Automobile Stock Management System of Sukhothai Isuzu Co., Ltd.

By

Ms. Suvimol Saewong

Final Report of the Three - Credit Course
CS 6998 System Developmen Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Computer Information Systems
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Project Title	Automobile Stock Management System of Sukhothai Isuzu Co., Ltd.
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Academic Year	November 1999

The Graduate School of Assumption University has approved this final report of the three-credit course, CS 6998 System Development Project, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer Information Systems.

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ABSTRACT

The system development project covers analysis, design and partial implementation of stock control system of TRI Petch Isuzu's dealer named Sukhothai Isuzu.

The main objective is to improve the existing stock controlling system which is manually recorded to be a computerized system. Its scope is to cover the stock control and to combine all inventory in each warehouse to be one stocking area which is the central control system and to reduce many redundant files which make them difficult to produce the useful information.

The proposed system was designed to provide accurate information in time for the operational staffs as well as the top management. The study of this project begins with the problem definitions and analysis of the existing system. Using the tools of structured analysis such as context diagram, data flow diagram to describe the information flow, the new system can be designed to solve the problems and meet users' requirements. It also helps control the consolidated inventory system and produces the required reports assisting the top level management to engage in strategic planning, analyzing, inquiring and manipulating the information.
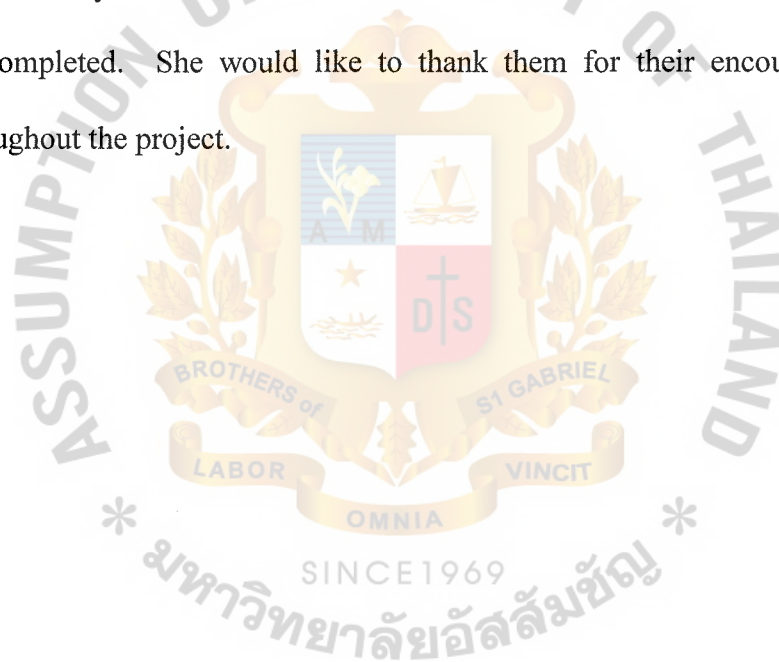
ACKNOWLEDGEMENTS

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I. INTRODUCTION

1.1 Background of the Project

System development is designed for Sukhothai Isuzu Co.,Ltd., the well-known exclusive car dealer of TRI Petch Isuzu Sales Co., Ltd., to facilitate the day-to-day operation in the area of stock controlling as well as the database management for all types of automobile. Sukhothai Isuzu Co.,Ltd. has been established in 1981 which located in Sukhothai province. The main purpose of business is to re-sell automobiles ordered from TRI Petch Isuzu Co.,Ltd to customers in the nearby areas. As the company's sales volume is approximately 100 units per month, it has seen the opportunity to increase the market share, and better serve the customer demand in this region by establishing three warehouses in three key provinces. Therefore, the new inventory system is required so that it can maintain its inventory well. Thus company needs to set the stock controlling system which is easily tracking the database and transfer cars among these three warehouses. So the new computerized system is needed instead of manually recorded by staffs.

Because of on time reliable information, cost reduction and risk on control system, a simple spreadsheet handled manually is not adequate to manage the system. So, the system development plan is considered to develop the system into the computerized system. It is expected to be able to update the inventory in all these three warehouses for each item after the transaction everyday. At the same time, a computerized system could assist the stock-keeper by automatic updating the stock and displaying all remaining items. Another target for the new system is to improve

reporting and record keeping procedures. Also, the system is designed to provide required reports in daily, weekly and monthly basis. Finally the system is designed to serve both operational and managerial decisions to improve the company's competitive edge.

1.2 Objectives

1. To study the existing system.

2. To analyze the problems and users' requirements.

3. To design a new more accurate and quick response system.

4. To develop and test the program for automobile stock management system.

1.3 Scope of the Project

The project will cover major parts of the automobile stock management system which includes:

1. Generating costs analysis of new system.

2. Designing screen layout of new system

3. Maintaining and updating customer profile records.

4. Identifying stock information in order to update inventory and analyze stock management.

5. Updating the available products database of each warehouse when stock is cut.

6. Designing timely status reports such as invoices, sales reports, product transfer reports, stock reports etc.

II. EXISTING SYSTEM

2.1 Background of the Organization

TRI Petch Isuzu Sales Co.,Ltd. was established in 1974 with the mission to assemble and sell automobiles plus other services including planning for Isuzu business in Thailand. Product lines include trucks, buses, pick-ups, passenger-cars by having about 300 branches of selling networks and service centers nationwide. The company has seen the demand of automobiles in Thai market being in line with the rapid growth of Thai economy during that time.

In 1981, it established its exclusive sub dealer named "Sukhothai Isuzu" at Sukhothai province to meet the demand of customers in the province and its nearby areas. The system development is designed for Sukhothai Isuzu in order to facilitate the stock management as well as the database management.

