div>	<div> <div>Act Date</div> <div>11.04.2002</div> </div>	<div> <div>Act Time</div> <div>7:35:00 PM</div> </div>	<div> <div>Exp Customs</div> <div>Finished</div> </div>
<div> <div>Booking No.</div> <div>B4</div> </div>	<div> <div>Est Date</div> <div>15.04.2002</div> </div>	<div> <div>Est Time</div> <div>9:00:00 AM</div> </div>	<div> <div>Act Date</div> <div>15.04.2002</div> </div>	<div> <div>Act Time</div> <div>9:30:00 AM</div> </div>	<div> <div>Exp Customs</div> <div>Finished</div> </div>	<div> <div>Delivery</div> <div>Finished</div> </div>
<div> <div>B/L</div> <div>HLCUBIK020411285</div> </div>	<div> <div>Est Date</div> <div>15.04.2002</div> </div>	<div> <div>Est Time</div> <div>9:00:00 AM</div> </div>	<div> <div>Act Date</div> <div>15.04.2002</div> </div>	<div> <div>Act Time</div> <div>9:30:00 AM</div> </div>	<div> <div>Exp Customs</div> <div>Finished</div> </div>	<div> <div>Delivery</div> <div>Finished</div> </div>
<div> <div>S/L</div> <div>T4090258</div> </div>	<div> <div>Est Date</div> <div>15.04.2002</div> </div>	<div> <div>Est Time</div> <div>9:00:00 AM</div> </div>	<div> <div>Act Date</div> <div>15.04.2002</div> </div>	<div> <div>Act Time</div> <div>9:30:00 AM</div> </div>	<div> <div>Exp Customs</div> <div>Finished</div> </div>	<div> <div>Delivery</div> <div>Finished</div> </div>

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60

Logistic B/L & S/I Search

From	<input type="text"/> Search
To	<input type="text"/> Search
POL	<input type="text"/> Search
POD	<input type="text"/> Search
ETD	<input type="text"/> Calendar - <input type="text"/> Calendar
ETA	<input type="text"/> Calendar - <input type="text"/> Calendar
Carrier	<input type="text"/> Search
B/L Date	<input type="text"/> Calendar - <input type="text"/> Calendar
Document Status	<input checked="" type="checkbox"/> B/L Temp <input checked="" type="checkbox"/> B/L Published <input checked="" type="checkbox"/> B/L Revised
Mean of Transport	<input checked="" type="radio"/> Air <input type="radio"/> Boat <input type="radio"/> Air&Boat <input type="radio"/> B/L No. <input type="radio"/> S/I No. <input type="radio"/> D/O No. <input type="radio"/> Booking No.

Figure A.12. B/L & S/I Search Page.

Logistic B/L & S/I Search Result

There are 1 record found

	B/L No.	B/L Date	S/I No.	Document Status	D/O No.	Booking No.	Mean of Transport	Place of Receipt	POL	ETD
							Carrier	Place of Delivery	POD	ETA
Data Info	HLCU8KK020411285	30.04.2002	G4221982	B/L Published	G2403635	84	BOAT	THLCH	THLCH	30.04.20
							HLCU	GBSOU	GBSOU	22.05.20

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\* มหาวิทยาลัยอัสสัมชัญ \*

Figure A.13. B/L & S/I Search Result Page.

e-logistic - Microsoft Internet Explorer

### Basic Information

B/L No.	HLGUBIKK020411285	B/L Date	30.04.2002
S/I No.	04221982	B/L on Board Date	30.04.2002
Co No.	G2403635	S/I Date	29.04.2002
		B/L Issued Place	THLCH
		Doc Type/Required	Way Bill Original 1 Copy 0
		Contact	Port to Port

Booking No. B4

Shipper 400100 Address

Notify Party 1

Name	LOOIST
Address	PO BOX 8000 JE 900000 THE NE

Shipping Contact SOMCHAI

Star corp  
11/1236  
11/1236  
Bangkok ... 10010  
Thailand ... 6621230001

Address

Name	OVERSEA S.A.
Address	RUTISTRASSE 12, CH 1209 SCHLINEREN, SWITZERLAND 722-0123456

Carrier Boal HI

Voyage/Flight No. 1515

ID of Vessel/Lloyd's No.

