Practical Development of Information System in Business Context:
Online Ordering System for Sakchai Spare Part Automobile
Limited Partnership

PROJECT WRITE-UP

Prepared by

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Project Name: Online Ordering System, Sakchai Spare Part Automobile Limited Partnership

Developer: Mr. Pinyo   Thongpahusajja
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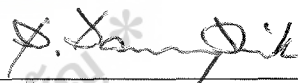Advisor: A. Yuvadee   Sommai
Co-advisor   A. Piyabute   Fuangkhon

Academic year   2003

The Department of Business Information Systems, ABAC School of Management has approved the aforementioned project, which includes complete Project Write-up and System submitted in fulfillment of the 3-credit course BIS 4995 Information System Development towards the requirements for the bachelor's Degree of Business Administration in Business Information Systems

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March, 2004

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Submitted in Partial Fulfillment
of the Course BIS 4995 Information System Development
Bachelor's Degree of Business Administration
in Business Information Systems Program
Assumption University

March, 2004

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1.1 Organization's profile

Sakchai Spare Parts Automobile Limited Partnership was established in1984, founded by members in the family. The company sells Japanese car spare parts to the customers in Bangkok area and other provinces. The products are purchased from Spare Part Automobile Industry and imported from the foreign country. The company located in Bangkok, Thailand. The main products that the customers always order are filters, piston, automotive belt and sparking plug. The company has about 17 employees.

1.2 Organization's Location

The Company is located at 28/10 Soi Yodsae Bumrungmaung Road Pomprabsudtupai, Bangkok, Thailand 10100.

Telephone No. (02) 225-6495-6, Fax No. (02) 225-2881

1.3 Organization's Structure
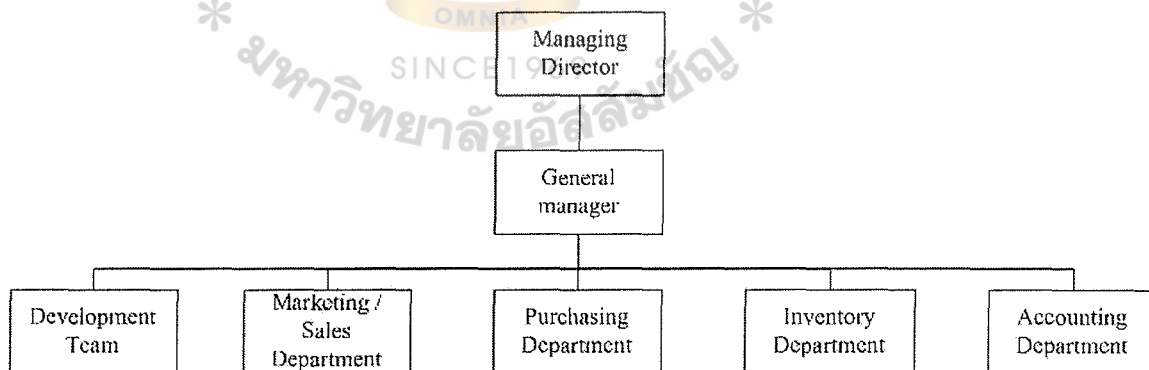
Figure 1-1 Organization Chart
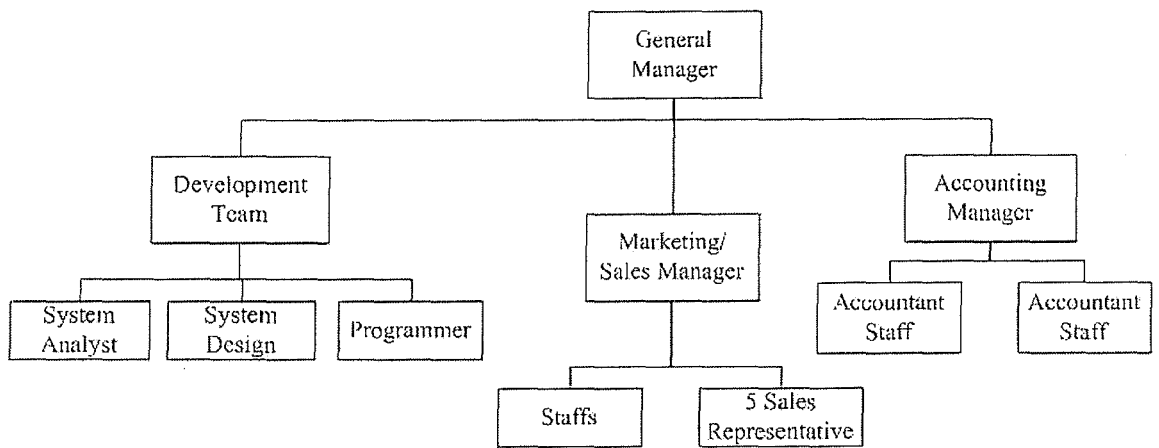
Figure 1-2 Department Chart

1.4 Project plan

Currently, Sakchai Company Limited Partnership is using old fashion way of running business (Mostly manual and paperwork) The company obtains its entire product from the industry. The company initiates contact with the supplier via telephone. The company uses sales representatives to approach customer and make a deal. The ordering process of the marketing/sales department is using the manual system. It causes the problem of maintaining the customers' ordering information because of the inefficiency of information storage.

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ID	Task Name	Duration	Start	Finish	October Oct	November Nov	December Dec	January Jan	February Feb	March Mar
1	**1.Analysis of the Existing System**	5 days	Fri 10/24/0	Thu 10/30/0	10/24▓▓ 10/30					
2	**2.Preliminary Investigation**	**13 day**	**Fri 10/31/**	**Tue 11/18/**						
3	2.1 Define the objectives and Scope	7 days	Fri 10/31/0	Mon 11/10/0		10/31▓▓ 11/10				
4	2.2 Software Requirement	3 days	Tue 11/11/0	Thu 11/13/0		11/11▓ 11/13				
5	2.3 Hardware Requirement	3 days	Fri 11/14/0	Tue 11/18/0		11/14▓ 11/18				
6	**3. Analysis and Design of the Proposed Sys**	**58 day**	**Mon 11/24/**	**Wed 2/11/**						
7	3.1 Data Flow Diagram(DFD)	11 days	Mon 11/24/0	Mon 12/8/0		11/24▓▓ 12/8				
8	3.2 Entity-Relationship Diagram(ERD)	5 days	Tue 11/25/0	Mon 12/1/0		11/25▓ 12/1				
9	3.3 Database Design	7 days	Mon 12/1/0	Tue 12/9/0			12/1▓ 12/9			
10	3.4 Process Specification	5 days	Tue 12/9/0	Mon 12/15/0			12/9▓ 12/15			
11	3.5 Data Dictionary	5 days	Wed 12/10/0	Tue 12/16/0			12/10▓ 12/16			
12	3.6 Interface Design	41 days	Wed 12/17/0	Wed 2/11/0			12/17▓▓▓▓▓▓ 2/11			
13	3.7 Report Design	20 days	Wed 1/14/0	Tue 2/10/0				1/14▓▓▓ 2/10		
14	**4 Implementation of the Proposed System**	**40 day**	**Mon 12/22/**	**Fri 2/13/**						
15	4.1 Coding	40 days	Mon 12/22/0	Fri 2/13/0			12/22▓▓▓▓▓ 2/13			
16	4.2 Testing	40 days	Mon 12/22/0	Fri 2/13/0			12/22▓▓▓▓▓ 2/13			
17	4.3 Documentation	15 days	Thu 1/22/0	Wed 2/11/0				1/22▓▓▓ 2/11		

Figure 1-3 Project Plan for Online Ordering System for Sakchai Spare Part Automobile Limited Partnership

II. THE EXISTING SYSTEM

2.1 Background of Existing System

Currently, Sakchai Company Limited Partnership is using old fashion way of running business (Mostly manual and paperwork). The company obtains its entire product from the industry. The company initiates contact with the supplier via telephone. The company uses sales representatives to approach customer and make a deal. The ordering process of the marketing/sales department is using the manual system. It causes the problem of maintaining the customers' ordering information because of the inefficiency of information storage.
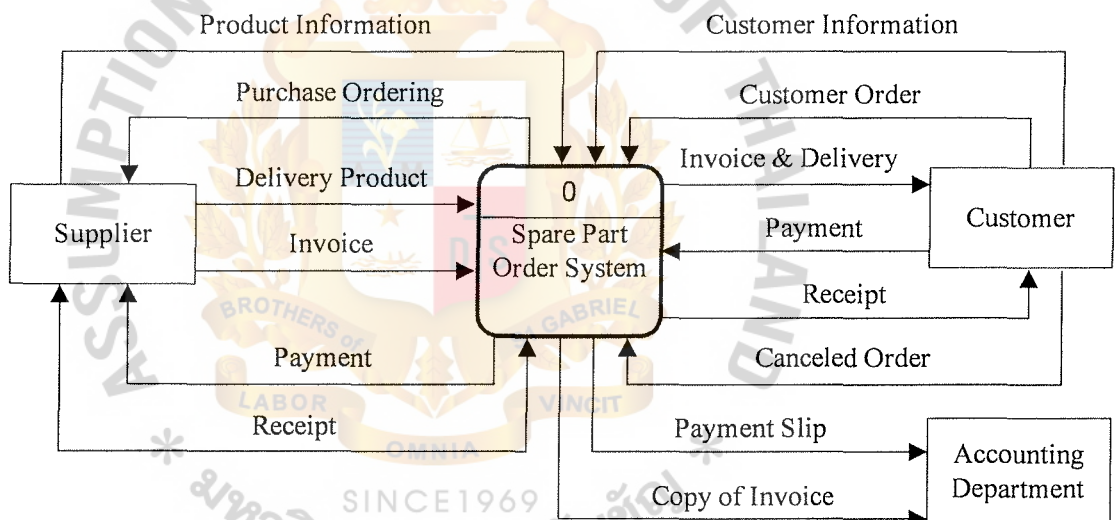
Figure 2-1 Context Diagram of existing System

2.2 Problem Definition

(1)   Difficult to retrieve information

Currently, customer and supplier information were recorded as a hard copy and it is difficult to retrieve and search for each detail, also the task is time-consuming. Moreover, keeping track of the customer's information and supplier's information were ineffective. It also contains a lot of redundant information.

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(2)   Inefficiency of checking the inventory

The inventory is manually checked by workers that may cause the error. The Company has to face the problem of actual product in the inventory not being the same as in the product's inventory record. This problem may occur because of the errors from checking the stock or recording the transactions by some workers.

(3)   Inefficient process of ordering product.

At the present, the company facing problems of communication such as misunderstand the order request from each department.   Time consuming and some mistakes occur from the flow of information between the company and company's sales representative while the ordering process is being done.

(4)   High cost of the existing operation

Because of many employees in the marketing/sales department, the company has many sales representatives for expanding the market to the province customers.

III. THE PROPOSED SYSTEM

3.1 Feasibility Study

(1) Objectives of the System

- To design a 24-hour-a-day electronic ordering system.

- To provide convenience of the ordering method to the customer.

- To display colorful catalogs and up to date data to the customer via Web site.

- To increase the performance of the communication and purchase order with suppliers.

- To reduce the manual system by using database to manage the inventory.

- To be competitive with the other competitors in the market place.

- To reduce the time cost and resources including paperwork

- To decrease the cost of communication such as telephone and fax.

(2) Scope of the System

    (a) Sales Module

- Provide online catalogue for customers.

- Provide search engine for customers to find the products.

- Provide the shopping cart for customer to order the product.

- Allow the customer to select the method of payment such as pay by cash or pay by credit.

- Calculate the amount of payment and VAT of ordering.

- Record the customer information in sale form.

- To generate invoice for customer when customers make order.

- To generate receipts for customers once the payment is done

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(b) Purchase Module

- Allow only administrator to process the purchase module.

- Keep the suppliers information for the company in terms of purchasing.

- System will warn to administrator when inventory is under minimum limit stocks.

- Provide purchase form in order to purchase new product when our products are out of stock.

- Keep track of the purchase invoice and record it when product has been delivered from the supplier.

- Keep track of the purchase receipt and record it when payment is done.

(c) Security Module

- Provide User Login and password system for security.

- Provide User login and password for member access.

- Member can access into system via only login access.

- Member can login into system and edit, insert, delete and add their information.

- Provide registration system for new members in order to collect customer information.

- System will not allow any member to access the online ordering system after they logout.

- Provide the members' secret question when they forget the passwords.

(d)   Information Module

- Provide company information on the website.

- Provide product information for the members.

- Provide facilities for customers such as FAQs, Contact and Support.

(e)   Inventory Module

- Show database details in the inventory such as ID, name, amount and price.

- Administrator can add, delete, update and edit item in inventory.

- Use moving average method to manage inventory.

(f)   Report Module

- To generate daily, monthly, and annually sales report categorized by sales id, customer id, customer name, quantity, price and sale date.

- To generate daily inventory report categorized by product id, product name, quantity (stock on hand) price and date.

- To generate monthly purchase order report categorized by purchase id, product name, quantity, price and received date.

- To generate monthly purchase order report grouped by suppliers categorized by supplier id, purchase id, product name, quantity, price, and received date.

- To generate receipt report categorized by sale and purchase.

- To generate invoice report categorized by sale and purchase

(3)   Minimum Hardware and Software Requirements

Table 3-1 Minimum Hardware Requirements for Server Computer

HARDWARE	SPECIFICATION
CPU	Intel Xeon Processor DP 2.40 GHz. (Dual Processor Capable)
MAIN BOARD	512 KB L2 Cache / FSB 533 MHz.
MEMORY	512 MB ECC DDR-RAM (Max. 8 GB)
HARD DISK	40 GB RPM 7200
CD-ROM DRIVE	24X Slim CD-ROM Drive
FLOPPY DRIVE	1.44MB
DISPLAY CARD	Integrated ATI with 8MB Graphic
SOUND CARD	AC-97 Audio3D
UPS	Intel Chassis Pedestal, Redundant Power Supply
CHIPSET	Chipset Intel E7501

Minimum Hardware requirement for the server computer is the specification for support with the system of the company. This specification is the server of MPP ULTRA T8000. The specification of the server should have, first is CPU Intel Xeon Processor DP 2.40 GHz. (Dual Processor Capable). This CPU is effective for running the company's system. Also the Main Board which support with CPU Intel Xeon Processor DP 2.40 GHz. (Dual Processor Capable) should be 512 KB L2 Cache / FSB 533 MHz. For the memory should have 512 MB ECC DDR-RAM (Max. 8 GB) and the Hard Disk, the lowest requirement which support for do the system should have 40 GB. For the others technical specification that we

recommend for proceed with the system, such as 24X Slim CD-ROM Drive, 1.44 MB for the Floppy Drive, Integrated ATI with 8MB Graphic for display card and Chipset Intel E7501. Anyway this is just the specification that we recommend for use with our system, but there are so many specifications for the hardware that support with our system.

Table 3-2 Minimum Software Requirements for Server Computer

SOFTWARE	SPECIFICATION
Operating System	Microsoft Window 2000 Sever SP3
Application	1. XML Support 2. JavaScript 3. Frontpage 2000 Extension 4. Active Server Page 3.0 5. FTP Online 6. Database (Microsoft Access)

For Minimum Software Requirements, we select Microsoft Windows 2000 Server SP3 as the operating system because it is the one of the best products of Microsoft. It has good performance and reliability system. And XML Support will help and support for create Web site with Active Server Page. Javascript will be useful to create dynamic script on Web page. Frontpage 2000 Extension will support and cooperate with Active Server Page 3.0 for create Web site. The server computer will open FTP Software Online to support user all the time and also support user to use Microsoft Access as Database on server computer.

Table 3-3 Minimum Hardware Requirements for Client Computer

HARDWARE	SPECIFICATION
CPU	AMD Athlon XP
MEMORY	DDR256 MB
HARD DISK	20 GB
CD-ROM DRIVE	CD ROM
FLOPPY DRIVE	1.44MB
DISPLAY ADAPTER	64 MB
DISPLAY	15'' Flat Screen
UPS	800 VA
PRINTER	Epson C43 SX

Minimum Hardware specification is selected only for clients to access into our Web site. AMD Athlon XP 2200 is the effective CPU speed in the market and also it is enough for client to access our web site. In case of Ram, DDR 256 MB is chosen because it has the very effective performance with the lower price than RD RAM. The 40 GHz hard disk is the cost effective one.

Table 3-4 Minimum Software Requirements for Client Computer

SOFTWARE	SPECIFICATION
Operating System	Microsoft Window 2000
Application	1. Internet Explorer Version 5 2. Microsoft Office 2000 3. Java Web Start

For Minimum Software Requirements, we selected Microsoft Windows 2000 as the operating system for client computer because it is the one of the best products of Microsoft. It has good performance and reliability system. And Microsoft Office 2000 is one of the most famous products of Microsoft, which client can use to handle the documents from the company via Web site. Internet Explorer 5.0 is plugged with Microsoft Windows 2000. So it works, you work smoothly while you are working. And Microsoft Access, we use to create the database in the website that are the bulletin board and inventory system. For Java Web Start, client should install this software on the computer in order to see some Java Script that Web Site provides on page. Because some part on Web site may require Java Software to access for using.

(4)   Cost Analysis

Cost analysis focuses on the cost of the system derived from non-operating and operating costs.