The rapid growth of business creates the problem of filing system and slower stock management. The information cannot be shared with other departments. The current information is needed for upgrading, so the information system can be utilized more efficiently in order to increase more productivity.

Its organization chart is categorized by functions. Sukhothai Isuzu is a car dealer company. Each department has it owns management style and information flow, and report format within its department but all departments will have the same outputs according to the company policy.

The flow of communication will be top-down to each department head and then shared within department according to the method of each department. The information

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such as sales report, planning report, financial report from each department will be bottom-up to top level management through the head of departments.

2.2 Existing Business Function

For the existing operation, all functions are performed manually by the officers. The following is the list of functions:

1. Receive Order from customers.

2. Check available products in stock.

3. When product is available in stock, the stock controller will cut the stock and then send the memo to accounting department to generate a invoice.

4. If the product is out-of-stock, stock control will check at other warehouses in Pitsanulok and Utaladit by calling their stock controllers and then issuing the reserve request to customer and sending the request to those respective warehouses.

5. Generate summary report to management.

6. List the products in balancing inventory to salespersons to know the status.

2.3 Current Problems and Area of Improvement

2.3.1 Current Problems

The problems of the existing system can be summarized as follows:

1. Flow of purchasing orders and checking product in stock is slow and inaccurate.

2. Stock summary report is slowly generated. So, its information is insufficient for management to forecast sales and to order products properly from suppliers.

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3. Each warehouse cannot share information on network basis.

4. Inaccurate information of system leads to inaccurate information gathering such as accounting control.

5. Stock summary report is slow because the information cannot be shared among department and branches.

6. The process of updating available products in each warehouse is time-consuming.

7. There is no document for keeping base information of product such as pattern, model color, engine power, etc.

8. Products cannot be delivered as it should be because inventory checking process is slow.

2.3.2 Area of Improvement

1. Provide accurate stock information.

2. Reduce time for the checking process among three warehouses.

3. Minimize time for generating invoice to collect the payment as soon as possible.

4. Provide the warehouse inventory system in order to improve delivery performance.

5. Provide central database for sharing information among warehouses.

6. Provide base information management to collect data such as pattern, model, color of product etc.

Current Organization Structure
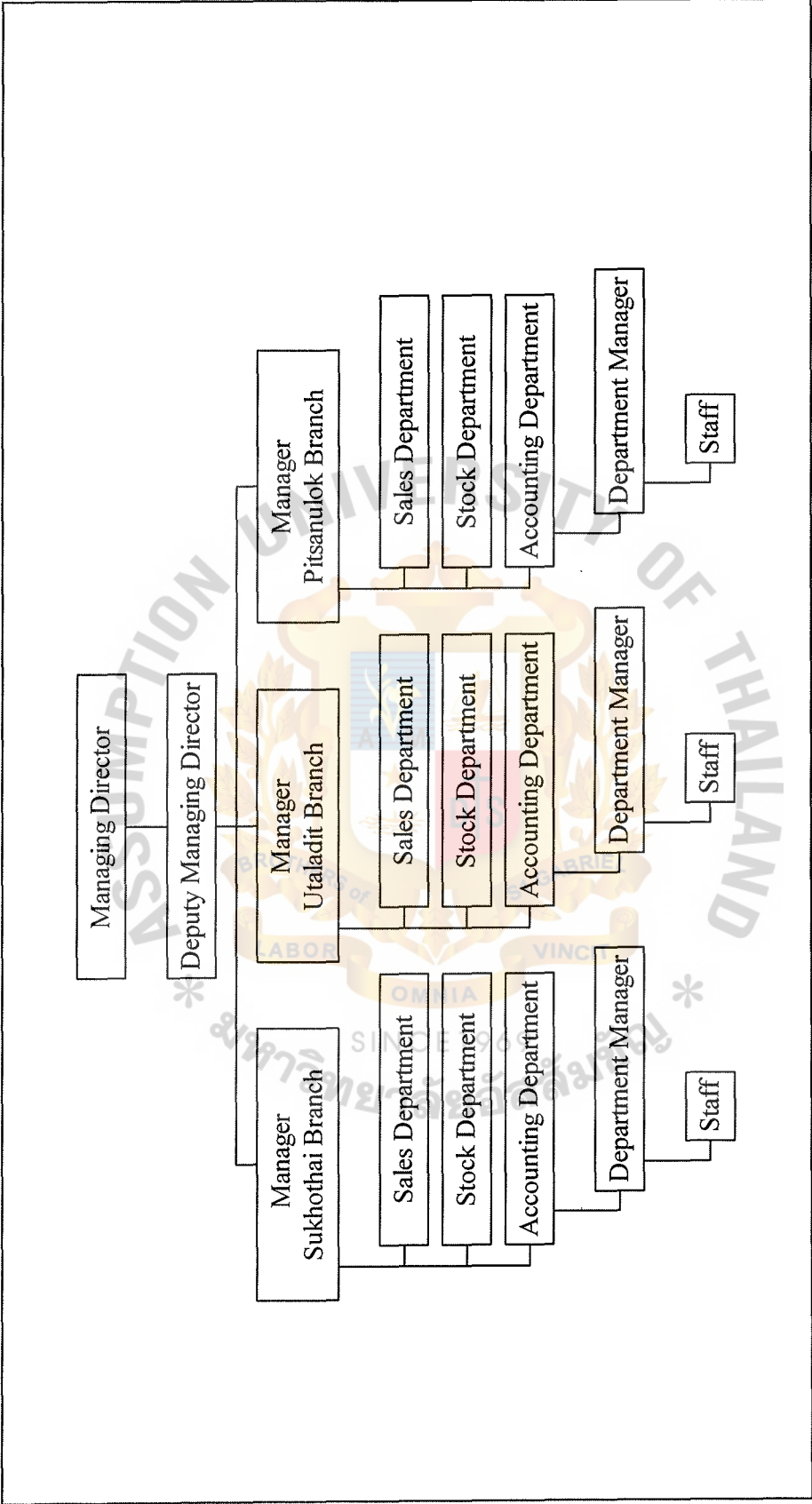
Figure 2.1.   Organization Chart.