Vessel Name xyz

Place of Receipt THLCH

POL/ETO THLCH 30

POD/ETA 0890U 2

Place of Delivery THLCH

Service Class

Transport Charges Method Prepaid

Price Base

B/L Instruction

Goods Description

1 X 40' S.T.C 37 CTNS (73 PR)  
ABC PRODUCT  
CAR RADIO SPEAKER  
XS-F6932/Q EUR (36497695)  
INV.NO.G2403635

Case Mark

ABC

THE CONTRACT OF CARRIAGE IS COVERED BY GERMAN LAW WITH PLACE OF

### Packing Information

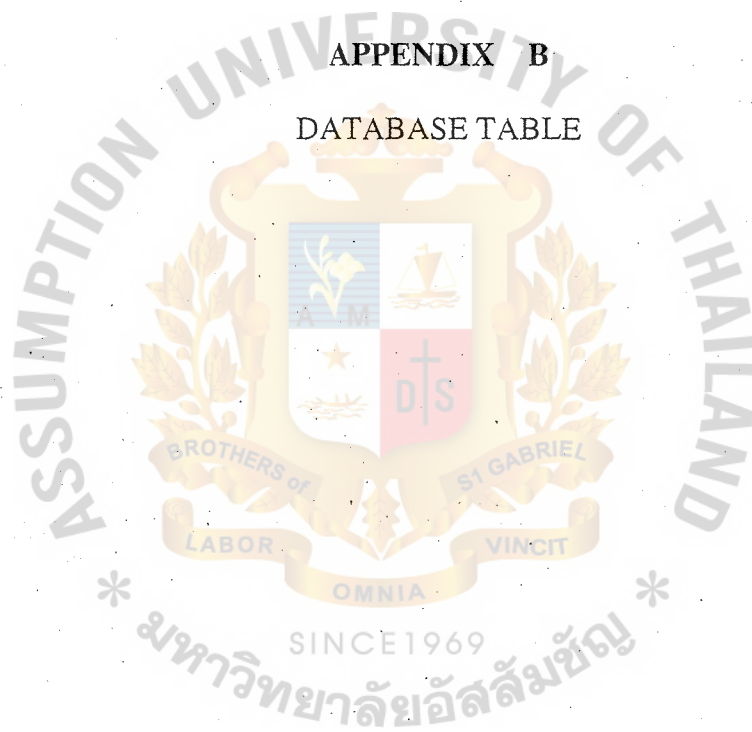
Dangerous Goods	Cargo Operating Temperature MIN MAX	Outer Level	Intermediate Level	Inner Level
B/L Total Weight 330.69 KOM <td>37 Carton =</td> <td></td> <td></td> <td></td>	37 Carton =			
B/L Total Volume 1.697 MTQ <td>Package Total</td> <td></td> <td></td> <td></td>	Package Total			
B/L Total No. of Packages 37				

Container No.	Container Type	Weight/Container	Volume/Container	No. of Package	Seal No.
HLXU4446944	40 feet	330.69 KOM	1.697 MTQ	37	

Figure A.14. B/L & S/I Result Detail Page.

APPENDIX B

DATABASE TABLE



Field Name	Data Type	Length	Description
User_id	Text	Length=8	User Id.
User_name	Text	Length=50	User Name
User_corp	Text	Length=8	User Company
User_type	Text	Length=1	User Type
User_passwd	Text	Length=50	User Password
User_status	Text	Length=2	User Status
User_upd	Date/Time	Last update date	

Figure B.1. User Master Table.

Field Name	Data Type	Length	Description
Vnd_code	Text	length=8	Vendor Code
Vnd_name	Text	length=50	Vendor Name
Vnd_Addr1	Text	length=50	Vendor Address 1
Vnd_Addr2	Text	length=50	Vendor Address 1
Vnd_City	Text	length=50	Vendor City
Vnd_Zip	Text	length=10	Vendor Zip Code
Vnd_Country	Text	length=20	Vendor Country
Vnd_tel	Text	length=40	Vendor Telephone no.
Vnd_pic	Text	length=50	Vendor Contact person

Figure B.2. Vendors Table.

container_trans : Table		
Field Name	Data Type	Description
Ct_no	Text	Length=15 Container No.
CT_TYPE	Number	Integer Container Type
Ct_BL	Text	Length=20 B/L No.
Ct_weight	Number	Double Container Weight
Ct_volume	Number	Double Container Volume
Ct_no_pack	Number	Double Number of Package
CT_BK_no	Text	Length=20 Booking no.
CT_seal	Text	Length=10 Container Seal no.

Figure B.3. Container\_trans Table.

Container_master : Table		
Field Name	Data Type	Description
cn_no	Text	Length=20 Container No.
cn_status	Text	Length=2 Container Status
cn_booking_no	Text	Length=20 Booking No.
cn_carrier	Text	Length=10 Booking Carrier
cn_plr	Text	Length=8 Place of receipt

Figure B.4. Container\_Master Table.