(a)   System Costs of Existing System

Table 3-3   Cost of Existing System, Baht

Cost	Year				
	1	2	3	4	5
Operating Costs:					
Staff					
Manager @ 20000/month	240,000.00	252,000.00	264,000.00	279,000.00	291,000.00
Sale personal @12000/month	144,000.00	150,000.00	156,000.00	162,000.00	168,000.00
Account personal @ 12000/month	144,000.00	147,600.00	151,200.00	154,800.00	158,400.00
Worker 3 @ 8000/month	288,000.00	295,200.00	302,400.00	309,600.00	316,800.00
Paper	3,700.00	4,070.00	4,477.00	4,924.70	5,417.17
Utility	6,500.00	7,150.00	7,865.00	8,651.50	9,516.65
Opportunities Cost	60,000.00	77,000.00	84,700.00	93,170.00	102,487.00
Other expenses	3,000.00	3,300.00	3,630.00	3,993.00	4,392.30
Total Operating Costs	889,200.00	936,320.00	974,272.00	1,016,139.20	1,056,013.12
Total Cost of Existing System	889,200.00	936,320.00	974,272.00	1,016,139.20	1,056,013.12

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(b)   System Cost of Proposed System

Table 3-4   Cost of Proposed System, Baht

Cost	Year				
	1	2	3	4	5
Fixed Costs:					
Hardware					
4 Client Computer					
AMD Athlon XP 2200	2,560.00	2,560.00	2,560.00	2,560.00	2,560.00
DDR 256MB	1,760.00	1,760.00	1,760.00	1,760.00	1,760.00
Hard Disk 40 GB	1,920.00	1,920.00	1,920.00	1,920.00	1,920.00
CDRW	1,072.00	1,072.00	1,072.00	1,072.00	1,072.00
Floppy Drive 1.44 MB	240.00	240.00	240.00	240.00	240.00
Display Card 64 MB	1,920.00	1,920.00	1,920.00	1,920.00	1,920.00
Monitor 17" Flat	5,440.00	5,440.00	5,440.00	5,440.00	5,440.00
Hub	500.00	500.00	500.00	500.00	500.00
Printer Epson C43 SX	1,752.00	1,752.00	1,752.00	1,752.00	1,752.00
Software					
Window 2000	6,280.00	6,280.00	6,280.00	6,280.00	6,280.00
MS-Office 2000	3,392.00	3,392.00	3,392.00	3,392.00	3,392.00
Implementation Cost					
Development Cost (400 Hrs @ 425)	170,000.00	-			
Training Cost (15 Hrs @ 2500)	37,50000		-		
Maintenance Costs	-		2,500.00	6,500.00	5,500.00
Web Hosting & Domain Name Cost	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
Total Fixed Costs	237,336.00	29,836.00	32,336.00	36,336.00	35,336.00
Operating Costs:					
Staff					
Manager @ 20000/month	240,000.00	252,000.00	264,000.00	279,000.00	291,000.00
Sale personal @12000/month	144,000.00	150,000.00	156,000.00	162,000.00	168,000.00
Account personal @ 12000/month	144,000.00	147,600.00	151,200.00	154,800.00	158,400.00
Worker 1 @ 8000/month	96,000.00	102,000.00	108,000.00	114,000.00	120,000.00
Paper	1,300.00	1,430.00	1,573.00	1,730.30	1,903.33
Utility	25,000.00	27,500.00	30,250.00	33,275.00	36,602.50
Opportunities Cost	35,000.00	38,500.00	42,350.00	46,585.00	51,243.50
Other expenses	5,500.00	6,050.00	6,655.00	7,320.50	8,052.55
Total Operating Costs	690,800.00	725,080.00	760,028.00	798,710.80	835,201.88
Total Cost of Proposed System	928,136.00	754,616.00	792,364.00	835,046.80	870537.88

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(c) The Comparison of Accumulated System Costs between Existing

System and Proposed System

Table 3-5 Accumulated System Costs of Existing System for 5 Years, Baht.

Year	Total Annual Cost	Accumulated Cost
1	889,200.00	889,200.00
2	936,320.00	1,825,520.00
3	974,272.00	2,799,792.00
4	1,016,139.20	3,815,931.20
5	1,056,013.12	4,871,944.32

Table 3-6 Accumulated System Costs of Proposed System for 5 Years, Baht.

Year	Total Annual Cost	Accumulated Cost
1	928,136.00	928,136.00
2	754,616.00	1,682,752.00
3	792,364.00	2,475,116.00
4	835.046.80	3,310,162.80
5	870,537.88	4,180,700.68

Table 3-7 The Comparison of Accumulated System Costs, Baht.

Year	Accumulated Existing System Cost	Accumulated Proposed System Cost
1	889,200.00	965,636.00
2	1,825,520.00	1,682,752.00
3	2,799,792.00	2,475,116.00
4	3,815,931.20	3,310,162.80
5	4,871,944.32	4,180,700.68

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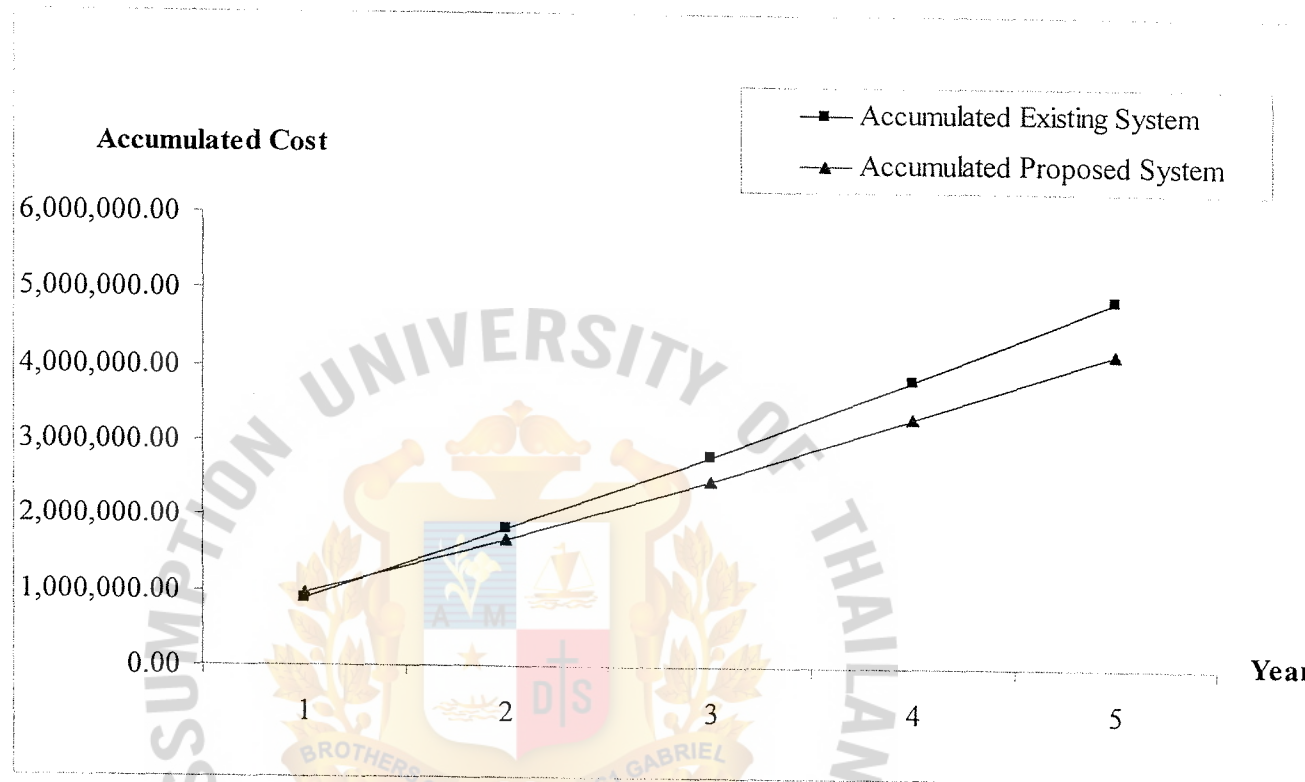
Figure 3-1   Break-even analysis

From figure 3-1, you can see Accumulated Existing System Cost (AESC) graph and Accumulated Proposed System Cost (APSC) graph. AESC graph is the graph, which shows the accumulated cost for 5 years if the company doesn't change anything. On the other hand, APSC graph shows the accumulated cost for 5 years in case of implementing the web site system to the existing system. At the first year, after the company implements the new system, the accumulated cost of the proposed system is higher than the accumulated cost of the existing system because the company has to pay for the implementation cost the new system such as development and training cost. Also the company has to buy the new hardware and software which is required for the new system. However for the long period, the accumulated proposed system cost is lower than the accumulated existing system cost from these reasons.

First is fixed cost decrement. Most company has the large fixed cost from hiring many staffs. APSC cuts out the unnecessary fixed cost by some workers and especially the company can decrease the sales representative and replace with the web site system, which is the one-time cost. Even though the APSC of the first year is higher than AESC, but after 16 months APSC is lower than AESC and so on.

Second is high efficiency. After implementing the web site system, company can decrease their staff. This will change and decrease the human-error detection. The fewer staffs are in system, the more efficiency is gained. In addition to the fewer staff, the web site system provides more reliable and faster in processing information than human.

From all information above, the proposed system is good to the company for the long run in many aspects. Company should invest for the web site system to get these benefits.

3.2   System Design

(1)   Data Flow Diagram
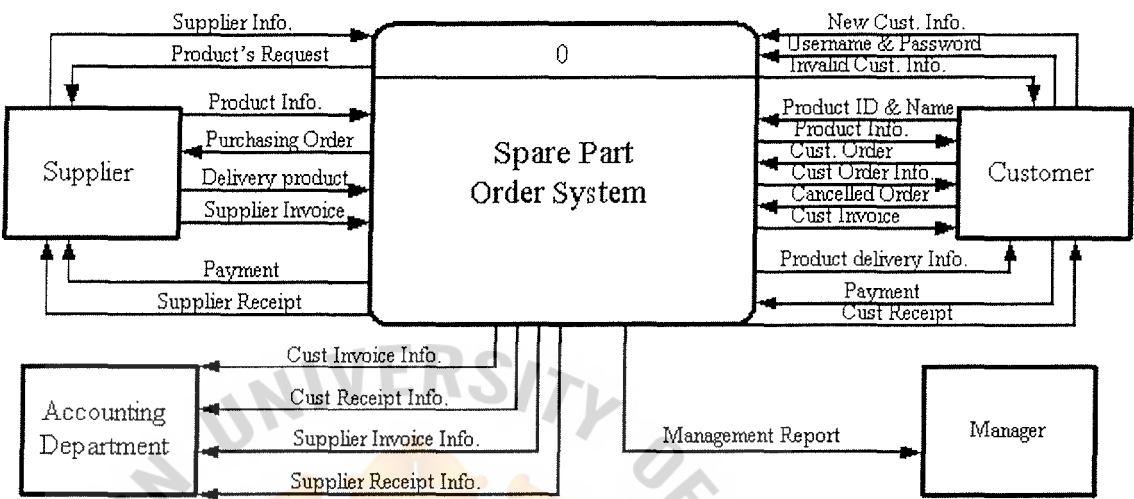
Figure 3-1   Context Diagram of proposed System
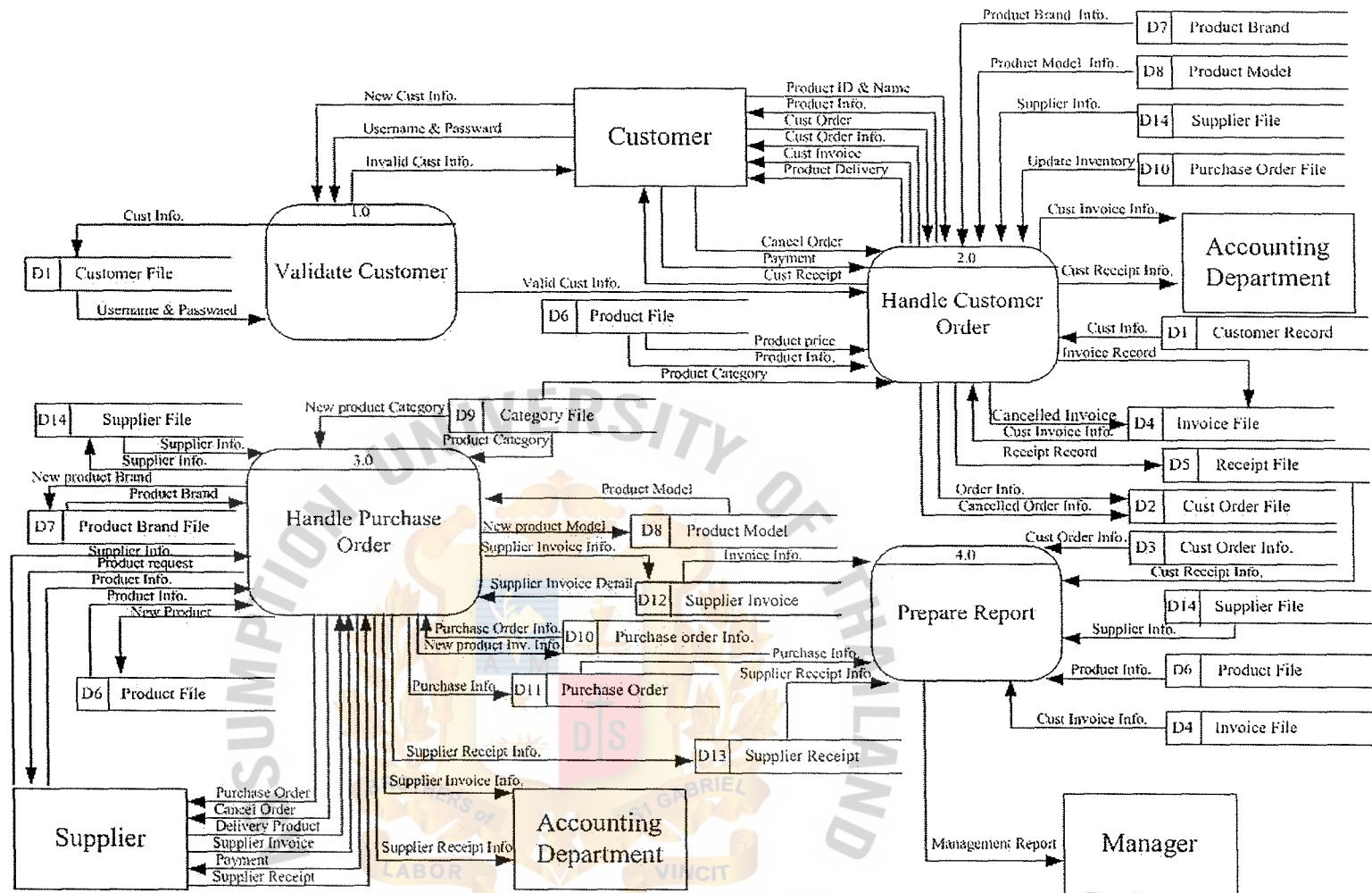
Figure 3-2   Data Flow Diagram – Level 0