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2.4 Existing System Cost

Development Cost

    Hardware

Computer 486/100 (@45,000x3)	135,000 Baht
Epson 1170 I (@15,000x3)	45,000 Baht
Laser Printer (@30,000x1)	30,000 Baht
Telephone Line	20,000 Baht

    Software

MS Window 95 (for 10 licenses)	90,000 Baht
Stock Program	30,000 Baht
Total	<u>350,000</u> Baht

Operation Cost

Telephone Cost	288,000 Baht
(20Bht./callx40 times/dayx30dayx12month)	
Manpower (@10,000x12x4)	480,000 Baht
Paper Cost	50,000 Baht
Total	<u>818,000</u> Baht
GRAND TOTAL	<u>1,168,000</u> Baht

III. PROPOSED SYSTEM

The proposed computerized system will provide the information and report to management, maintain the warehouse control with the computerized information system instead of manual system, ease the use for the user. The proposed system can maximize the current resource productivity.

3.1 User Requirement

User would like to have a central database for information that can be shared by all departments and if possible, they prefer to utilize existing hardware for new system and to automate the warehouse control system in order to minimize paper work for sales. The user requirements can be summarized as follows:

1. An integrated system can be used commonly with all function areas.

2. The system must be menu driven so that the less-familiar computer users can use it easily.

3. The system can report the status of inventory in daily basis.

4. The system should be user friendly.

5. The system must accelerate the processing time and accuracy of the retrieved data.

6. The system should be flexible and reliable to maintain and implement.

3.2 System Design

3.2.1 Data Flow Diagram / Process Specification

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The operational requirement of this proposed system is shown in data Flow diagram level 0, data dictionary and process specification in appendix A, B, C and D.

3.2.2 Input and Output Design and Reporting

It is the user interface for daily operating and performing the timely report as shown in appendix E and F.

There are nine processes in the proposed system which are described below.

Process 1 : Receive request

- Update customer profile

- Receive the order request from customer and specify the model, type, color etc.

Process 2 : Check available product

- Check the existing stock and then display the product detail on hand

- Mark on reservation status and the update the reservation to the list

- Request warehouse

Process 3 : Transfer product

- If the product is not available in warehouse, check with the other two warehouses

- Check specification of product and show the product details

- Update date of transfer

Process 4 : Generate reserved request

- Verify entry request and make reservation request to customer

- Update the reservation request and print the request to the customer

Process 5 : Cut stock

- Cut product in stock and update

Process 6 : Generate invoice

- Order detail specified in the invoice

- Print invoice and send to customer

Process 7 : Update stock amount & detail

- Update product in stock

- Add new stock product details

Process 8 : Update base stock

- Display current information

- Delete data that was selected

- Verify added data

- Add new data

Process 9 : Generate stock report

- Make master data

- Search stock report by entry the date / month

- Print the stock report update to management

- Make monthly report to inform consumption

3.3   Hardware and Software Requirements

Computer Server

CPU	Pentium II Processor 400 MHZ
Mainboard	440 BX ASUS 512 KB Pineline burst
	L2 Cache Memory SDRAM for 100 MHZ
RAM	256 MB SDRAM PC 100
Harddisk	9 GB Ultra ATA Harddisk SEAGATE
Display Card	3D PRO AGP with memory 8 MB
MONITOR	15" MAG SVGA Digital Monitor (N/L/G)
CDROM	40x Speed CDROM
FLOPPY DRIVE	1.44MB Floppy drive
Keyboard	Microsoft Keyboard
Mouse	Microsoft Mouse
Power Supply	ATX Casing 235 Watts Power Supply
Price / Unit	50,000 Baht

Computer Client

CPU	Celeron 300A MHZ
Mainboard	440BX ASUS 512KB Pineline burst L2
	Cache Memory SDRAM for 100 MHZ
RAM	32MB SDRAM PC100
HARDDISK	3.5 GB Ultra ATA Harddisk SEAGATE
DISPLAY CARD	3D PRO AGP with memory 8 MB
MONITOR	14" MAG SVGA Digital Monitor (N/L/G)

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Floppy Drive	1.44MB Floppy drive	
Keyboard	Microsoft Keyboard	
Mouse	Microsoft Mouse	
Power Supply	ATX Casing 235 Watts Power Supply	
Price / Unit		30,000 Baht

Printer

Printer Server	8,000 Baht
HP Laser Jet	30,000 Baht
EPSON 1170 i	15,000 Baht

Network

Hub 3 Com 8 port	28,000 Baht
Network Adapter 3Com EtherLink III	1,200 Baht
Router Cisco 1005	50,000 Baht

Software

Microsoft Windows NT 4.0 Thai Edition	25,000 Baht
Microsoft Windows Office 98	10,000 Baht
ISUZU Sukhothai Stock Program	30,000 Baht

Database

Microsoft SQL Server Database v.7	65,000 Baht

(10 Client Access Licenses)

3.4 Security and Control

3.4.1 User Identification

User authentication is verified when user starts the request, the password identification is performed. If the password is not correct, the screen will alert users to re-enter the new password. If they put the incorrect password three times then the system will be terminated. Every user has his or her own password and enter this user ID and password before accessing to the system. The password key in the system should be user encryption technique so that it is difficult to see the real password.