Field Name	Data Type	Description
BL_no	Text	Length=20 B/L No.
BL_date	Number	Long B/L Date
BL_status	Text	Length=2 B/L status
SI_no	Text	Length=20 S/I No.
SI_date	Number	S/I Date
Do_no	Text	Length=10 D/O No.
SI_status	Text	Length=2 S/I Status
booking_no	Text	Length=20 Booking No.
shipper	Text	Length=10 Shipper
consignee	Text	Length=8
notify1	Text	Length=8
notify2	Text	Length=8
BL_issue	Text	Length=10 B/L Issue Place
ship_cont	Text	Length=20 shipping Contact
BL_total_v	Number	Double Total Volume
BL_total_w	Number	Double Total Weight
BL_clause	Memo	Memo B/L Clause
BL_remark	Memo	Memo B/L Remark
BL_inst	Memo	Memo Instruction
Goods_desc	Memo	Goods Description
case_mark	Memo	Memo Case Mark
Total_no_pack	Number	Total Number of Package
user_id	Text	Length=10 User id
BL_MEANS	Text	Length=10 B/L Mean of Transportation

Figure B.5. BLSI\_Trans Table.

Field Name	Data Type	Description
Bk_rec	Text	Length=2 Record Status
Bk_no	Text	Length=8 Booking no.
Bk_ts_no	Text	Length=15 Transportation No.
Bk_date	Number	Long Booking Date
Bk_pic	Text	Length=50 Person in Charge
Bk_weight	Number	Double Booking Weight
Bk_volume	Number	Double Booking Volume
Bk_user	Text	Length=10 Booking User Id
Bk_upd	Date/Time	Booking Last Update Date
bk_plr	Text	Length=8 Place of Receipt
bk_pld	Text	Length=8 Place of Delivery
bk_pod	Text	Length=8 Port of Delivery
bk_pol	Text	Length=8 Port of Loader
bk_etd	Number	Estimated Delivery Date
bk_eta	Number	Estimated Arrival Date
bk_carrier	Text	Length=10 Booking Carrier
bk_vessel	Text	Length=20 Booking Vessel
bk_voyage	Text	Length=10 Booking Voyage

Figure B.6. Booking\_trans Table.

transport_sch : Table		
Field Name	Data Type	Description
Ts_no	Text	
Ts_carrier	Text	Length=8
Ts_plr_area	Text	Length=2
ts_pld_area	Text	Length=2
Ts_PoL	Text	Length=8 Port of loader
Ts_PoD	Text	Length=8 Port of delivery
Ts_PLR	Text	Length=8 Place of Receipt
Ts_ETD	Number	Long Estimated Delivery Date
Ts_ETA	Number	Long Estimated Arrival Date
Ts_Ddate	Number	Delivery Date
Ts_shipday	Number	Integer Shipped Day
Ts_PLD	Text	Length=50 Place of Delivery
Ts_Volume	Number	Double Volume
Ts_weight	Number	Double Weight
Ts_vessel	Text	Length=20 Vessel
Ts_voyage	Text	Length=10 Voyage
Ts_upd	Date/Time	Last Update Date

Figure B.7. Transport\_sch Table.

Country_master : Table		
Field Name	Data Type	Description
Status	Text	Length=2
Code	Text	Length=8
Description	Text	Length=50 Description

Figure B.8. Country\_Master Table.

Field Name	Data type	Description
Port_cd	Text	Length=8 Port Code
Port_name	Text	Length=255 Port name
Port_cntry	Text	Length=50 Port Country
Port_area	Text	Length=10 Port area Code

Figure B.9. Port\_Master Table.

Field Name	Data type	Description
Carrier_cd	Text	Length=8 Carrier Code
Carrier_name	Text	Length=50 Carrier Name
Carrier_upd	Date/Time	Last Update Date

Figure B.10. Carriers Table.

















control_tab : Table				
	FieldName	Data type	Description	
	ID	AutoNumber		
	key_type	Text	Length=2	Key Type
	data_1	Text	Length=50	Data Area 1
	data_2	Text	Length=50	Data Area 2
				
				
				
				
				
				
				
				
				
				
				
				

Figure B.11. Control\_tab Table.