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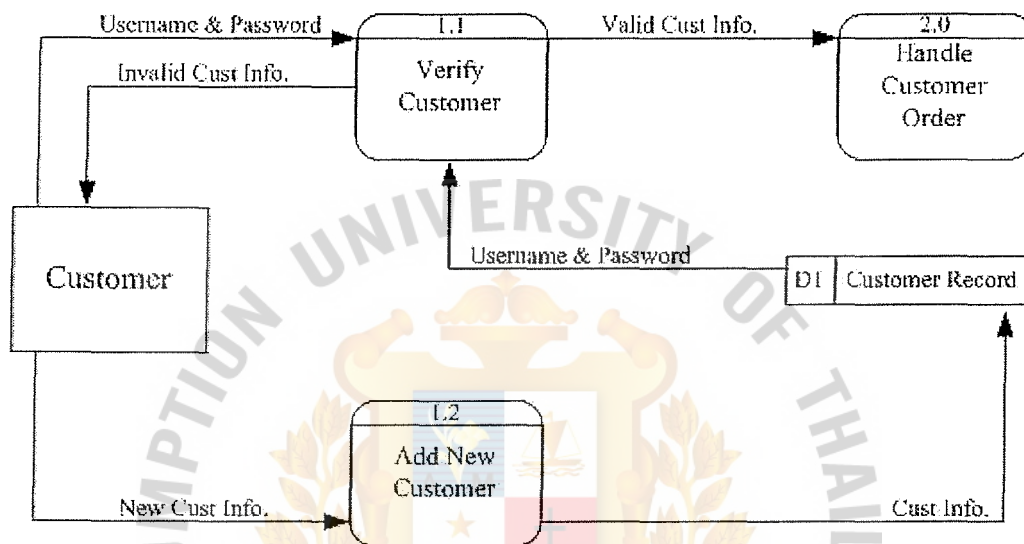
Figure 3-3   Data Flow Diagram – Level 1 for Process 1
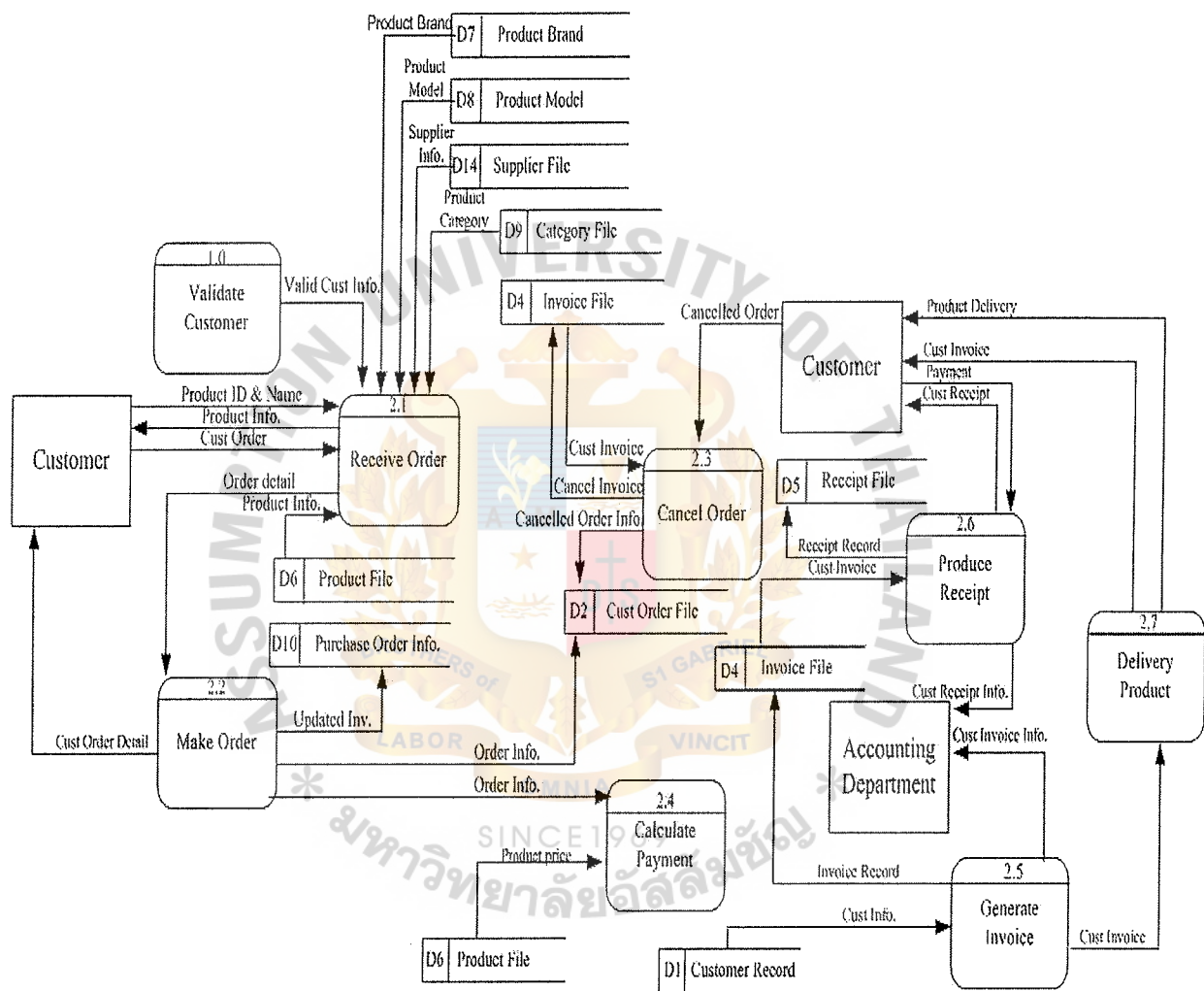
Figure 3-4   Data Flow Diagram – Level 1 for Process 2
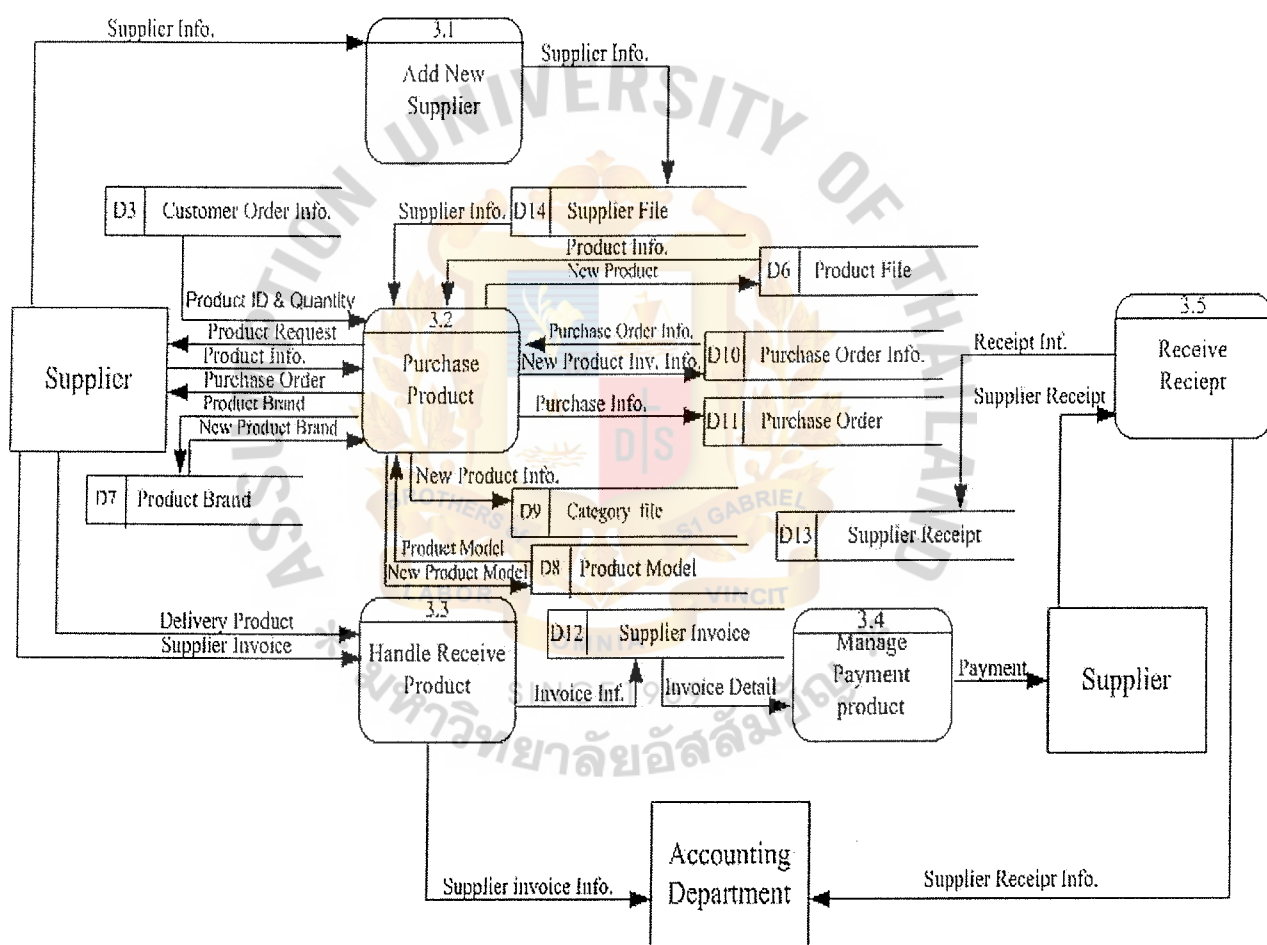
Figure 3-5   Data Flow Diagram – Level 1 for Process 3

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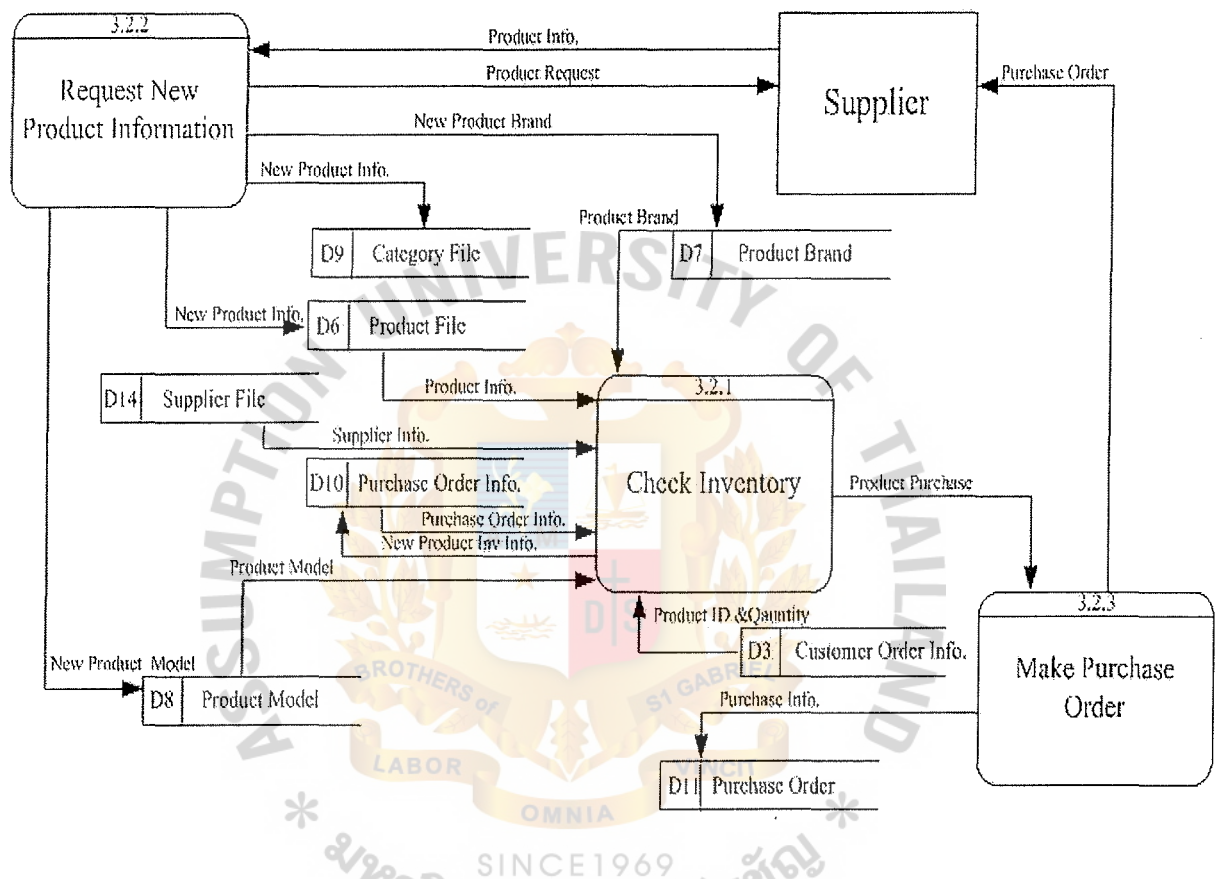
Figure 3-6   Data Flow Diagram – Level 2 for Process 3.2

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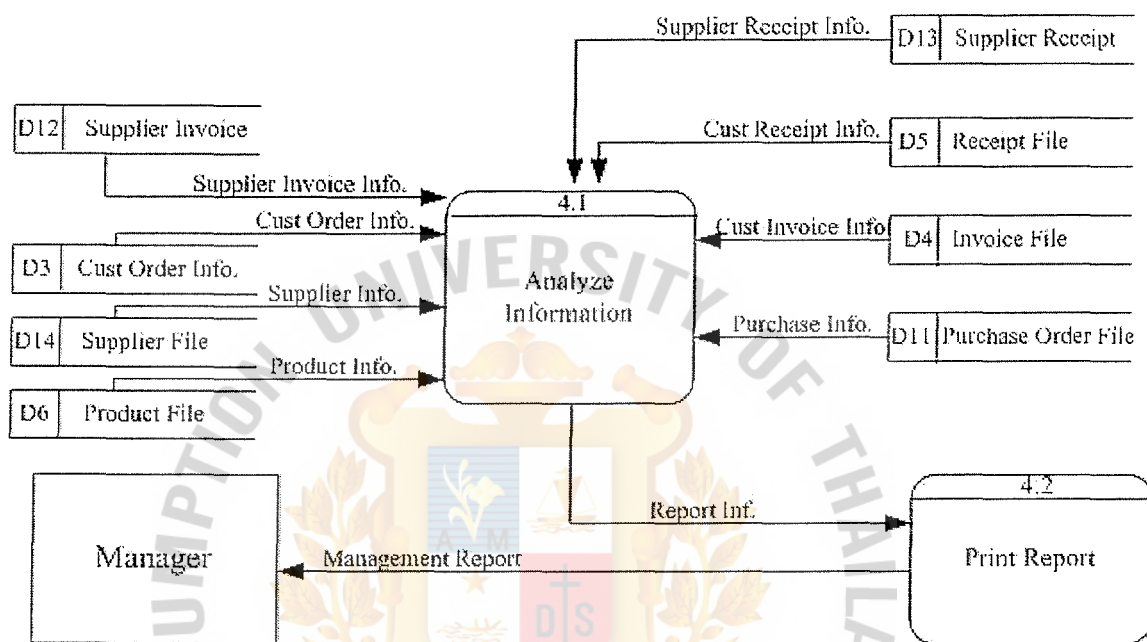
Figure 3-7   Data Flow Diagram – Level 1 for Process 4

(2)   Entity-Relationship Diagram
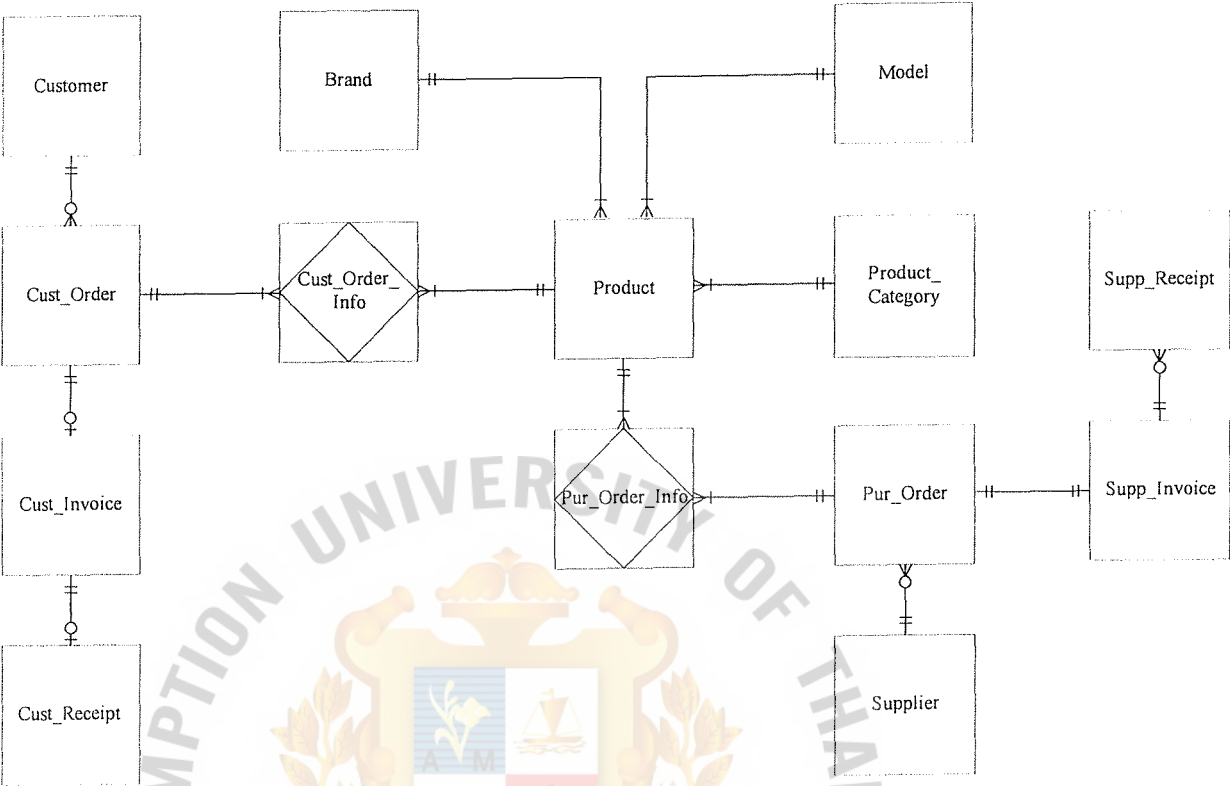
Figure 3-8   Entity-Relationship Diagram

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(3)   Database Design

The following Database design are shown in Appendix C

- Brand

- Customer

- Customer Invoice

- Customer Order

- Customer Order Info

- Customer Receipt

- Model

- Product

- Product Category

- Purchase Order

- Purchase Order Info

- Supplier

- Supplier Invoice

- Supplier Receipt

Brand

This table keeps details of product brand. It help user to add new brand into the database. It will contain Brand_ID and Prod_Brand. (Appendix C Table C-1)

Customer

This table keeps details of customer information. It help user to know the source of customer who order a product. It will contain Cust_ID, Cust_Username, Cust_Password, Cust_Name, Cust_Lastname, Cust_Add_Number, Cust_Address_Road, Cust_Add_Province, Cust_Add_Country, Cust_Add_Zip,

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Cust_Tel, Cust_ E-Mail, Cust_Fax, Confirm_Password, Birthday, Question, Answer and Cust_Status. (Appendix C Table C-2)

Customer Invoice

This table keeps all Customer Invoice Records. It contains Cust_Inv_ID, Cust_Order_code and Cust_Inv_Date. (Appendix D Table C-3)

Customer Order

This table keeps details of customer order by specify the customer order code, order date and payment type including detail of the total net price that customer will have to pay and order status. It will contain Cust_Order_Code, Order_Date, Cust_ID, Discount, Net_Price and Cust_Order_Status. (Appendix C Table C-4)

Customer Order Info

This table keeps details of product such as prices, quantity and product code that customer order per 1 time and also have a status of delivery. It will be details of customer order code. It will contain Cust_Order_Info, Cust_Order_Code, Prod_Code, and Prod_Order_Quantity. (Appendix C Table C-5)