3.4.2 Time Restriction

File server can be set to authorize the user to access within the specific period of time, otherwise user cannot access to the server

3.4.3 Authentication Level

The authorized users, accessing into the system, can make any changes such as day to day operation and limit to edit only authorized person. User will be given low access level as possible to perform his task.

3.4.4 Back up Recovery

Back up copies should be created every time the database is updated or modified. A copy of system program must be kept in secondary storage to ensure system operation in case the program run fails.

3.4.5 Physical Security

Computer is vulnerable to water, heat, scratch and etc. The simple rules are:

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- Do not smoke near the computer.

- Do not have meal near the computer.

- Do not leave computer open every time.

3.4.6 Virus Protection

A computer virus is the software that attaches itself to another program in computer memory or on a disk, and spreads from one program to another. Viruses can damage data by displaying the offending or bothersome messages. The anti-virus software should be installed at all times. There are several types of anti-virus. Scan will check the system and disks, if scan finds a known virus, it will eliminate and repair infected programs or system area to their original condition.

3.4.7 Other Control

Ensure that the operators receive adequate training on the user of the computer. The computer hardware must be locked every closing time and key must be kept by an authorized person.

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3.5 Cost / Benefit Analysis

3.5.1 Cost Analysis

Table 3.1. Cost Analysis for Alternative 1.

Description	Quantity	Unit Price (Baht)	Amount (Baht)
Hardware			
Computer Server (Pentium II 400 MHZ)	3	50,000	150,000
Computer Client Celeron 300A MHZ	9	30,000	270,000
Printer Server	3	8,000	24,000
HP Laser Jet	3	30,000	90,000
Epson 1170I Printer	3	15,000	45,000
Hub 3 Com 8 Port	3	28,000	84,000
Network Adapter 3 Com Ether Link III	9	1,200	10,800
UTP Cable & Wire, RJ 45, Wiring Job	10	800	8,000
Leased Line 64 K	2	10,000	20,000
Router Cisco 1005	3	50,000	150,000
Software			
MS Window NT 4.0 Thai Edition	3	25,000	75,000
MS Window 98 (10 Licenses)	1	50,000	50,000
Stock System Program	1	30,000	30,000
Database			
MS SQL Server Database	1	65,000	65,000

System Cost : Alternative 1

Development Cost

Personnel

2 System Analysts (100 hrs./@800 Bht.)	160,000 Baht
1 System Design (50 hrs./@800 Bht.)	40,000 Baht
1 Database Specialist (10 hrs./@1,000 Bht.)	10,000 Baht

Expense

6 User Training (@5,000 Bht./User)	30,000 Baht

New Hardware & Software

Hardware	831,800 Baht
Software & Stock Software System	155,000 Baht
Database MS SQL Database (10 Client Access Licenses)	65,000 Baht
Total Development Cost	**1,291,800 Baht**

Projected Annual Operating Cost

Maintenance Agreement Cost for H/W, S/W	40,000 Baht
Pre-printed form (3,000/year@5/Form)	15,000 Baht
2 Leased Line 64K (@10,000/monthx12)	240,000 Baht
Total Projected Annual Cost	**295,000 Baht**
Total Development Cost and Operating Cost	**1,586,800 Baht**

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Table 3.2.   Cost Analysis for Alternative 2.

Description	Quantity	Unit Price (Baht)	Amount (Baht)
Hardware			
Computer Server (Pentium II 400 MHZ)	3	50,000	150,000
Computer Client Celeron 300A MHZ	9	30,000	270,000
Printer Server	3	8,000	24,000
HP Laser Jet	3	30,000	90,000
Epson 1170I Printer	3	15,000	45,000
Hub 3 Com 8 Port	3	28,000	84,000
Network Adapter 3 Com Ether Link III	9	1,200	10,800
UTP Cable & Wire, RJ 45, Wiring Job	10	800	8,000
Leased Line 64 K	2	10,000	20,000
Router Cisco 1005	3	50,000	150,000
Software			
Unix Server	1	500,000	500,000
MS Window 98 (10 Licenses)	1	50,000	50,000
Stock System Program	1	30,000	30,000
Database			
Oracle Server Database	1	100,000	100,000

System Cost : Alternative 2

Development Cost

Personnel

2 System Analyst (100 hrs./@800 Bht.)	160,000 Baht
1 System Design (50 hrs./@800 Bht.)	40,000 Baht
1 Database Specialist (10 hrs./@1,000 Bht.)	10,000 Baht

Expense

6 User Training (@5,000 Bht./User)	30,000 Baht

New Hardware & Software

Hardware	831,800 Baht
Software (Unix) & Stock Software System	580,000 Baht
Database Oracle Database (10 Client Access Licenses)	100,000 Baht
Total Development Cost	**1,751,800 Baht**

Projected Annual Operating Cost

Maintenance Agreement Cost for H/W, S/W	70,000 Baht
Pre-printed form (5,000/year@5/Form)	15,000 Baht
2 Leased Line 64K (@10,000/monthx12)	240,000 Baht
Total Projected Annual Cost	**325,000 Baht**
Total Development Cost and Operating Cost	**2,076,800 Baht**

Table 3.3.   Cost Analysis for Alternative 3.