Delivery_ord : Table		
Field Name	Data Type	Description
DO_no	Text	Length=15 Delivery Order No.
Do_date	Number	Delivery Date
PO_no	Text	Length=15 Purchase Order No
BL_no	Text	Length=20 Bill of Lading No
SI_no	Text	Length=20 Shipping Instruction No
booking_no	Text	Length=8 Booking No
shipment_sts	Text	Length=10 Shipping status
exp_cstom_sts	Text	Length=10 Export Custom status
departure_sts	Text	Length=10 Departure status
arrival_sts	Text	Length=10 Arrival status
imp_cstom_sts	Text	Length=10 Import Custom status
Delivery_sts	Text	Length=10 Delivery status
shipment_etd	Number	Shipment Estimated Delivery Date
exp_cstom_etd	Number	Export Custom Estimated Delivery Date
departure_etd	Number	Departure Estimated Delivery Date
arrival_etd	Number	Arrival Estimated Delivery Date
imp_cstom_etd	Number	Import Custom Estimated Delivery Date
Delivery_etd	Number	Delivery Estimated Delivery Date
shipment_ett	Date/Time	Shipment Estimated Delivery Time
exp_cstom_ett	Date/Time	Export Custom Estimated Delivery Time
departure_ett	Date/Time	Departure Estimated Delivery Time
arrival_ett	Date/Time	Arrival Estimated Delivery Time
imp_cstom_ett	Date/Time	Import Custom Estimated Delivery Time
Delivery_ett	Date/Time	Delivery Estimated Delivery Time
shipment_atd	Number	Shipment Actual Date
exp_cstom_atd	Number	Export Custom Actual Date
departure_atd	Number	Departure Actual Date
arrival_atd	Number	Arrival Actual Date
imp_cstom_atd	Number	Import Custom Actual Date
Delivery_atd	Number	Delivery Actual Date
shipment_att	Date/Time	Shipment Actual Time
exp_cstom_att	Date/Time	Export Custom Actual Time
departure_att	Date/Time	Departure Actual Time
arrival_att	Date/Time	Arrival Actual Time
imp_cstom_att	Date/Time	Import Custom Actual Time
Delivery_att	Date/Time	Delivery Actual Time

Figure B.12. Delivery\_ord Table.





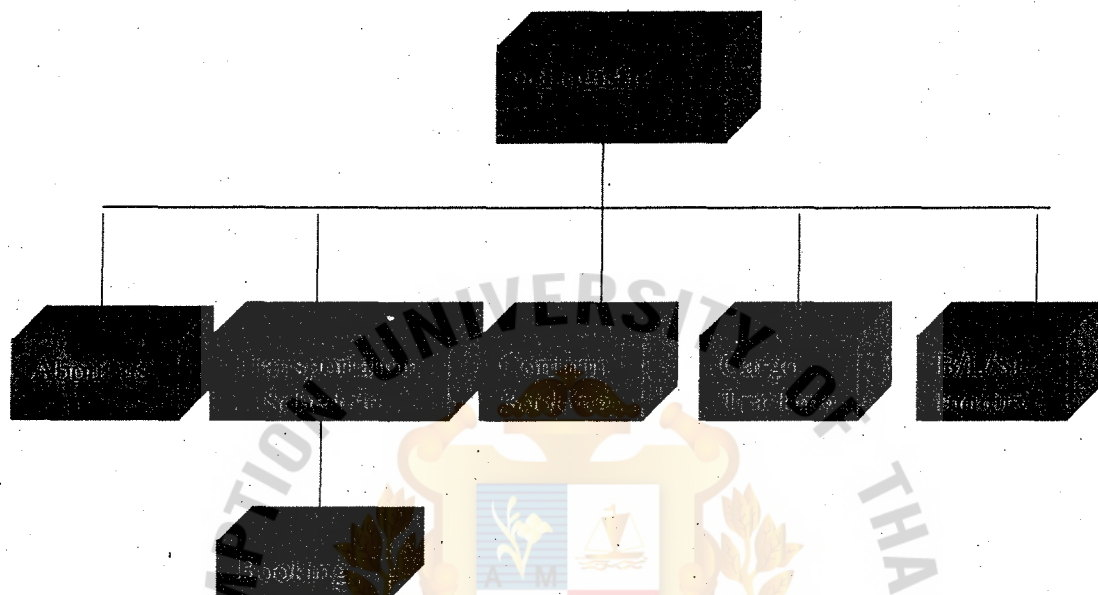


Figure C.1. Site Map of e-Logistic Website.



Table D.1. Break-even point Calculation.

Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Total Member	0	20	30	50	70	90	120	150		190	220	250
member fee *1000	0	20000	30000	50000	70000	90000	120000	150000		190000	220000	250000
Transaction (avg 30/member)	0	600	900	1500	2100	2700	3600	4500		5700	6600	7500
Transaction Charge (10B/transaction)	0	6000	9000	15000	21000	27000	36000	45000		57000	66000	75000
Total Income	0	26000	65000	130000	221000	338000	494000	689000		1157000	1443000	1768000
Monthly Expense	325000	59000	59000	59000	59000	59000	59000	59000		59000	59000	59000
Total Expense	325000	384000	443000	502000	561000	620000	679000	738000		856000	915000	974000

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