Customer Receipt

This table keeps all Customer Receipt Records and Payment Information. It contains Cust_Rec_ID, Cust_Order_code and Cust_Rec_Date, Bank_Name, Branch, Ref_No and Transfer_Date. (Appendix C Table C-6)

Model

This table keeps detail of product model. It helps user to add new model into database. It will contain Model_ID and Prod_Model. (Appendix C Table C-7)

Product

This table keeps details and characteristic of product in company including number of quantity on hand, Product price and Average Cost. In this point, we can see a profit by compare product price with average cost. It will contain Prod_Code, Prod_Name, Brand_ID, Model_ID, Stock_on_Hand, Cost, Prod_Price, Cost_Average, Prod_Status, Cat_ID, Supp_ID and Comment. (Appendix C Table C-8)

Product Category

This table keeps product category information. It can help user for searching product. It will contain Cat_ID, Cat_Name and Cat_Brief_Name. (Appendix C Table C-9)

Purchase Order

This table keeps a purchase order record. It will contain Pur_Order_ID, Supp_ID, Pur_Date, Discount, Pur_Order_Net_Cost and Receive_Date. (Appendix C Table C-10)

Purchase Order Info

This table keeps details of purchase order ID. It will contain Pur_Order_ID, Prod_Code, Prod_Pur_Quantity and Cost. (Appendix C Table C-11)

Supplier

This table keeps the information of supplier. It will keep Supp_ID, Supp_Name, Supp_LastName, Supp_Add_Number, Supp_Add_Road, Supp_Add_Province, Supp_Add_Country, Supp_Add_Zip, Supp_Tel, Supp_Fax, Supp_Email and Supp_Status. (Appendix C Table C-12)

Supplier Invoice

This table keeps all Supplier Invoice Records. It contains Supp_Inv_ID, Pur_Order_ID and Supp_Inv_Date. (Appendix C Table C-13)

Supplier Receipt

This table keeps all Supplier Receipt Records. It contains Supp_Rec_ID, Supp_Inv_ID and Supp_Rec_Date. (Appendix C Table C-14)

(4) Interface Design

The following Interface design are shown in Appendix D

- Home Screen

- Product Catalog Screen

- Log in Screen

- Forgot Password Screen

- Question for Provide Password Screen

- Password Screen for Forgot Password

- Select product Screen

- Product Detail Screen

- Shopping Cart Screen

- Payment Method Screen

- Temporary Invoice Screen

- Thank You for Order Screen

- Payment Detail Screen

- Customer Edit Information Screen

- Member View Order Screen

- Customer Confirm payment Screen

- Confirm Payment Screen

- Log out Screen

- New Member Register Screen

- FAQs Screen

- Contact Us Screen

- Checking Inventory Screen

- Checking Inventory Grouped by Supplier Screen

- Purchase Order Detail Screen

- Receive Product Screen

- Receive Product Detail Screen

- Confirm Purchase Order Screen

- Edit Product Information Screen

- Edit Each Product Screen

- Add New Product Screen

- Add New Product Category Screen

- Update/Delete Customer Information Screen

- Update/Edit of Each Customer Information Screen

- Customer Historical Order Screen

- Select Customer Invoice Screen

- Customer Invoice Screen

- Customer Receipt Screen

- Cancel Customer Order Screen

- Add New Supplier Screen

- Update/Delete Supplier Information Screen

- Update Supplier Information Screen By Showing Old Information

- Supplier Receipt Screen

- Supplier Receipt Detail Screen

Home Screen

This screen will welcome the visitors. It will contain Main Menu link such as Product Catalog, Shopping, FAQS, Contact Us and also provide Member Part for Customer, New Customer and Administrator. (Appendix D Figure D-1)

Product Catalog Screen

This screen will show product catalog online for customer and customer can use searching form on this page to search product as they need. (Appendix D Figure D-2)

Log in Screen

For existing customer to login to the system and also for new customer who want to register to use the system. This screen used to separate the access level between customers and staffs. It required the password to access, so those of peoples who have no authorities to access cannot get into the pages for staffs. (Appendix D Figure D-3)

Forgot Password Screen

This page is designed for customer who forgot a password, it will provide blank for put Username in order to request password. (Appendix D Figure D-4)

Question for Provide Password Screen

This screen will show a question for asking a customer when forget a password. (Appendix D Figure D-5)

Password Screen for Forgot Password

This screen will show finish process when customers already put right answer, they will gain their password automatically. (Appendix D Figure D-6)

Select product Screen

This screen will show select product process of customer and customer can use searching form in order to find their need product. (Appendix D Figure D-7)

Product Detail Screen

This Screen will show product detail before customer will add or cancel the products. (Appendix D Figure D-8)

Shopping Cart Screen

This screen is shopping cart form. It shows all of product detail that customer select into Shopping cart and Total price. (Appendix D Figure D-9)

Payment Method Screen

This screen will show customer payment method. The customer can select a method as they want before submit to company. There are 3 payment methods for customers. (Appendix D Figure D-10)

Temporary Invoice Screen

For customer who have already make an order then this screen will show the temporary invoice which customer can print it out to be the evident in checking the order. (Appendix D Figure D-11)

Thank You for Order Screen

This screen will show Thank you words for customer when they finish their business transaction. (Appendix D Figure D-12)

Payment Detail Screen

This screen will inform payment method detail for customer in order to make correct payment to company. (Appendix D Figure D-13)

Customer Edit Information Screen

This screen is for the user to modify the information and this screen can access by only customer. (Appendix D Figure D-14)

Member View Order Screen

This screen will show view order of customer. It show product detail and product status of customer. (Appendix D Figure D-15)

Customer Confirm payment

This screen is for customers in order to confirm their payment. (Appendix D Figure D-16)

Confirm Payment Screen

This screen is for customer to put their payment details to company after the payment is made already. (Appendix D Figure D-17)

Log out Screen

This screen will show Log out status to customer when they finish the transaction and log out from system. (Appendix D Figure D-18)

New Member Register Screen

The purpose of this screen is allow a visitor who want to register as a new members of the company, which the visitor has to fill all information including the username and password to verify the access for the login as the existing customer. (Appendix D Figure D-19)

FAQs Screen

To show the questions and the answers those are frequently asked about the company or the company product. (Appendix D Figure D-20)

Contact Us Screen

This page will show the name, address and also telephone number of the company for customer to contact the company. (Appendix D Figure D-21)

Checking Inventory Screen

This screen is used to check the daily inventory. It will show the list of all products that has quantity below the limit level. (Appendix D Figure D-22)

Checking Inventory Grouped by Supplier Screen

This screen used to check the daily inventory group by suppliers. It will show the entire product that below the limit level. (Appendix D Figure D-23)

Purchase Order Detail Screen

The purpose of this screen is to confirm the order that the company have make to the supplier for the low limit level inventory. (Appendix D Figure D-24)

Receive Product Screen

This screen will show received product information after make purchase order to suppliers. (Appendix D Figure D-25)

Receive Product Detail Screen

This screen will show received product details after making purchase order to suppliers and put Supplier invoice ID and Date into database. (Appendix D Figure D-26)

Confirm Purchase Order Screen

This screen will show confirm purchase order process into database. (Appendix D Figure D-27)

Edit Product Information Screen

This screen is for staff to edit the product information to the database. (Appendix D Figure D-28)

Edit Each Product Screen

This screen will show edit each product information after staff press edit Button. (Appendix D Figure D-29)

Add New Product Screen

This screen is for staff to add the new product information to the database. (Appendix D Figure D-30)

Add New Product Category Screen

This screen is for staff to add the new product category information to the database. (Appendix D Figure D-31)

Update/Delete Customer Information Screen

This page is for the staff to update and delete information of the existing product in the company, For example, name, Product code, etc. (Appendix D Figure D-32)

Update/Edit of Each Customer Information Screen

This page is for the staff to update and delete information of the existing each product in the company, For example, name, Product code, etc. (Appendix D Figure D-33)

Customer Historical Order Screen

This purpose of this page is for customer to view their historical order, which will show the detail of their previous purchase. (Appendix D Figure D-34)

Select Customer Invoice Screen

This screen is for staff to select and look customer invoice. (Appendix D Figure D-35)

Customer Invoice Screen

This screen will show customer invoice detail. (Appendix D Figure D-36)

Customer Receipt Screen

This screen will show customer receipt detail. (Appendix D Figure D-37)

Cancel Customer Order Screen

This screen will show detail of canceled order. If the customer would like to cancel, they can press button to make cancel transaction. (Appendix D Figure D-38)

Add New Supplier Screen

This screen is for staff to add the new supplier information to the database. (Appendix D Figure D-39)

Update/Delete Supplier Information Screen

This screen is for staff to update and delete the supplier information to the database. (Appendix D Figure D-40)

Update Supplier Information Screen By Showing Old Information

This screen is for staff to update the supplier information to the database by showing old information first before update new supplier information. (Appendix D Figure D-41)

Supplier Receipt Screen

This screen is for collecting supplier receipt after the payment is made already to suppliers. (Appendix D Figure D-42)

Supplier Receipt Detail Screen

This screen is used to record Supplier Receipt Detail to database. It will contain supplier invoice ID, supplier invoice date, receipt ID and supplier receipt date. (Appendix D Figure D-43)

(5)   Management Report Design

- Daily Sales Report

- Monthly Sales Report

- Annually Sales Report

- Daily Inventory Report

- Monthly Purchase Order Report

- Monthly Purchase Order Report group by Supplier

- Sales Invoice Report

- Purchase Invoice Report

- Sales Receipt Report

- Purchase Receipt Report

Daily Sales Report

This report is used for showing the selling information of every product in the selected day. Each row contains product code, product name, quantity, price of a unit, total price of each product and sales date. In Addition, it also calculates summary of total price of all as Net Total. (Appendix E Figure E-1)

Monthly Sales Report

This report also contains the information like Daily Sales Report, but it shows the summary of selling information in whole of the selected month. (Appendix E Figure E-1)

Annually Sales Report

This report look likes the Monthly Sales Report, but it shows the summary of selling information in whole of the annually. (Appendix E Figure E-1)

Daily Inventory Report

This report is used for showing amount of every product in the inventory at present. Each row contains product code, product name and quantity (stock on hand), price and date. Purchase department will used this report to make a purchase order if a product Stock on Hand is running out of stock. (Appendix E Figure E-2)

Monthly Purchase Order Report

This report shows the summary of purchasing order in the interested month. Each row contains product ID, product name, quantity, cost, total price and received date. This information can be used for considering the amount of each purchase, which can decrease the purchasing department work and safety stock. (Appendix E Figure E-3)

Monthly Purchase Order Report group by Supplier

This report is used to analysis how much we purchase each product from each supplier. This can be used to negotiate with the supplier if we order the supplier's product a lot. Each section of this report shows the supplier id, supplier name and the ordered products list. It also has the Net buying amount of each supplier. (Appendix E Figure E-4)

Customer Invoice Report

This report shows the list of Sales Invoices, which is issued, in the selected month. It also shows the total invoice of each customer. It can be used to evaluate the special discount and credit term given to each customer. (Appendix E Figure E-6)

Supplier Invoice Report

This report shows the list of Purchase Invoices, which is issued, in the selected month. It also shows the total invoice of each supplier. It can be used to know source of our received product and can evaluate some contract with suppliers. (Appendix E Figure E-7)

Customer Receipt Report

This report gives the payment information of each customer in the interested month. Each receipt id is normally matched with invoice id. It makes the system easy to track each record of payment. (Appendix E Figure E-8)

Supplier Receipt Report

This report gives the payment information of our company to supplier in the interested month. Each receipt id is normally matched with invoice id. It makes the system easy to track each record of payment. (Appendix E Figure E-9)

IV. SYSTEM IMPLEMENTATION

4.1 Overview of the System Implementation

Nowadays, Many business organizations are interested in online business. Because of its accuracy, efficiency, convenience and easy to use, people are interested to use it to serve their works and wants by themselves via Internet. The company develops the e-commerce Web site as Internet tools to expand business channel from office 24 hours a day, 7 days a week. This makes company serve customer's needs at any time.

For our Implementation, we use Parallel Operation. The system of company still has to maintain existing system and proposed system together. We cannot immediately change the whole system in short period. Therefore the company has to use manual work system to cooperate with proposed system. Because some staffs in company may not know how to use a proposed system. So we have to use long time to training staffs in company. For customer, our proposed system may new thing than they have known before. It may occur something wrong between company and customer. Therefore the company still has to use Parallel Operation to manage company working.

Parallel Operation will be useful for the company because it takes lower risk and we can compare output from Old System with output from Proposed System for accuracy. When our Proposed System operates efficiency and effectively, then the Old System will be discontinued. But Parallel Operation will be most expensive for company at beginning.

In Summary, Parallel Operation will support our Proposed System to be new way to serve company and customers more convenience. The Company will provide 24-hour service, satisfaction and customers can buy items at any time and anywhere they want.

4.2 Test Plan

- Database Testing

    This task must be immediately developed before programming activities because database system is the resource shared by web application.

    – Review the database design requirements that are stated in documentation.

    – Build database from design specifications.

    – Input sample data to the database.

    – Revise database design to suitable structure.

- **Program Testing**

    Program testing will be done after the entire program has been written. The activities can be summarized as follows:

    – Write programs and perform unit testing.

    – Conduct system testing to make sure that all programs work properly and logically. If the program does not work properly or produce incorrect or unsatisfactory output, the programmer must debug or rewrite the programs and the test it again until it gives the correct output.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

After we studied the existing system of SakChai Spare Part Company. The present process of the system has many problems due to the implementation still on manual process. For this present system, there is a lot of mistakes and errors occur and also it is time consuming. Therefore, developing proposed system is needed. The new system makes uses of the technology of computer to apply to make more efficient system. The Web site is created to facilitate the company. This will support company to work with efficiency. All information will be kept in database system that is more consistent than manual work, it is easy to create business transaction or retrieve information and it also helps the company to save time, may be use a few minutes to make business transaction and communication.

The proposed system is designed and implemented to take advantage of the high technology of present. It will improve the effectiveness and efficiency of the order, purchase and inventory system by using Internet, a Web site. Web site serves customers 24 hours a day, 7 days a week. Customers are able to make an order any time of a day even at night. The new system can help the company to increase a number of customers by increasing the customer's satisfaction. In addition, it also serves staffs to track an order easily, can check the present inventory at once for make sure that company will have enough products as they need and follow the purchase orders.

In Summary, the system is expected to pay for itself with in 2 years approximately. The proposed system can save the operation time, make the result more accurate, and also help the staff work efficiently.

5.2 Recommendations

This proposed system will be the origin of company for use Internet technology. Company has to study more about how to use the information in the database perform business strategies to make more customers access the Web site. Using Web site, the security is one of the most concerned topics while the system is being implemented. Firewall perhaps is a solution of this problem or we may still to looking for newest security system for help us because nowadays, there is no law to help our security system from hacker or fraud person on Internet world. The problem of web hosting is server may down in the future. In case that server is down, the company should have back up files that can use for the next time.

The company should periodically review the business opportunities obtainable from the use of the Internet and develop any add on product and services to the system.

APPENDIX A
DATA DICTIONARY FOR DATA FLOW DIAGRAMS

Table A-1 Data Dictionary of Order Processing System

Data Items	Meanings
Amount Payment	Total amount payment of customer.
Approved quantity	Quantity of product that customers make order.
Back Order	The Information that company sent to customers when the quantity of product order is more than company's stock on hand.
Cacel Invoice	The system cancel invoice when customer cancelled order.
Cancelled Order	Customer cancelled order that they order late time.
Cancelled Order Inf.	The system sent cancelled order of customer to cancell order in Customer Order Information.
Cust Inf.	Customer Information (Cust_ID + Cust_Saturation + Cust_name + Cust_LastName + Cust_Address_Number + Cust_Address_Soi + Cust_Address_Road + Cust_Address_Tumbon + Cust_Address_Amphur + Cust_Address Province + Cust_Zip + Cust_Email + Cust_Tel + Cust_Fax + Login_ID + Username + Password + Login Status + First_Login + Last_Login)
Cust Invoice	Customer's invoice.
Cust Invoice Inf.	Invoice Information (Invoice_ID + Cust_ID + Customer_Order_Code + Invoice_Date)
Cust Order	Customer's order (Order_code + Order_date + Order_ID)
Cust Order Inf.	Product list in customer's order (Cust_Order_Code + Prod_Code + Order_Quantity + Prod_Price + Net_Price)
Cust Payment Inf.	Customer's payment information
Cust Receiot Inf.	Customer's Receipt Information
Cust Receipt	Customer Receipt
Customer Record	File that keep all information of Customer (Cust_ID + Cust_Saturation + Cust_name + Cust_LastName + Cust_Address_Number + Cust_Address_Soi + Cust_Address_Road + Cust_Address_Tumbon + Cust_Address_Amphur + Cust_Address Province + Cust_Zip + Cust_Email + Cust_Tel + Cust_Fax + Login_ID + Username + Password + Login Status + First_Login + Last_Login)
Delivery Product Inf.	Delivery product from Supplier
Invalid Cust Inf.	Invalid customer information
Inventory File	Use product detail to check quantity of product.
Invoice File	Collect Invoice information.
Invoice ID	Invoice Identification

Invoice Inf.	Invoice Information (Invoice_ID + Cust_ID + Customer_Order_Code + Invoice_Date)
Invoice info	Invoice Information of Supplier (Invoice_ID + Cust_ID + Customer_Order_Code + Invoice_Date)
Invoice Record	Collect Invoice information in Invoice file. (Invoice_ID + Cust_ID + Customer_Order_Code + Invoice_Date)
Lack of product Inf.	Checked quantity of product that customer order is more than company had on hand.
Management Report	Report to manager
New Cust Inf.	Detail of new customer Information. (Cust_ID + Cust_Saturation + Cust_name + Cust_LastName + Cust_Address_Number + Cust_Address_Soi + Cust_Address_Road + Cust_Address_Tumbon + Cust_Address_Amphur + Cust_Address_Province + Cust_Zip + Cust_Email + Cust_Tel + Cust_Fax + Login_ID + Username + Password + Login Status + First_Login + Last_Login)
New Product Inf.	Information of new product that company purchase for supplier.
New Username & Password	Username and password that new customer will use to logging in to the web site
Order Detail	Customer Order detail
Order File	Collect Customer order
Order ID.	Customer order Identification.
Order Inf.	Customer order Information.
Order Record	Sent customer order to keep in order file.
Payment	Customer payment
Payment Inf.	Customer payment information
Product Delivery Inf.	Supplier sent product to company
Product Detail	Use detail of product to check quantity of product
Product File	Collect detail of product
Product Inf.	Information of product (Prod_Code + Prod_Name + Prod_Type + Prod_Description)
Product Stock Reach to minimum	The system check quantity of product and will know about the minimum of stock on hand and request to make purchase order.
Purchase Order	Purchase order information
Purchase Order Inf.	Product purchase order information
Purchasing Inf.	Information of purchasing order from supplier.
Purchasing Order	Purchase order of the company to supplier.