Description	Quantity	Unit Price (Baht)	Amount (Baht)
Hardware			
Computer Server (Pentium II 400 MHZ)	3	50,000	150,000
Computer Client Celeron 300A MHZ	9	30,000	270,000
Printer Server	3	8,000	24,000
HP Laser Jet	3	30,000	90,000
Epson 1170I Printer	3	15,000	45,000
Hub 3 Com 8 Port	3	28,000	84,000
Network Adapter 3 Com Ether Link III	9	1,200	10,800
UTP Cable & Wire, RJ 45, Wiring Job	10	800	8,000
Leased Line 64 K	2	10,000	20,000
Router Cisco 1005	3	50,000	150,000
Software			
Unix Server	1	500,000	500,000
MS Window 98 (10 Licenses)	1	50,000	50,000
Stock System Program	1	30,000	30,000
Database			
Informix Server Database V.7.4	1	90,000	90,000

System Cost : Alternative 3

Development Cost

Personnel

2 System Analyst (100 hrs./@800 Bht.)	160,000 Baht
1 System Design (50 hrs./@800 Bht.)	40,000 Baht
1 Database Specialist (10 hrs./@1,000 Bht.)	10,000 Baht

Expense

6 User Training (@5,000 Bht./User)	30,000 Baht

New Hardware & Software

Hardware	831,800 Baht
Software (Unix)& Stock Software System	580,000 Baht
Database Informix Database (10 Client Access Licenses)	90,000 Baht
Total Development Cost	**1,741,800 Baht**

Projected Annual Operating Cost

Maintenance Agreement Cost for H/W, S/W	70,000 Baht
Pre-printed form (1,000/year@5/Form)	5,000 Baht
2 Leased Line 64K (@10,000/monthx12)	240,000 Baht
Total Projected Annual Cost	**315,000 Baht**
Total Development Cost and Operating Cost	**2,056,800 Baht**

3.5.2 System Benefit

◆ Saving cost on personnel recruitment   480,000 Baht

   (@10,000 x 12month x 4 person)

◆ Reduce error of stock and account receivable   150,000 Baht

◆ Reduce telephone call   432,000 Baht

   (20 Bht./call @60 call/ day x 30 day x 12 month)

Total annual benefit   <u>1,062,000</u> Baht

Benefit Analysis

The proposed system provides both tangible and intangible benefits as follows:

Tangible Benefit

◆ Cost reduction due to eliminate of manual operation and time

◆ Reduce cost of documents file

◆ Reduce overtime charge

◆ Reduce cost of temporary staff

Intangible Benefit

◆ Provide accurate information for managing decision

◆ Reduce redundancy function in operation

◆ Better control of inventory

◆ To improve productivity

◆ To get customer satisfaction

3.5.3 Comparing Costs and Benefits

Payback period

A criterion that is frequently used to judge the profitability of a system is the payback period. It is defined as the number of years required accumulating earning sufficient to cover its cost. (see Table 3.5)

The payback period for the proposed system (Alternative 1) is 1.7 years after the first year of investment. The period for payback for alternative 1 is less than alternative 2 and 3 which means that it is value to invest. (see Table 3.6 and 3.7).

Return on Investment

To measure the relationship between the amount the business gets back from an investment and the amount invested.

ROI = (Estimated lifetime benefit – Estimated lifetime cost) / Estimated lifetime cost

ROI = (4,598,460 - 2,610,350) / 2,610,350 = 0.76

The ROI for 5 years lifetime for the proposed system (Alternative 1) is 76%

Break Even Analysis

Break even point for the development cost and operation cost for 4 years time compared between existing and proposed system is 1.8 years.

After studying the automated system, the implementation of new system is more efficiency than the manual system in long term. The investment cost that use in new system will be higher in the first stage of system. But in long term, the new system will be less cost than the existing system (see Table 3.8 and Figure 3.4).

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Table 3.4. Payback Analysis : Alternative 1 : SQL Server Database, in Baht.

Cost Items	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Development Cost	-1,291,800					
Operation - Maintenance Cost		-295,000	-300,000	-305,000	-310,000	-315,000
Discount Factor for 5%	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Costs (adjusted to present value):	-1,291,800	-280,840	-272,100	-263,520	-255,130	-246,960
Cumulative time-adjusted costs over lifetime:	-1,291,800	-1,572,640	-1,844,740	-2,108,260	-2,363,390	-2,610,350
Benefits derived from the operation of the new system:	0	1,062,000	1,062,000	1,062,000	1,062,000	1,062,000
Discount Factor for 5%:	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Benefit (adjusted to present value):	0	1,011,024	963,234	917,568	874,026	832,608
Cumulative time-adjusted benefits over lifetime:	0	1,011,024	1,974,258	2,891,826	3,765,852	4,598,460
Cumulative time-adjusted costs + benefits:	-1,291,800	-561,616	129,518	783,566	1,402,462	1,988,110