Receipt	Customer's receipt
Receipt File	Collect details of receip's product
Receipt Inf.	Receipt information
Receipt Info.	(Receipt_ID + Invoice_ID + Receipt_Date)
Receipt Record	sent customer receipt into receipt file.
Report Inf.	Information for making management report
Request order	Company request product from Supplier.
Supplier Detail	Use supplier information to request purchase order from supplier.
Supplier File	Collect all information of supplier
Supplier Inf.	Supplier Information.
Supplier Invoice	Invoice that supplier sent to company.
Supplier Invoice Inf.	Supplier Invoice information that sent to Accounting Department.
Supplier Receipt	Receipt that supplier sent to company after paid money.
Updated Inv.	Use Product detail from customer order to update quantity of product in inventory and sent updated information of inventory back to the system for check stock on hand, design for back order, send product stock reach to minimum to purchase order or to accept customer order.
Username & Password	Username and password for logging in to the web site
Valid Cust Inf.	Valid customer information

APPENDIX B
PROCESS SPECIFICATION

Table B-1 Process Specification for Process 1.0

Process Name:	Validate Customer	
Data In:	(1)	Username & Password
	(2)	New Customer Information
Data Out:	(1)	Customer Information
	(2)	Invalid Customer Information
	(3)	Valid Customer Information
Process:	(1)	Get Username & Password to verify customer
	(2)	If Username & Password is invalid, back to customer in order to get new Username & Password
	(3)	If Username & Password is valid, customer access Process 2.0
	(4)	Check Username and password with Data Store D1
	(5)	Record New Customer Information into Customer file.
Attachment:	(1)	Customer
	(2)	Data Store D1
	(3)	Process 2.0

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Table B-2   Process Specification for Process 1.1

Process Name:	Verify Customer	
Data In:	(1)	Username & password
Data Out:	(1)	Invalid customer
	(2)	Valid customer
Process:	(1)	Get Username & Password from customer
	(2)	Retrieve & Check Username & Password in Data Store D1
	(3)	If the Customer Username & Password is valid, Customer can make order product. Access to Process 2.0
	(4)	If the Customer Username & Password is invalid, It will be back to customer again
Attachment:	(1)	Customer
	(2)	Data Store D1
	(3)	Process 2.0

Table B-3   Process Specification for Process 1.2

Process Name:	Add New Customer	
Data In:	(1)	New Customer information
	(2)	Username & Password
Data Out:	(1)	Customer Information
Process:	(1)	Get New Customer information from customer
	(2)	Get New Username and password from customer
	(3)	Store Customer information into Customer Record
Attachment:	(1)	Customer
	(2)	Data Store D1

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Table B-4   Process Specification for Process 2.0

Process Name:	Handle Customer Order
Data In:	(1) Valid Customer (2) Product Information (3) Product ID & Name (4) Customer Order (5) Cancel Order (6) Payment (7) Product Price (8) Customer Information (9) Customer Invoice (10) Customer Invoice Information (11) Update Inventory (12) Product Brand Information (13) Product Model Information (14) Product Category
Data Out:	(1) Product Information (2) Customer Invoice (3) Product Delivery (4) Product Detail (5) Customer Invoice Information (6) Customer Receipt Information (7) Invoice Record (8) Canceled Invoice (9) Receipt Record (10) Order Information (11) Canceled Order Information

Process:	(1)	Get Customer Order from the Customer
	(2)	Give Product Information to the Customer
	(3)	When customer make order, will get product information from Product File
	(4)	Check product detail in Product File
	(5)	Check Product Brand from Product Brand File
	(6)	Check Product Model from Product Model File
	(7)	Check product Category from Category File
	(8)	Check Supplier Information from Supplier file
	(9)	Update Inventory from Purchase Order File
	(10)	Record Customer Order in Customer Order File
	(11)	If customer made cancelled order, system will be cancelled invoice in Invoice file and Customer Order Information in Customer Order Information File.
	(12)	Make Product Delivery to Customer with Invoice
	(13)	When the payment is made, Send Receipt to Customer
	(14)	Record Customer receipt to Customer Receipt File
	(15)	Record Customer Invoice to Invoice File
	(16)	Send Customer Invoice to Accounting Department
	(17)	Send Customer Receipt to Accounting Department
Attachment:	(1)	Customer
	(2)	Accounting Department
	(3)	Data Store D1
	(4)	Data Store D2
	(5)	Data Store D3
	(6)	Data Store D4
	(7)	Data Store D5
	(8)	Data Store D6
	(9)	Data Store D7
	(10)	Data Store D8
	(11)	Data Store D9
	(12)	Data Store D10
	(13)	Data Store D14

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	(14)	Process 1.0
	(15)	Process 3.0

Table B-5   Process Specification for Process 2.1

Process Name:	Receive Order	
Data In:	(1)	Valid Customer Information
	(2)	Customer Order
	(3)	Product ID & Name
	(4)	Product Information
	(5)	Product Brand
	(6)	Product Model
	(7)	Supplier Information
	(8)	Product Category
Data Out:	(1)	Product Information
	(2)	Order Detail
Process:	(1)	Receive Valid Customer information
	(2)	Retrieve Product Information from Product File and send Product Information to Customer
	(3)	Receive Customer Order with Product ID & Name
	(4)	Retrieve & Check Product Brand from Product Brand File
	(5)	Retrieve & Check Product Model from Product Model File
	(6)	Retrieve & Check Product Category from Category File
	(7)	Check Supplier Information of receive order
	(8)	Send Order Detail to Process 2.2
Attachment:	(1)	Customer
	(2)	Data Store D6
	(3)	Data Store D7
	(4)	Data Store D8
	(5)	Data Store D9
	(6)	Data Store D14
	(7)	Process 1.0
	(8)	Process 2.2

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Table B-6   Process Specification for Process 2.2

Process Name:	Make Order		
Data In:	(1)	Order Detail	
	(2)	Product Detail	
Data Out:	(1)	Update Inventory	
	(2)	Customer Order Detail	
	(3)	Order Information	
Process:	(1)	Receive Order Detail from process 2.1	
	(2)	Check stock and Update Inventory in purchase Order Info File.	
	(3)	Record Order Information to Customer Order File	
	(4)	Send Order Information to Process 2.4	
Attachment:	(1)	Customer	
	(2)	Data Store D6	
	(3)	Data Store D10	
	(4)	Process 2.1	
	(5)	Process 2.4	

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Table B-7   Process Specification for Process 2.3

Process Name:	Cancel Order		
Data In:	(1)	Canceled Order	
	(2)	Customer Invoice	
Data Out:	(1)	Cancel Invoice	
	(2)	Cancel Order Information	
Process:	(1)	Receive Canceled Order from Customer	
	(2)	Receive Cancelled Order from Customer	
	(3)	Cancel Invoice in Invoice File	
	(4)	Cancel Order Information in Customer Order File	
Attachment:	(1)	Data Store D2	
	(2)	Data Store D4	
	(3)	Customer	

Table B-8   Process Specification for Process 2.4

Process Name:	Calculate Payment	
Data In:	(1)	Order Information
	(2)	Product Price
Data Out:	(1)	
Process:	(1)	Receive Order Information from Process 2.2
	(2)	Retrieve Product Price from Product File
	(3)	Calculate payment
Attachment:	(1)	Data Store D2
	(2)	Process 2.2

Table B-9 Process Specification for Process 2.5

Process Name:	Generate Invoice	
Data In:	(1)	Customer Information
Data Out:	(1)	Invoice Record
	(2)	Customer Invoice Information
Process:	(1)	Retrieve Customer Information
	(2)	Generate Customer Invoice
	(3)	Record Customer Invoice to Invoice File
	(4)	Send Customer Invoice Info to Accounting Department
Attachment:	(1)	Data Store D1
	(2)	Data Store D4
	(3)	Accounting Department

Table B-10 Process Specification for Process 2.6

Process Name:	Product Receipt	
Data In:	(1)	Payment
	(2)	Customer Invoice
Data Out:	(1)	Customer Receipt
	(2)	Receipt Record
	(3)	Customer Receipt Information
Process:	(1)	Retrieve Customer Invoice from Invoice File
	(2)	Generate Receipt to Customer
	(3)	Receive Payment from Customer
	(4)	Record Receipt to Receipt File
	(5)	Send Customer Receipt Info to Accounting Department
Attachment:	(1)	Customer
	(2)	Accounting Department
	(3)	Data Store D5

Table B-11 Process Specification for Process 2.7

Process Name:	Delivery Product	
Data In:	(1)	Customer Invoice
Data Out:	(1)	Customer Invoice
	(2)	Product Delivery
Process:	(1)	Receive Customer Invoice from Process 2.5
	(2)	Send Customer Invoice to Customer
	(3)	Deliver Product to Customer
Attachment:	(1)	Customer
	(2)	Process 2.5

Table B-12 Process Specification for Process 3.0

Process Name:	Handle Delivery	
Data In:	(1)	Supplier Information
	(2)	Product Information
	(3)	Delivery Product
	(4)	Supplier Invoice
	(5)	Supplier Receipt
	(6)	Invoice Detail
	(7)	Purchase Order Information
	(8)	New product Inventory Information
	(9)	Product Stock reach to Minimum
	(10)	New Product Category
	(11)	Product Brand
	(12)	Product Category
Data Out:	(1)	Supplier Information
	(2)	Product's Request
	(3)	Purchase Order
	(4)	Purchase Information
	(5)	Payment
	(6)	Supplier Invoice Information
	(7)	Supplier Receipt Information
	(8)	Receipt Information
	(9)	Invoice Information
	(10)	New Product Brand
	(11)	New Product Model
Process:	(1)	Get product stock reach to minimum from Product File
	(2)	Request Product to supplier and get Supplier Information
	(3)	Make Purchase order to supplier and get invoice, and delivery product information from Supplier
	(4)	Store New Product Information into Category File and Product File
	(5)	Store Supplier Information into Supplier File
	(6)	Store Purchase Information into Purchase Order File

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	(7)	Store Invoice into Supplier Invoice File
	(8)	Store Receipt into Supplier Receipt File
	(9)	Add New Product Brand to Product Brand File
	(10)	Add New Product Model to Product Model File
	(11)	Receive Supplier Invoice from Supplier & Product Delivery
	(12)	Make Payment to Supplier
	(13)	Receive Supplier Receipt Information from Supplier
	(14)	Send Supplier Invoice Information to Accounting Department
	(15)	Send Supplier Receipt Information to Accounting Department
Attachment:	(1)	Supplier
	(2)	Accounting Department
	(3)	Data Store D6
	(4)	Data Store D7
	(5)	Data Store D8
	(6)	Data Store D9
	(7)	Data Store D10
	(8)	Data Store D11
	(9)	Data Store D12
	(10)	Data Store D14

Table B-13 Process Specification for Process 3.1

Process Name:	Add New Supplier	
Data In:	(1)	Supplier information
Data Out:	(1)	Supplier Information
Process:	(1)	Get Supplier information from Supplier
	(2)	Record Supplier Information into Supplier File
Attachment:	(1)	Data Store D14
	(2)	Supplier

Table B-14 Process Specification for Process 3.2

Process Name:	Purchase product	
Data In:	(1)	Product Information
	(2)	Supplier Information
	(3)	Product ID & Quantity
	(4)	New Product Category
	(5)	New Product Brand
	(6)	New Product Model
	(7)	Purchase
Data Out:	(1)	Product's Request
	(2)	Purchase Order
	(3)	Purchase information
	(4)	New Product Information
	(5)	New Product Inventory Information
Process:	(1)	Check Product ID & Quantity from Customer Order File
	(2)	Request product to Supplier
	(3)	Get Product Information from Product File
	(4)	Retrieve Supplier Information from Supplier File
	(5)	Make Purchase Order to Supplier
	(6)	Store Purchase Information to Purchase Order File
	(7)	Store New Product Information to Category File
	(8)	Store New Product Inventory Info to Purchase Order File

	(9)	Record New product Information to Category File
Attachment:	(1)	Supplier
	(2)	Data Store D3
	(3)	Data Store D6
	(4)	Data Store D7
	(5)	Data Store D8
	(6)	Data Store D9
	(7)	Data Store D10
	(8)	Data Store D11
	(9)	Data Store D14

Table B-15   Process Specification for Process 3.2.1

Process Name:	Check Inventory	
Data In:	(1)	Product Information
	(2)	Supplier Information
	(3)	Product Brand
	(4)	Product Model
	(5)	Purchase Order Information
	(6)	Product ID & Quantity
Data Out:	(1)	Product Purchase
	(2)	New product Inventory Information
Process:	(1)	Check product ID & Quantity from Customer Order File
	(2)	Check Product Brand from Product Brand File
	(3)	Check Product Model from product Model File
	(4)	Check Product Information from Product File
	(5)	Retrieve Purchase order Info from Purchase Order file
	(6)	Send Product Purchase to Process 3.2.3
	(7)	Store New Product Inventory Info to Purchase Order File
Attachment:	(1)	Process 3.2.3
	(2)	Data Store D3
	(3)	Data Store D6
	(4)	Data Store D7
	(5)	Data Store D8
	(6)	Data Store D10
	(7)	Data Store D11
	(8)	Data Store D14

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Table B-16   Process Specification for Process 3.2.2

Process Name:	Request New Product Information	
Data In:	(1)	Product Information
Data Out:	(1)	New Product
	(2)	Product Request
	(3)	New Product Category
	(4)	New Product Brand
	(5)	New Product Model
Process:	(1)	Receive Report Information from Process 4.1
	(2)	Print Management Report
	(3)	Send Management Report to Manager
Attachment:	(1)	Supplier
	(2)	Data Store D7
	(3)	Data Store D8
	(4)	Data Store D9

Table B-17   Process Specification for Process 3.2.3

Process Name:	Make Purchase Order	
Data In:	(1)	Product Purchase
Data Out:	(1)	Purchase Order
	(2)	Purchase Order Information
Process:	(1)	Receive Product Purchase from Process 3.2.1
	(2)	Make Purchase Order to Supplier
	(3)	Record Purchase order Info to Purchase Order File
Attachment:	(1)	Process 3.2.1
	(2)	Supplier
	(3)	Data Store D11

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Table B-18 Process Specification for Process 3.3

Process Name:	Handle Received Product	
Data In:	(1)	Delivery Product
	(2)	Supplier Invoice
Data Out:	(1)	Invoice Information
	(2)	Supplier invoice Information
Process:	(1)	Get Delivery Product and Supplier Invoice
	(2)	Record Invoice Information to Supplier Invoice File
	(3)	Send Supplier Invoice Info to Accounting Department
Attachment:	(1)	Data Store D12
	(2)	Accounting Department
	(3)	Supplier

Table B-19 Process Specification for Process 3.4

Process Name:	Manage Payment Product	
Data In:	(1)	Invoice Detail
Data Out:	(1)	Payment
Process:	(1)	Retrieve Supplier Invoice detail from Supplier Invoice File.
	(2)	Make a payment to Supplier
Attachment:	(1)	Data Store D12
	(2)	Supplier

Table B-20 Process Specification for Process 3.5

Process Name:	Receive Receipt	
Data In:	(1)	Supplier Receipt
Data Out:	(1)	Receipt Information
	(2)	Supplier Receipt Information
Process:	(1)	Receive Receipt Information from Supplier
	(2)	Record Receipt Information to Supplier Receipt File
	(3)	Send Supplier Receipt info to Accounting Department
Attachment:	(1)	Data Store D13
	(2)	Supplier
	(3)	Accounting Department

Table B-21 Process Specification for Process 4.0

Process Name:	Prepare Report	
Data In:	(1)	Purchasing Information
	(2)	Supplier Information
	(3)	Customer Order Information
	(4)	Invoice information
	(5)	Receipt information
	(6)	Product Information
	(7)	Invoice information
	(8)	Receipt information
	(9)	Customer receipt information
Data Out:	(1)	Management Report
Process:	(1)	Retrieve Purchasing Information from Purchase Order File
	(2)	Retrieve Supplier Information from Supplier File
	(1)	Retrieve Customer Order Information from Cust Order File
	(2)	Retrieve Invoice Information from Invoice File
	(3)	Retrieve Receipt Information from Receipt File
	(4)	Retrieve Product Information from Product File
	(5)	Make Management Report and send to Manager
Attachment:	(1)	Manager
	(2)	Data Store D3
	(3)	Data Store D4
	(1)	Data Store D5
	(2)	Data Store D6
	(3)	Data Store D11
	(4)	Data Store D12
	(5)	Data Store D13
	(6)	Data Store D14

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Table B-22 Process Specification for Process 4.1

Process Name:	Analyze Information	
Data In:	(1)	Invoice information
	(2)	Customer Order information
	(3)	Receipt Information
	(4)	Supplier Information
	(5)	Product Information
	(6)	Purchasing Information
	(7)	Customer Receipt information
	(8)	Customer Invoice information
Data Out:	(1)	Report Information
Process:	(1)	Retrieve Invoice Information from Invoice File
	(2)	Retrieve Customer Order information from Customer Order File
	(3)	Retrieve Receipt Information from Receipt File
	(4)	Retrieve Supplier Information from Supplier File
	(5)	Retrieve Product Information from Product File
	(6)	Retrieve Purchasing Information from Purchase Order file
	(7)	Make all Information into Report
	(8)	Send Report Information to Process 4.2
Attachment:	(1)	Data Store D3
	(2)	Data Store D4
	(3)	Date Store D5
	(4)	Data Store D6
	(5)	Data Store D11
	(6)	Data Store D12
	(7)	Data Store D13
	(8)	Data Store D14
	(9)	Process 4.2

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Table B-23 Process Specification for Process 4.2

Process Name:	Print Report
Data In:	(1) Report Information
Data Out:	(1) Management Report
Process:	(1) Receive Report Information from Process 4.1 (2) Print Management Report (3) Send Management Report to Manager
Attachment:	(1) Manager Process 4.1

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APPENDIX C
DATA DICTIONARY FOR DATABASE DESIGN

Table C-1   Brand Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Brand_ID	AutoNumber	Y	Y			PK	
2	Prod_Brand	Text(50)	Y					

Table C-2   Customer Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cust ID	AutoNumber	Y	Y			PK	
2	Cust_Username	Text(50)	Y	Y				
3	Cust_Password	Text(50)	Y					
4	Cust_Name	Text(50)	Y					
5	Cust_Lastname	Text(50)	Y					
6	Cust_Add_Num	Text(50)						
7	Cust_Add_Road	Text(50)						
8	Cust_Add_Province	Text(50)						
9	Cust_Add_Country	Text(50)						
10	Cust_Add_Zip	Text(50)						
11	Cust_Tel	Text(50)				0-9999-9999		
12	Cust_Fax	Text(50)				0-9999-9999		
13	Cust_E-mail	Text(50)						

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14	Confirm_Password	Text(50)						
15	Birthday	Date/Time				DD/MM/YYYY		
16	Question	Text(50)						
17	Answer	Text(50)						
14	Cust_Status	Text(50)						

Table C-3　　Customer Invoice Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cust_Inv_ID	Text(50)	Y	Y			PK	
2	Cust_Order_Code	Number	Y	Y			FK	Customer_Order
3	Cust_Inv_Date	Text(50)	Y					

Table C-4   Customer Order Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cust_Order_Code	Number	Y	Y			PK	
2	Order_Date	Date/Time	Y			DD/MM/YYYY		
3	Cust_ID	Number	Y	Y			FK	Customer
6	Discount	Number				#,###,###.00		
7	Net_Price	Currency				#,###,###.00		
8	Cust_Order_Status	Text(50)						

Table C-5   Customer Order Info Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cust_Order_Info	Number	Y	Y			PK	
2	Cust_Order_Code	Number	Y	Y			FK	Customer_Order
3	Prod_Code	Number	Y	Y			FK	Product
4	Prod_Order_Quantity	Number				####		

Table C-6   Customer Receipt Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cust_Rec_ID	Number	Y	Y			PK	
2	Cust_Inv_ID	Number	Y	Y			FK	Cust_Invoice
3	Cust_Rec_Date	Date/Time				DD/MM/YYYY		
4	Bank_Name	Text(50)						
5	Branch	Text(50)						
6	Ref_No.	Text(50)						
7	Transfer_Date	Date/Time				DD/MM/YYYY		

Table C-7   Model Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Model_ID	AutoNumber	Y	Y			PK	
2	Prod_Model	Text(50)	Y					

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Table C-8   Product Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Prod_Code	Number	Y	Y			PK	
2	Prod_Name	Text(50)	Y					
3	Brand_ID	Text(50)	Y				FK	Brand
4	Model_ID	Text(50)	Y				FK	Model
5	Stock_On_Hand	Number				####		
5	Cost	Number				#,###,###.00		
6	Prod_Price	Number				#,###,###.00		
7	Cost_Average	Number				#,###,###.00		
8	Prod_Status	Text(50)						
9	Cat_ID	Number	Y				FK	Product Category
10	Supp_ID	Number	Y				FK	Supplier
11	Comment	Text(50)						

Table C-9   Product Category Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Cat_ID	AutoNumber	Y	Y			FK	Product
2	Cat_Name	Text(50)	Y	Y				
3	Cat_Brief_Name	Text(50)						

Table C-10   Purchase Order Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Pur_Order_ID	Number	Y	Y			PK	
2	Supp_ID	Number	Y	Y			FK	Supplier
3	Pur_Date	Date/Time	Y			DD/MM/YYYY		
4	Discount	Number				#,###,###.00		
5	Pur_Order_Net_Cost	Number				#,###,###.00		
6	Receive_Date	Text(50)						

Table C-11   Purchase Order Info Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Pur_Order_ID	Number	Y	Y			PK,FK	Purchase_Order
2	Prod_Code	Number	Y	Y			PK,FK	Product
3	Prod_Pur_Quantity	Number				####		
4	Cost	Number				#,###,###.00		

Table C-12   Supplier Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Supp_ID	AutoNumber	Y	Y			PK	
2	Supp_Name	Text(50)	Y					
3	Supp_Add_Number	Text(50)						
4	Supp_Add_Road	Text(50)						
5	Supp_Add_Province	Text(50)						
6	Supp_Add_Country	Text(50)						
7	Supp_Add_Zip	Text (50)				99999		
8	Supp_Tel	Text(50)				0-9999-9999		
9	Supp_Fax	Text(50)				0-9999-9999		
10	Supp_E-mail	Text(50)						
11	Supp_Status	Memo						

Table C-13   Supplier Invoice Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Supp_Inv_ID	Text(50)	Y	Y			PK	
2	Pur_Order_ID	Number	Y	Y			FK	Purchase_Order
3	Supp_Inv_Date	Text(50)	Y			DD/MM/YYYY		

Table C-14   Supplier Receipt Table

No	Field Name	Field Type	Index	Unique	Nullable	Validity Check	Key	FK Referable Table
1	Supp_Rec_ID	Text(50)	Y	Y			PK	
2	Supp_Inv_ID	Text(50)	Y	Y			FK	Supp_Invoice
3	Supp_Rec_Date	Text(50)	Y			DD/MM/YYYY		

APPENDIX D
INTERFACE DESIGN

Figure D-1 Home Screen

Figure D-2   Product Catalog Screen

Figure D-3 Log in Screen

Automobile Sparepart

Your Satisfaction is our Gurantee

Main Menu
Home
Product Catalog
Shopping
FAQ
Contact US

Member
New Member
Admin

Forgot Password

Forgot Password

To reset your password, please enter your username and then click continue.

Username::   [   ]

[continue]

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E-mail : Sakchai@hotmail.com

Start   Local intranet   9:09 PM

Figure D-4   Forgot Password Screen

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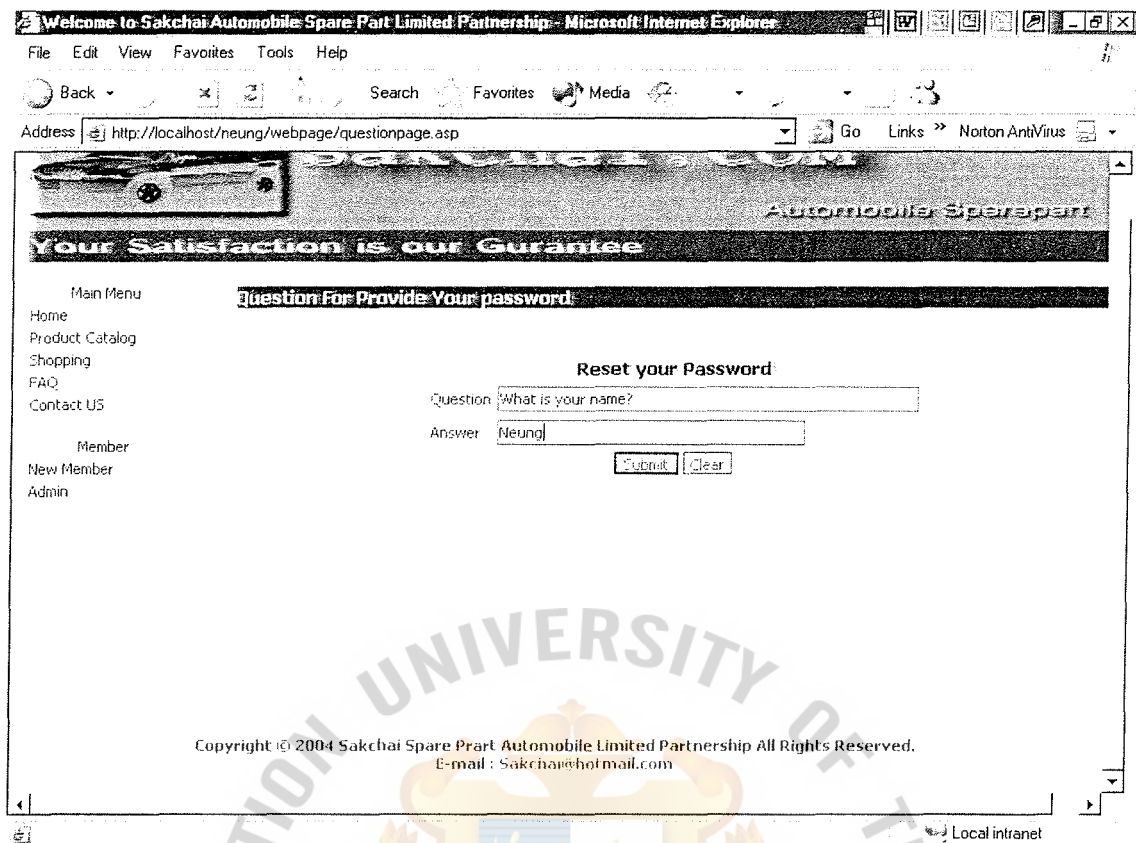
Figure D-5   Question for Provide Password Screen
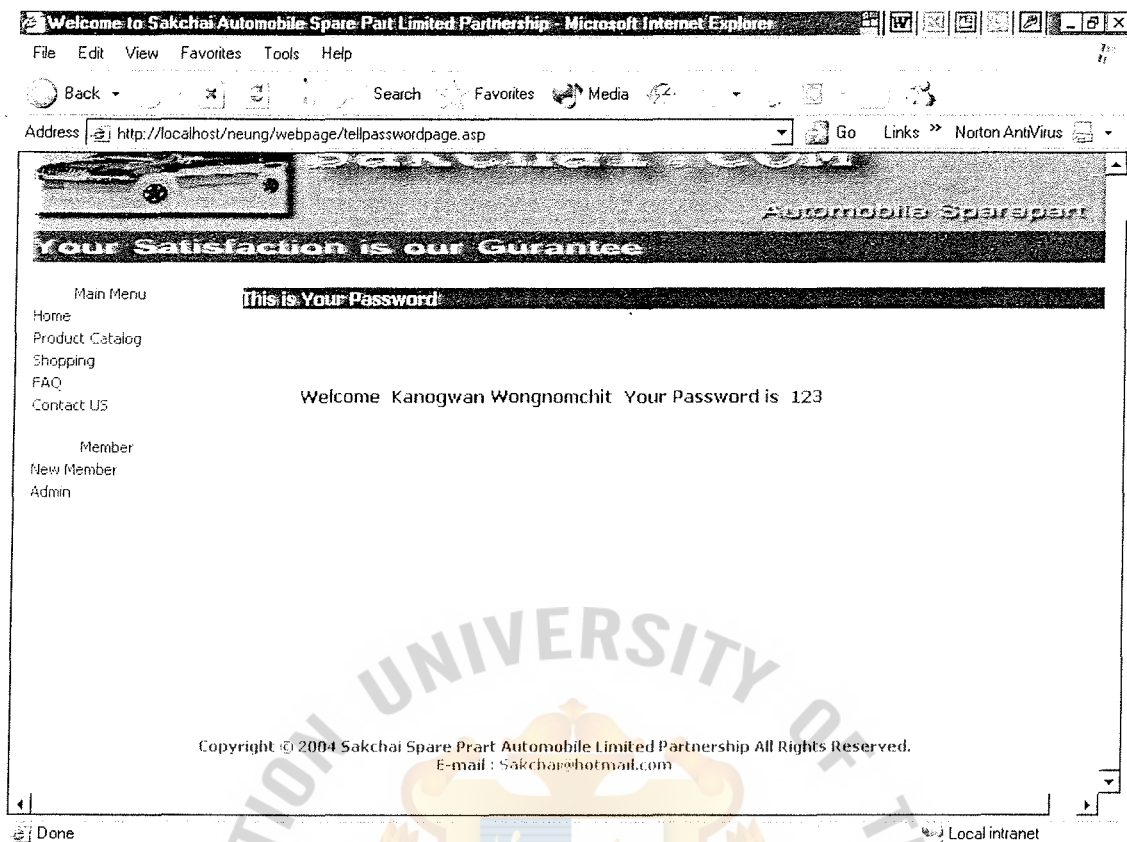
Figure D-6 Password Screen for Forgot Password
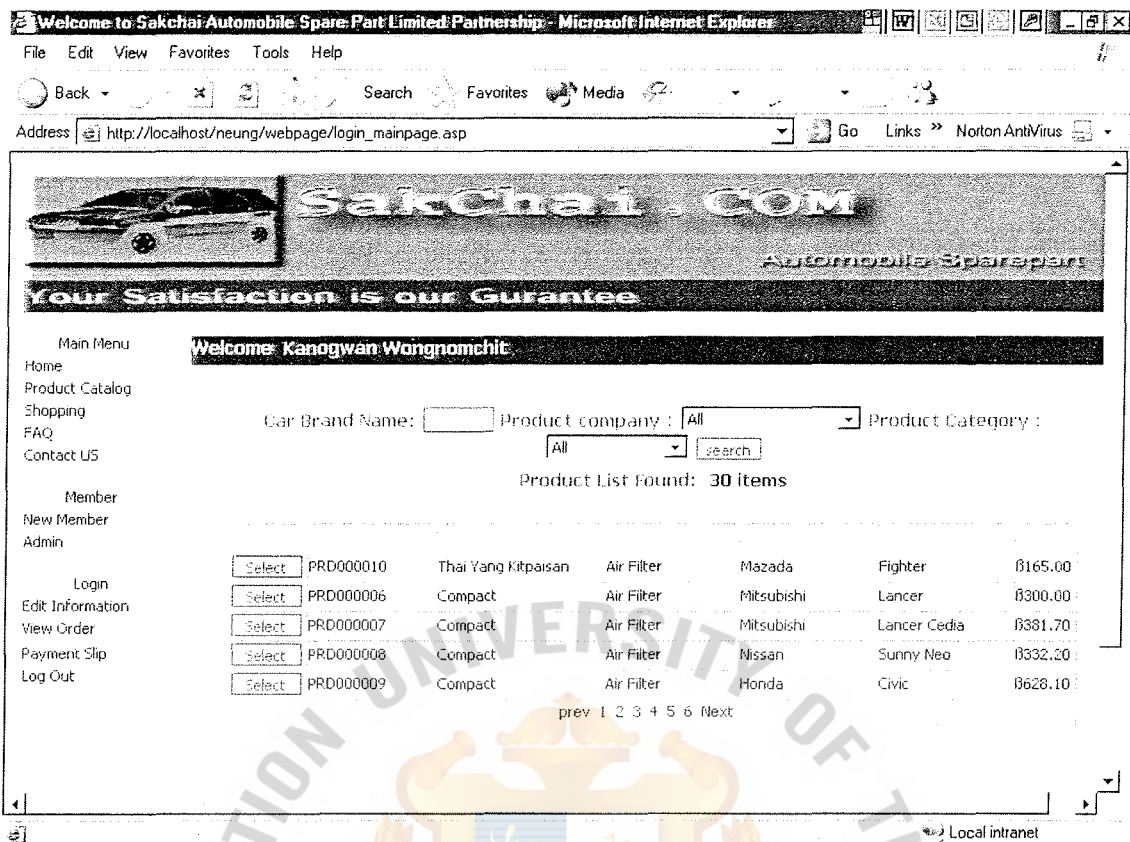
Figure D-7   Select Product Screen
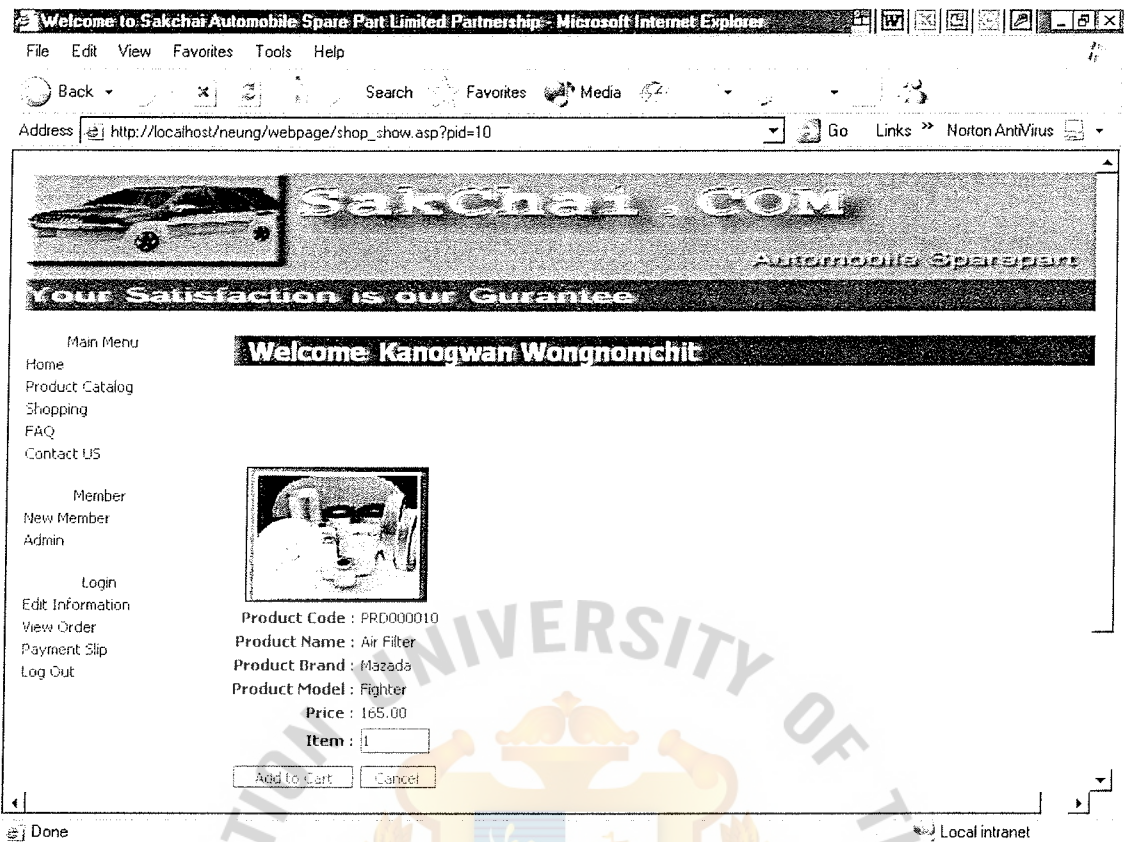
Figure D-8 Product Detail Screen