Payback Period of the Proposed System for Alternative 1
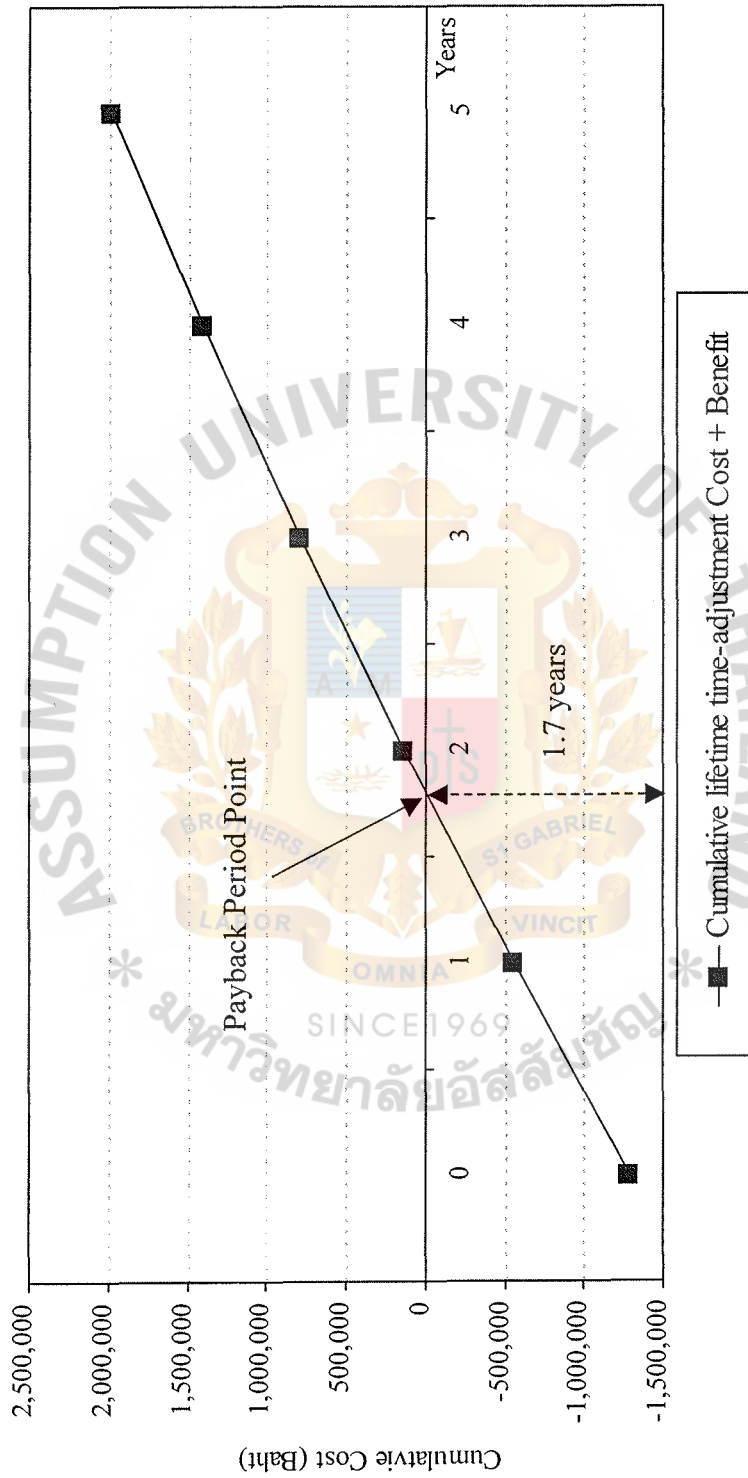
Figure 3.1. Payback Period of the Proposed System for Alternative 1.

Table 3.5. Payback Analysis : Alternative 2 : Oracle Server Database, in Baht.

Cost Items	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Development Cost	-1,751,800					
Operation - Maintenance Cost		-325,000	-330,000	-335,000	-340,000	-345,000
Discount Factor for 5%	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Costs (adjusted to present value):	-1,751,800	-309,400	-299,310	-289,440	-279,820	-270,480
Cumulative time-adjusted costs over lifetime:	-1,751,800	-2,061,200	-2,360,510	-2,649,950	-2,929,770	-3,200,250
Benefits derived from the operation of the new system:	0	1,062,000	1,062,000	1,062,000	1,062,000	1,062,000
Discount Factor for 5%	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Benefit (adjusted to present value):	0	1,011,024	963,234	917,568	874,026	832,608
Cumulative time-adjusted benefits over lifetime:	0	1,011,024	1,974,258	2,891,826	3,765,852	4,598,460
Cumulative time-adjusted costs + benefits:	-1,751,800	-1,050,176	-386,252	241,876	836,082	1,398,210

Payback Period of the Proposed System for Alternative 2
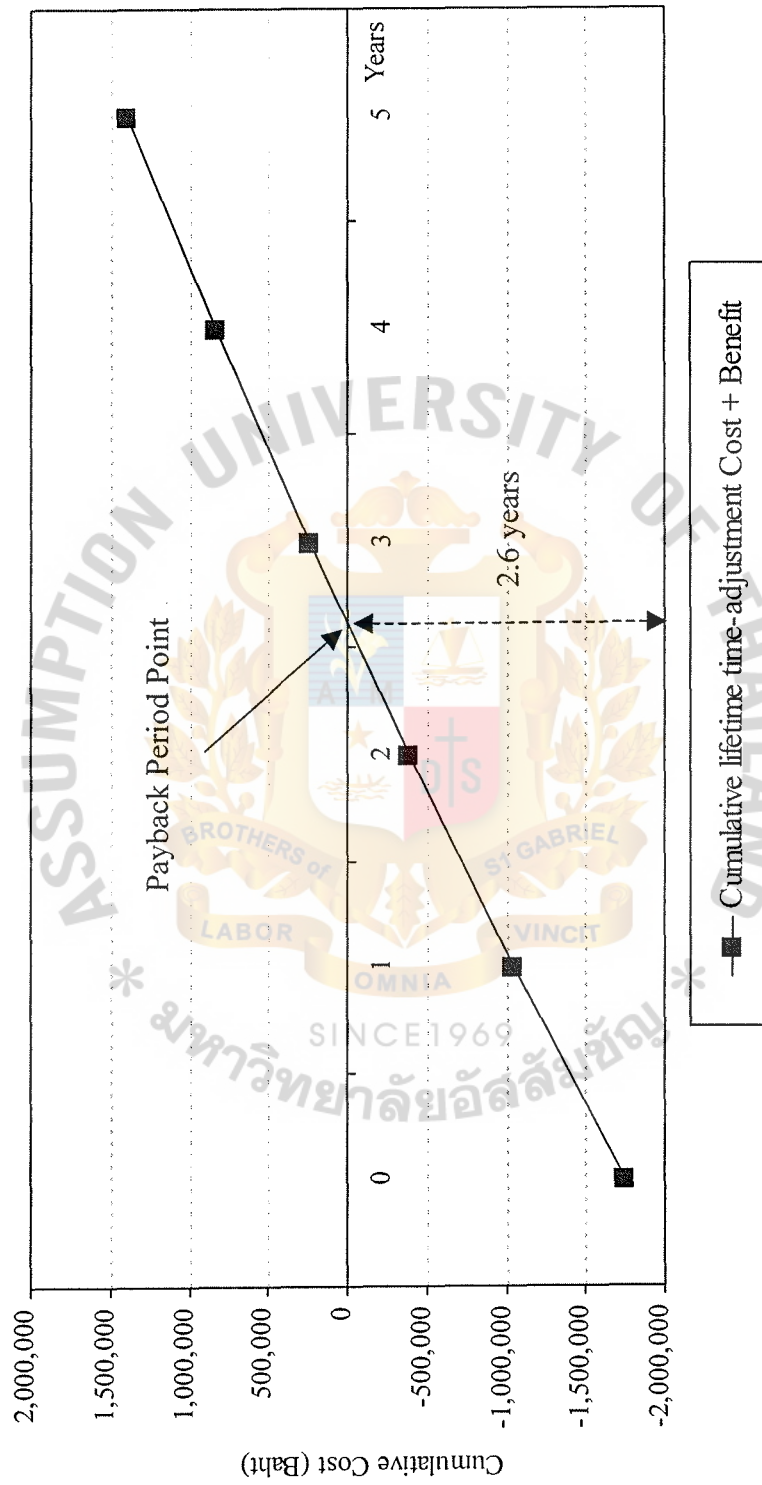
Figure 3.2. Payback Period of the Proposed System for Alternative 2.