File   Edit   View   Favorites   Tools   Help

Back ▾   ⌐   ⌐   Search   Favorites   Media   ⌐   ▾   ⌐

Address | http://localhost/neung/webpage/shop_cart.asp   ▾   Go   Links » Norton AntiVirus   ▾

	REMOVE	NAME	PRICE	QUANTITY	TOTAL
		Shopping Cart			
Product Catalog					
Shopping					
FAQ					
Contact US					
	□	Air Filter Product Brand:Mazada Model:Fighter	165.00	1	165.00
Member					
New Member					
Admin					
	□	Air Filter Product Brand:Mitsubishi Model:Lancer	300.00	1	300.00
Login					
Edit Information					
View Order	□	Automotive Belt Product Brand:Toyota Model:Corona	200.00	1	200.00
Payment Slip					
Log Out					
	□	Oil Filter Product Brand:Honda Model:CRV	450.00	1	450.00
			TOTAL		1,115.00

Continue   ReCalculate   Check Out

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Local intranet

Figure D-9   Shopping Cart Screen

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Figure D-10   Payment Method Screen

Figure D-11   Temporary Invoice Screen

Figure D-12   Thank You for Order Screen

Edit Information
View Order
Payment Slip
Log Out

- How to pay money for the order?
  - You can pay money by transfer your money via the Bank
- The Account Name Mr. Verachai Kiatmongkunkul
  - Bangkok Bank : Yodsae Branch : The Account Number 138-4-11642-0
  - Thai Farmer Bank : Urupong Branch : The Acount Number 021-2-42842-6
  - Bank of Ayudhya : Urupong Branch : The Account Number 154-1-30903-1
  - Krung Thai Bank : Rama 6 : The Account Number 098-1-11761-9
  - Siam Commercial Bank : Ratchathavee : The Account Number 069-2-56083-3
- How to Confirm your Payment after you transfer money via the Bank?
  - You have to visit our web site and insert your payment slip information at Payment Slip Menu
  - You can Fax your Payment Slip to our company at Fax No. 02-6136597

- If you have any proble Please Contact Us at Sakchai@hotmail.com
  - Or You can can call at Telephone No. 02-2156125 and 02-6138211

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E-mail : Sakchai@hotmail.com

Done   Local intranet

Figure D-13   Payment detail Screen

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Figure D-14   Customer Edit Information Screen

Figure D-15   Member View Order Screen
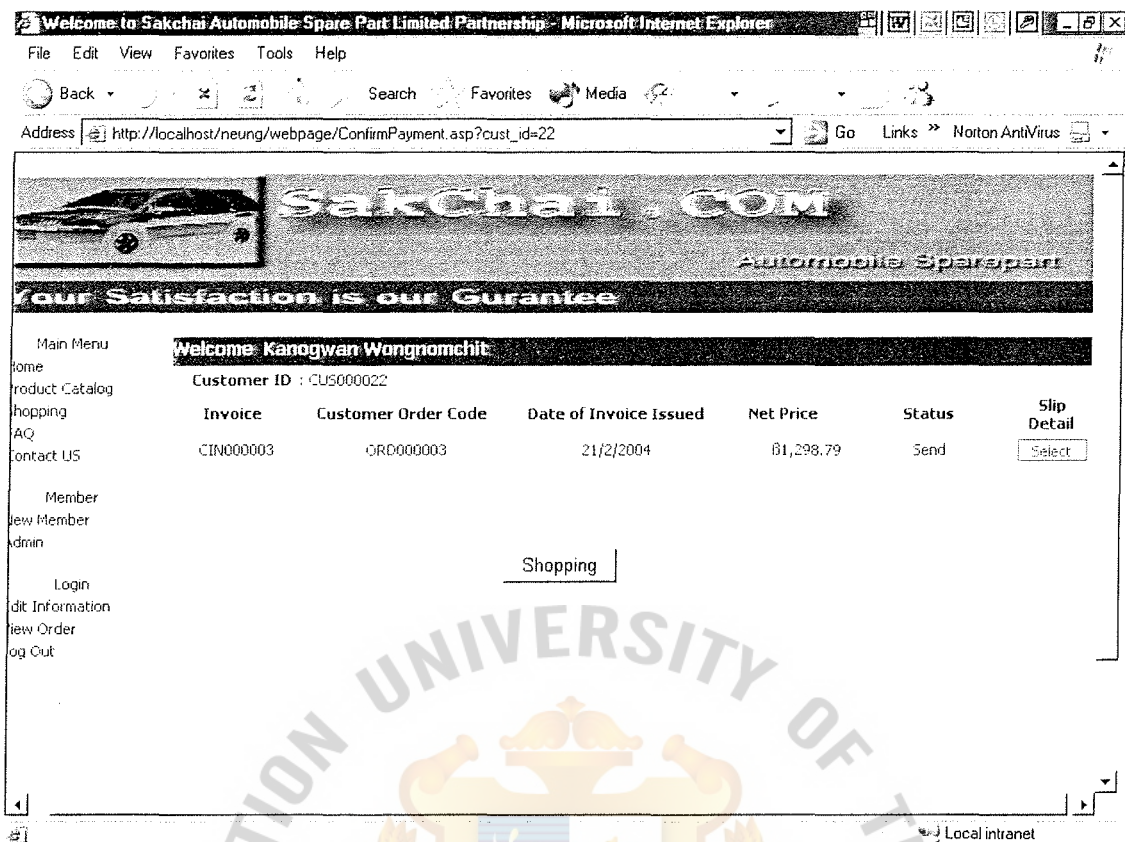
Figure D-16 Customer Confirm Payment Screen

SakChai . COM

Automobile Sparepart

Your Satisfaction is our Gurantee

Main Menu
Home
Product Catalog
Shopping
FAQ
Contact US

Welcome: Kanogwan Wongnomchit

Member
New Member
Admin

Customer Order Code	Bank Name	Branch	Ref No.	Total	Transfer Date
ORD000003	Bangkok Bank ▾			1298.79	21/2/2547

Login
Edit Information
View Order
Log Out

Done   Local intranet

Figure D-17   Confirm Payment Screen

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Microsoft Internet Explorer

⚠ You already Logout.Please click OK

OK

Local intranet

Figure D-18   Log out Screen

Figure D-19   New Member Register Screen

Figure D-20 FAQs Screen
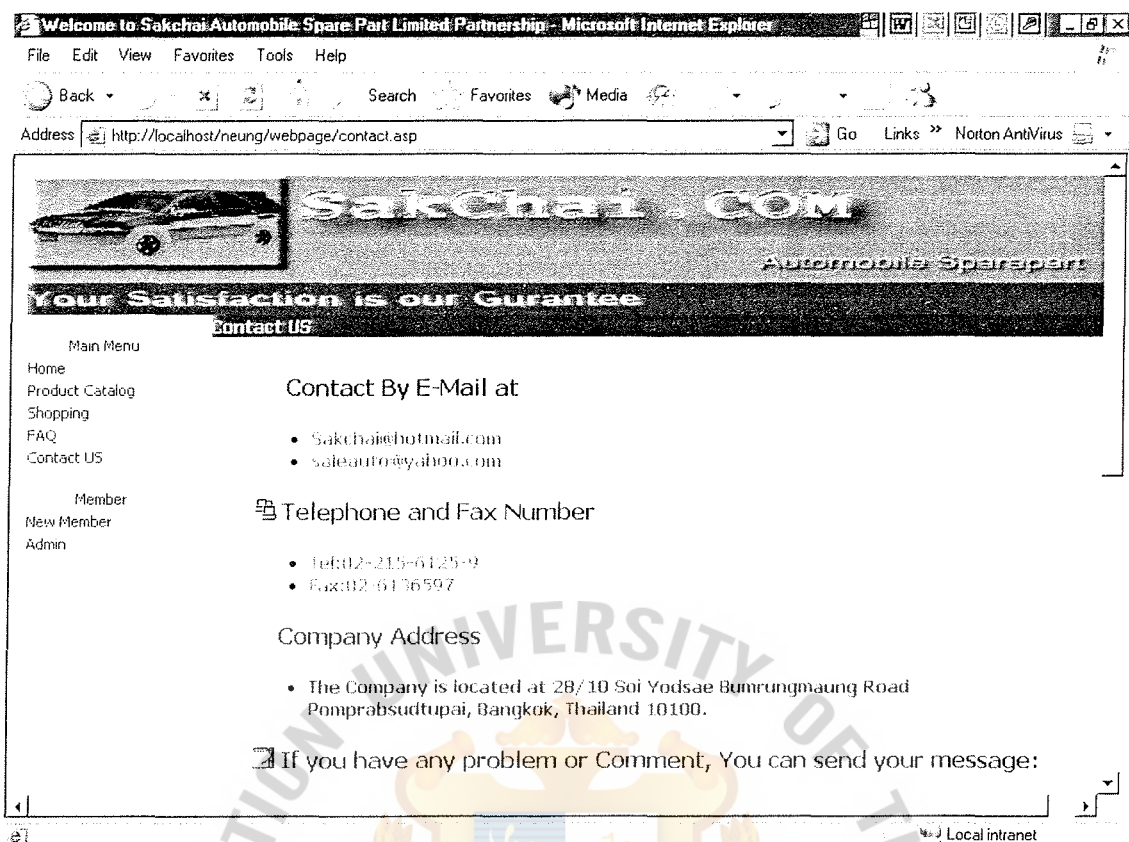
Figure D-21   Contact Us Screen

Figure D-22   Checking Inventory Screen

Figure D-23   Checking Inventory Grouped by Supplier Screen

File   Edit   View   Favorites   Tools   Help

Back ▾   ×   Search   Favorites   Media

Address http://localhost/neung/webpage/admin_homepage.asp   Go   Links » Norton AntiVirus

Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Purchase Order

Supplier Name :	Compact		PO ID : POI000006
Address :	12/181 Ramkhamhang Bangkok Thailand 10800		PO Date : 21/2/2547
Telephone No. :	02-3211012		

Product Code	Product Name	Product Brand	Product Model	Price	Quantity	Total
PRD000004	Oil Filter	Honda	City	297.00	50	14,850.00
PRD000007	Air Filter	Mitsubishi	Lancer Cedia	347.00	50	17,350.00
PRD000009	Air Filter	Honda	Civic	571.00	50	28,550.00
					NetTotal	60,750.00

OK

Done   Local intranet

Figure D-24   Purchase Order Detail Screen

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Figure D-25   Receive product Screen

File   Edit   View   Favorites   Tools   Help

Back ▾   ✕   ⤶   Search   Favorites   Media   ▾   ▾   ⛶

Address http://localhost/neung/webpage/admin_homepage.asp   ▾   Go   Links » Norton AntiVirus   ▾

Administrator Application   · Logout

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancel Customer Order

Suppliers
- Order Product From Each suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Receive Order

Supplier Name: Thai Yang Kitpaisan   **PO ID** : POI000003
        Address: 119-121 Suan Mali Bangkok Thailand 10110   **PO Date** : 25/2/2547
Telephone No: 02-2258060-4

Product Code	Product Name	Product Brand	Product Model	Quantity	Price	Total
AF000010	Air Filter	Mazada	Fighter	50	150	7,500.00

                              Discount %   Grand Total 7,500.00

Supplier Invoice ID: SIV000001   **Invoice Date:** 25/2/2547

Done   Local intranet
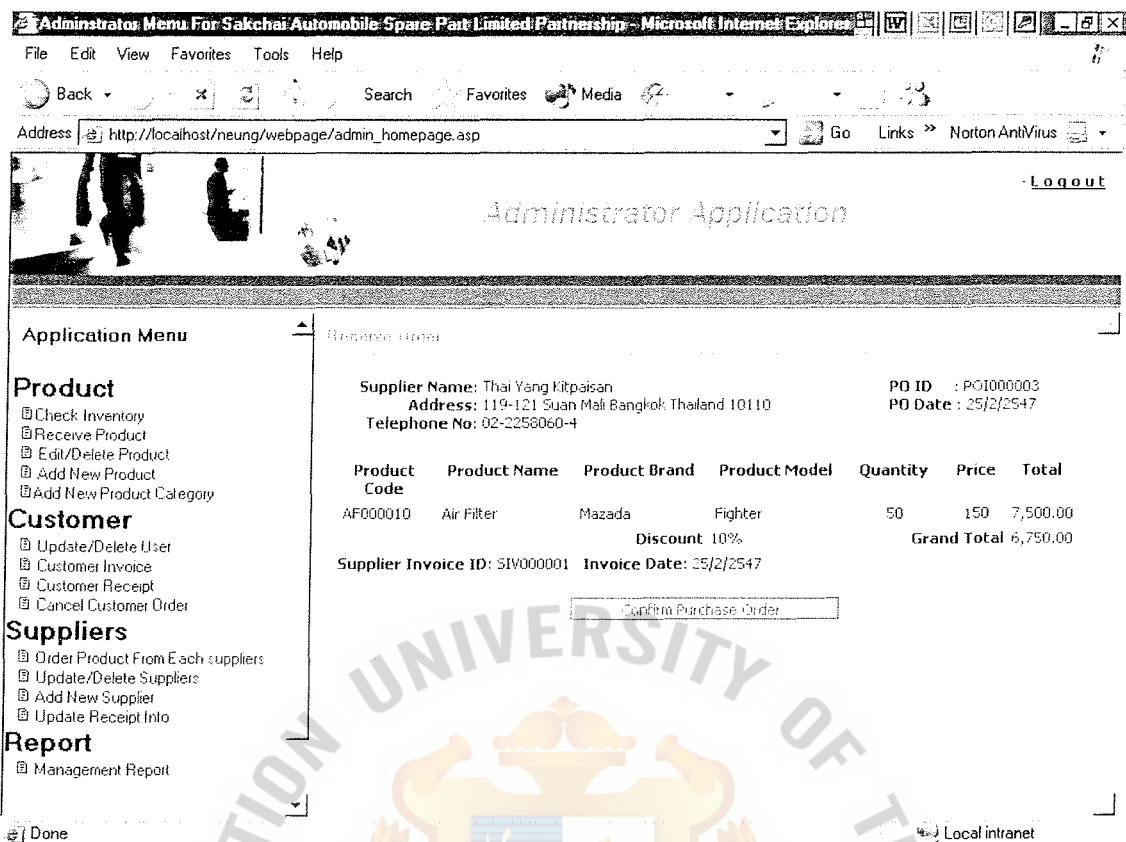
Figure D-26   Receive Product Detail Screen

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File   Edit   View   Favorites   Tools   Help

Back ▾   ✕   Search   Favorites   Media

Address http://localhost/neung/webpage/admin_homepage.asp   Go   Links »   Norton AntiVirus

Logout

Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancel Customer Order

Suppliers
- Order Product From Each suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Receive Order

Supplier Name: Thai Yang Kitpaisan
Address: 119-121 Suan Mali Bangkok Thailand 10110
Telephone No: 02-2258060-4

PO ID : POI000003
PO Date : 25/2/2547

Product Code	Product Name	Product Brand	Product Model	Quantity	Price	Total
AF000010	Air Filter	Mazada	Fighter	50	150	7,500.00

Discount 10%   Grand Total 6,750.00

Supplier Invoice ID: SIV000001   **Invoice Date:** 25/2/2547

Confirm Purchase Order

Done   Local intranet

Figure D-27   Confirm Purchase Order Screen

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Figure D-28   Edit Product Information Screen

File   Edit   View   Favorites   Tools   Help

Back   ·   ×   ·   ·   Search   ·   Favorites   Media   ·   ·   ·   ·

Address http://localhost/neung/webpage/admin_homepage.asp   ·   Go   Links »   Norton AntiVirus   ·

Logout

Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancel Customer Order

Suppliers
- Order Product From Each suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Edit Product Information

Product Code :	OF000002
Supplier ID :	SUP000001
Product Name :	Oil Filter
Product Brand :	Toyota
Product Model :	Camry
Product Cost :	250
Cost Average :	250.00
Product Price :	275
Stock On Hand :	50

PICTURE   [   ] Browse...

Done   Local intranet

Figure D-29   Edit Each Product Screen

Figure D-30   Add New Product Screen

Figure D-31   Add New Product Category Screen

Figure D-32   Update/Delete Customer Information Screen

File   Edit   View   Favorites   Tools   Help

Back ▾   ✕   ↻   Search   Favorites   Media

Address http://localhost/neung/webpage/admin_homepage.asp   Go   Links » Norton AntiVirus

- Logout

Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancel Customer Order

Suppliers
- Order Product From Each suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Edit Customer Information

Customer ID:	33
NAME:	d
LAST NAME:	d
ADDRESS NUMBER:	d
ADDRESS ROAD:	d
PROVINCE:	Bangkok ▾
COUNTRY:	d
ZIP:	d
TELEPHONE NUMBER:	d
FAX NUMBER:	d
E-Mail Address:	d

Submit   Reset

Done   Local intranet

Figure D-33   Update/Edit of Each Customer Information Screen

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File   Edit   View   Favorites   Tools   Help

Back ▾   ✗   Search   Favorites   Media

Address http://localhost/neung/webpage/admin_homepage.asp   Go   Links ❯❯   Norton AntiVirus

Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Historical Order

Customer Name : Kanogwan Wongnomchit

Customer Order Code	Order Date	Product Code	Quatity	Price	Net Price
ORD000001	19/2/2547	PRD000022	1	190.00	190.00
ORD000002	20/2/2547	PRD000007	90	360.00	32,400.00
ORD000002	20/2/2547	PRD000009	90	589.00	53,010.00
ORD000003	21/2/2547	PRD000003	1	450.00	450.00
ORD000003	21/2/2547	PRD000010	1	165.00	165.00
ORD000003	21/2/2547	PRD000009	1	628.00	628.00
ORD000003	21/2/2547	PRD000023	1	200.00	200.00
ORD000004	21/2/2547	PRD000006	1	300.00	300.00
ORD000004	21/2/2547	PRD000023	1	200.00	200.00
ORD000004	21/2/2547	PRD000003	1	450.00	450.00
ORD000004	21/2/2547	PRD000010	1	165.00	165.00
ORD000005	21/2/2547	PRD000004	92	320.00	29,440.00
ORD000005	21/2/2547	PRD000007	80	382.00	30,560.00
ORD000005	21/2/2547	PRD000009	90	628.00	56,520.00
ORD000005	21/2/2547	PRD000026	90	770.00	69,300.00

Done   Local intranet

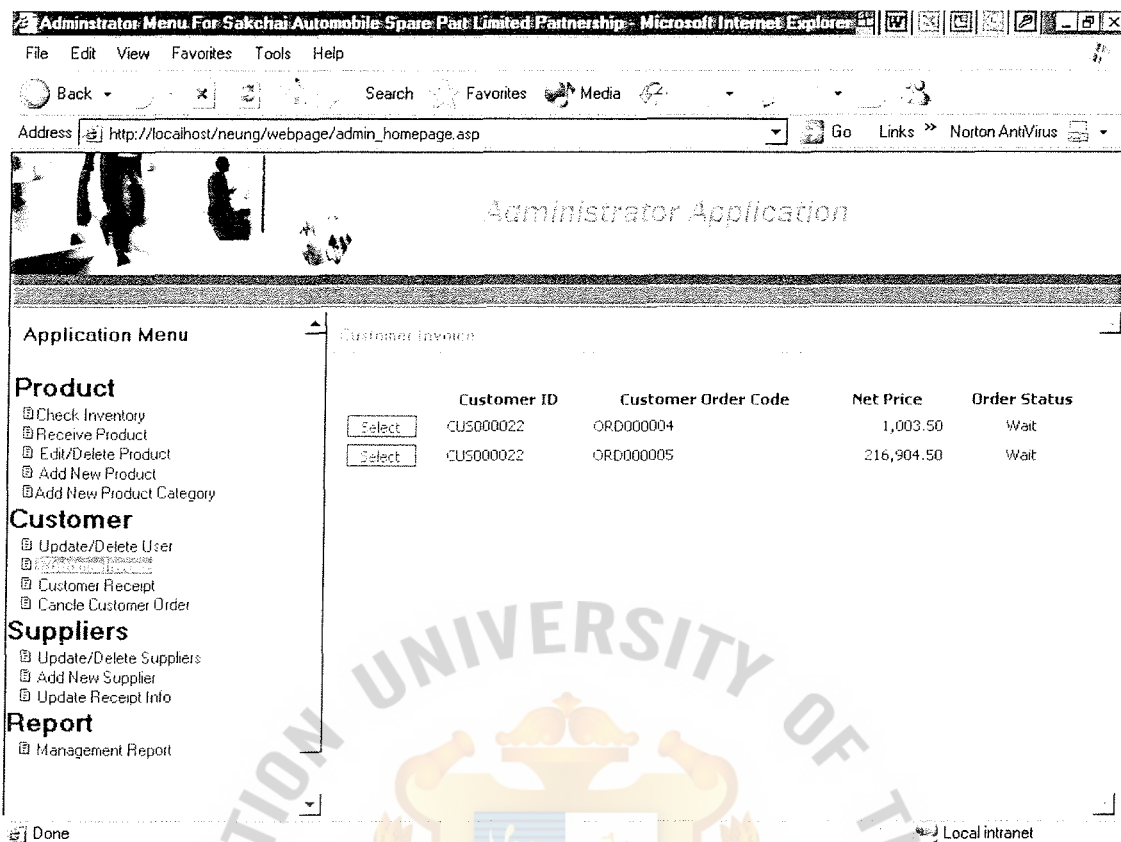Figure d-34   Customer Historical Order Screen

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Figure D-35   Select Customer Invoice Screen

File   Edit   View   Favorites   Tools   Help

Back ▾   ✕   Search   Favorites   Media

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Administrator Application

Customer Invoice

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Done   Local intranet

Customer Invoice
Sakchai SparePart Automobile Limited Partnership
28/10 Soi Yodsae Bumrungmaung Road
Pomprabsudtupai, Bangkok, Thailand 10100.
Telephone No. (02) 225-6495-6, Fax No. (02) 225-2881

Customer Name: Kanogwan Wongnomchit   **Invoice ID** : CIN000004
         Address: 876/22 Rama 6 Bangkok Thailand 10400   **Invoice Date** : 21/2/2547
         Telephone No: 02-2156125

Product Code	Product Name	Product Brand	Product Model	Quantity	Price	Total
PRD000003	Oil Filter	Honda	CRV	1	450	450.00
PRD000006	Air Filter	Mitsubishi	Lancer	1	300	300.00
PRD000010	Air Filter	Mazada	Fighter	1	165	165.00
PRD000023	Automotive Belt	Toyota	Corona	1	200	200.00

Discount 10%   (Vat Included)Grand Total 1,003.50

OK

Figure D-36   Customer Invoice Screen

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Figure D-37   Customer Receipt Screen

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File   Edit   View   Favorites   Tools   Help

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Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Historical Order

Customer Name : Kanogwan Wongnomchit

Customer Order Code	Order Date	Net Price	Status	Detail	Cancle
ORD000004	21/2/2547	1,003.50	Wait	select	cancle
ORD000005	21/2/2547	216,904.50	Wait	select	cancle

Done   Local intranet

Figure D-38   Cancel Customer Order Screen

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File   Edit   View   Favorites   Tools   Help

Back ▾   ✗   Search   Favorites   Media

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Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- ▢
- Update Receipt Info

Report
- Management Report

New Supplier

Name :	
Address Number :	
Road :	
Province :	
Country :	
Zip Code :	
Telephone :	
Fax :	
E-Mail :	

Submit   Reset

Done   Local intranet

Figure D-39   Add New Supplier Screen

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Figure D-40 Update/Delete Supplier Information Screen

Figure D-41   Update Supplier Information Screen By Showing Old Information

Figure D-42   Supplier Receipt Screen

File   Edit   View   Favorites   Tools   Help

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Administrator Application

Application Menu

Product
- Check Inventory
- Receive Product
- Edit/Delete Product
- Add New Product
- Add New Product Category

Customer
- Update/Delete User
- Customer Invoice
- Customer Receipt
- Cancle Customer Order

Suppliers
- Update/Delete Suppliers
- Add New Supplier
- Update Receipt Info

Report
- Management Report

Update Suppliers Receipt Info

Supplier Invoice ID: INV021156   Supplier Receipt ID:

Supplier Invoice Date: 20/02/04   Supplier Receipt Date:

Add To Database

Done   Local intranet

Figure D-43   Supplier Receipt Detail Screen

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APPENDIX E
MANAGEMENT REPORT DESIGN

Figure E-1 Sale Report

Management Report : Inventory Report

☐ Sale Report   ☐ Inventory Report   ☐ Purchase Order Report   ☐ Invoice Report   ☐ Receipt Report

Daily Inventory Report   Date:25/2/2547

No.	Product Code	Product Name	Product Brand	Product Model	Stock on Hand
1	AB000022	Automotive Belt	Toyota	Corolla1.3	150
2	AB000021	Automotive Belt	Hino	FL 3H	150
3	AB000023	Automotive Belt	Toyota	Corona	200
4	AB000024	Automotive Belt	Honda	Accord	150
5	AB000025	Automotive Belt	Honda	City Type Z	150
6	AF000006	Air Filter	Mitsubishi	Lancer	230
7	AF000008	Air Filter	Nissan	Sunny Neo	50
8	AF000009	Air Filter	Honda	Civic	200
9	AF000010	Air Filter	Mazada	Fighter	80
10	AF000007	Air Filter	Mitsubishi	Lancer Cedia	230

prev 1 2 3 4 Next

Done   Local intranet

Figure E-2   Inventory Report

File   Edit   View   Favorites   Tools   Help

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Management Report - Purchase Order Report

☐ Sale Report   ☐ Inventory Report   ☐ Purchase Order Report   ☐ Invoice Report   ☐ Receipt Report

Report : Purchase Order For the Month   ▾   Select : Feburday   ▾   Year: 2004   Search

Purchase Order For the Month
Purchase Order Group By Supplier
Purchase Order Group By Purchase Order ID

NO.	Purchase Order ID	Purchase Date	Receive Date	Product Code	Product Name	Product Brand	Product Model	QTY	Cost	Discount	Total
1	POI000002	24/2/2547	24/2/2547	OF000002	Oil Filter	Toyota	Camry	50	250	10	38,250.00
2	POI000002	24/2/2547	24/2/2547	OF000003	Oil Filter	Honda	CRV	50	400	10	38,250.00
3	POI000002	24/2/2547	24/2/2547	OF000005	Oil Filter	Nissan	Sunny	50	200	10	38,250.00
4	POI000001	25/2/2547	25/2/2547	SP000031	AAA	Honda	Civic New dimension	50	200	2	9,800.00
							Net Total :				124550

Done   Local intranet

Figure E-3   Monthly Purchase Order Report

Management Report : Purchase Order Report

Sale Report Inventory Report Purchase Order Report Invoice Report Receipt Report

Report : Purchase Order Group By Supplier ▾   Select : Feburday ▾ Year: 2004 Search

Supplier ID : SUP000001 Supplier Name : Compact

NO.	Purchase Order ID	Purchase Date	Receive Date	Product Code	Product Name	Product Brand	Product Model	QTY	Cost	Discount	Total
1	POI000002	24/2/2547	24/2/2547	OF000002	Oil Filter	Toyota	Camry	50	250	10	38,250.00
2	POI000002	24/2/2547	24/2/2547	OF000003	Oil Filter	Honda	CRV	50	400	10	38,250.00
3	POI000002	24/2/2547	24/2/2547	OF000005	Oil Filter	Nissan	Sunny	50	200	10	38,250.00
4	POI000001	25/2/2547	25/2/2547	SP000031	AAA	Honda	Civic New dimension	50	200	2	9,800.00
							Net Total :				124550

Supplier ID : SUP000002 Supplier Name : Thai Yang Kitpaisan

NO.	Purchase Order ID	Purchase Date	Receive Date	Product Code	Product Name	Product Brand	Product Model	QTY	Cost	Discount	Total
							Net Total :				0

Supplier ID : SUP000003 Supplier Name : S.C.L. Motor part

Done   Local intranet

Figure E-4   Monthly Purchase Order Report group by Supplier

File　Edit　View　Favorites　Tools　Help

Back　▼　✕　Search　Favorites　Media

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Management Report : Purchase Order Report

☐ Sale Report　☐ Inventory Report　☐ Purchase Order Report　☐ Invoice Report　☐ Receipt Report

Report : | Purchase Order Group By Purchase Order ID ▼ |　　Select : | Feburday ▼ | Year: |2004| Search

Purchase Order For the Month
Purchase Order Group By Supplier
Purchase Order Group By Purchase Order ID

Purchase Order ID : POI000001

NO.	Purchase Date	Receive Date	Product Code	Product Name	Product Brand	Product Model	QTY	Cost	Discount	Total
1	25/2/2547	25/2/2547	SP000031	AAA	Honda	Civic New dimension	50	200	2	9,800.00
									Net Total :	9800

Purchase Order ID : POI000002

NO.	Purchase Date	Receive Date	Product Code	Product Name	Product Brand	Product Model	QTY	Cost	Discount	Total
1	24/2/2547	24/2/2547	OF000002	Oil Filter	Toyota	Camry	50	250	10	38,250.00
2	24/2/2547	24/2/2547	OF000003	Oil Filter	Honda	CRV	50	400	10	38,250.00
3	24/2/2547	24/2/2547	OF000005	Oil Filter	Nissan	Sunny	50	200	10	38,250.00
									Net Total :	114750

Done　　　　Local intranet

Figure E-5　Monthly Purchase Order Report group by Purchase Order ID

Sale Report   Inventory Report   Purchase Order Report   Invoice Report   Receipt Report

Report : Customer Invoice Report   **Select :** Feburday **Year:** 2004 Search

Customer ID : CUS000022   **Customer Name :** Kanogwan

Invoice ID	Invoice Date	Total
CIN000001	25/2/2547	3,960.00
	Net Total :	3,960.00

Customer ID : CUS000033   **Customer Name :** Wipa

Invoice ID	Invoice Date	Total
	Net Total :	.00

Done   Local intranet

Figure E-6   Customer Invoice Report

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File   Edit   View   Favorites   Tools   Help

Back ▾   ✕   ⟲   Search   Favorites   Media

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Management Report : Receipt Report

☐ Sale Report   ☐ Inventory Report   ☐ Purchase Order Report   ☐ Invoice Report   ☐ Receipt Report

Report :   **Select :**
Customer Receipt Report   ▾   Feburday   ▾   Year: 2004   Search
Customer Receipt Report
Supplier Receipt Report

Customer ID :CUS000022   **Customer Name :** Kanogwan

Receipt ID	Invoice ID	Receipt Date	Total
REC000001	INV000001	25/2/2547	3,960.00
		Net Total :	3,960.00

Customer ID :CUS000033   **Customer Name :** Wipa

Receipt ID	Invoice ID	Receipt Date	Total
		Net Total :	.00

Done   Local intranet

Figure E-8   Customer Receipt Report

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Management Center - Receipt Report

☐ Sale Report   ☐ Inventory Report   ☐ Purchase Order Report   ☐ Invoice Report   ☐ Receipt Report

Report :   **Select :**
Supplier Receipt Report   ▾   Feburday   ▾ **Year:** 2004   Search
Customer Receipt Report
Supplier Receipt Report

Supplier ID : SUP000001   **Supplier Name :** Compact

Receipt ID	Invoice ID	Receipt Date	Total
xxx	AAA	24/2/2547	9,800.00
xxx	AAA	24/2/2547	9,800.00
		Net Total :	19,600.00

Supplier ID : SUP000002   **Supplier Name :** Thai Yang Kitpaisan

Receipt ID	Invoice ID	Receipt Date	Total
		Net Total :	.00

Supplier ID : SUP000003   **Supplier Name :** S.C.L. Motor part

Receipt ID	Invoice ID	Receipt Date	Total
		Net Total :	.00

Supplier ID : SUP000004   **Supplier Name :** DD Group

Receipt ID	Invoice ID	Receipt Date	Total
		Net Total :	.00

Done   Local intranet

Figure E-9 Supplier Receipt Report

REFERENCES

1.   Kendall, Kenneth E. and Kendall, Julie E. **System Analysis and Design.** New Jersey: Prentice Hall International, Inc., 1999

2.   Schwelby, Kathy. **Information Technology and Management.** New York: Course Technology, 2002

3.   Laudon, Kenneth C. and Laudon, Jane P. **Management Information System.** New Jersey: Prentice Hall International, Inc., 2001

4.   Connolly, Thomas M. **Database System: A practical approach to design, implementation and management.** New York: Course Technology, 2001

5.   Taweechai Hongsumalai and Saguanchai Suwanchewasiri,. **Inside ASP and ASP.NET.** Bangkok: Provision, 2002.