Table 3.6.   Payback Analysis : Alternative 3 : Informix Server Database, in Baht.

Cost Items	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Development Cost	-1,741,800					
Operation - Maintenance Cost		-315,000	-320,000	-325,000	-330,000	-335,000
Discount Factor for 5%	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Costs (adjusted to present value):	-1,741,800	-299,880	-290,240	-280,800	-271,590	-262,640
Cumulative time-adjusted costs over lifetime:	-1,741,800	-2,041,680	-2,331,920	-2,612,720	-2,884,310	-3,146,950
Benefits derived from the operation of the new system:	0	1,062,000	1,062,000	1,062,000	1,062,000	1,062,000
Discount Factor for 5%	1.000	0.952	0.907	0.864	0.823	0.784
Time Adjusted Benefit (adjusted to present value):	0	1,011,024	963,234	917,568	874,026	832,608
Cumulative time-adjusted benefits over lifetime:	0	1,011,024	1,974,258	2,891,826	3,765,852	4,598,460
Cumulative time-adjusted costs + benefits:	-1,741,800	-1,030,656	-357,662	279,106	881,542	1,451,510

Payback Period of the Proposed System for Alternative 3
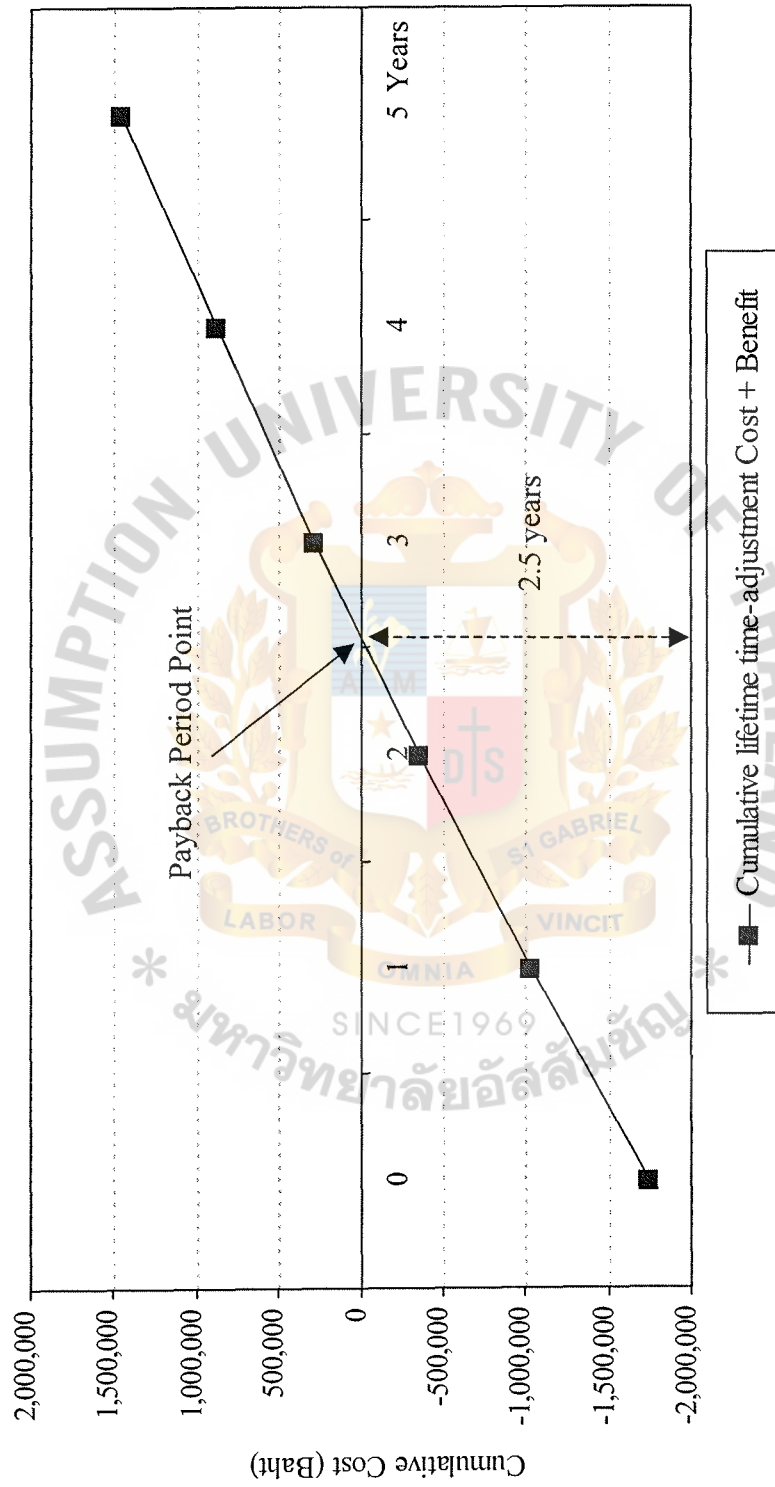
Figure 3.3. Payback Period of the Proposed System for Alternative 3.

System Cost Comparison

Table 3.7.   System Cost Comparison, in Baht.

Years	Existing System	Proposed System		
		Alternative 1	Alternative 2	Alternative 3
0	350,000	1,291,800	1,751,800	1,741,800
1	1,168,000	1,586,000	2,076,800	2,056,800
2	1,986,000	1,886,800	2,406,800	2,376,800
3	2,804,000	2,191,800	2,741,800	2,701,800
4	3,622,000	2,501,800	3,081,800	3,031,800

Cost Comparison between the Existing System and the Proposed System for Alternative 1
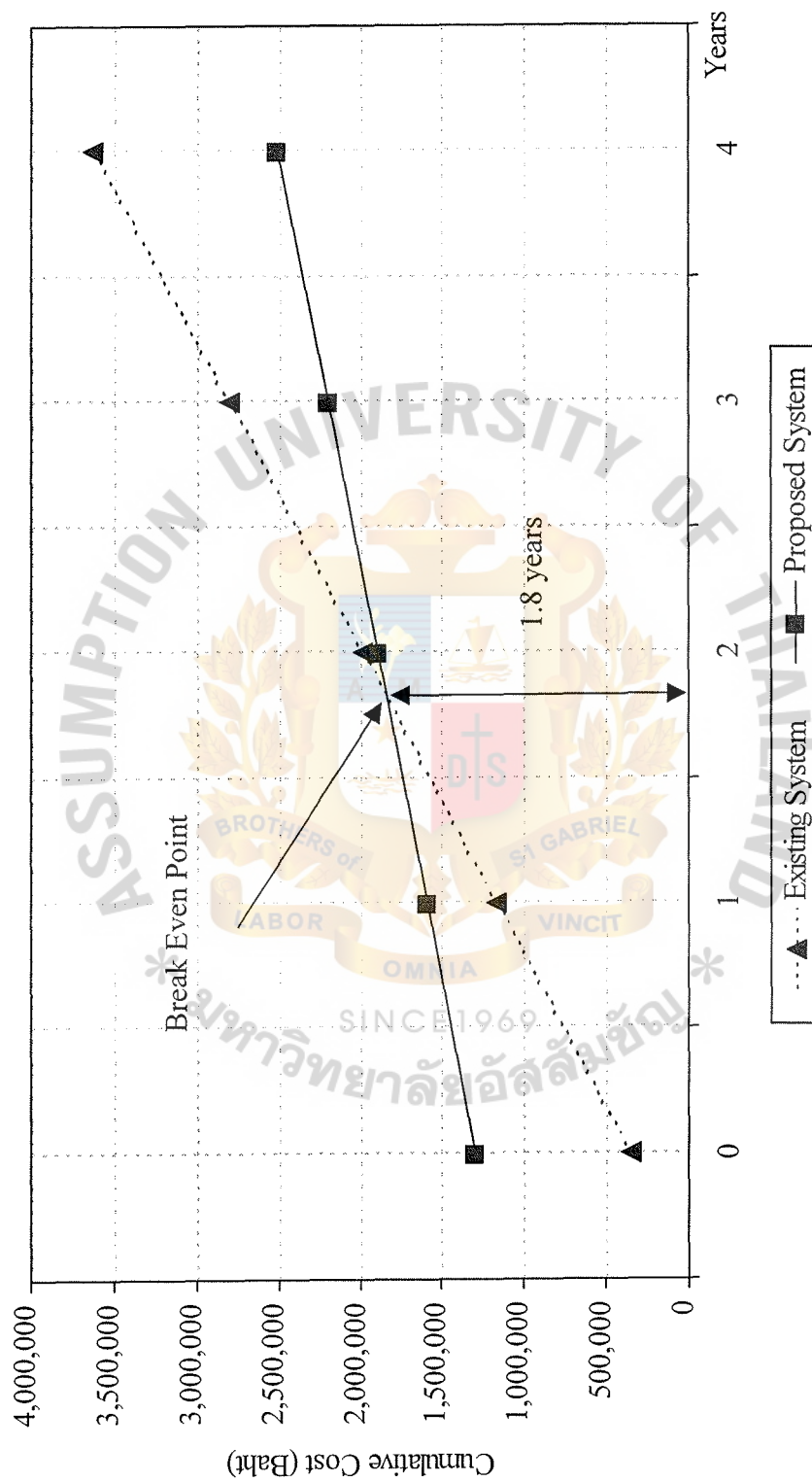
Figure 3.4.   Cost Comparison between the Existing System and the Proposed System for Alternative 1.

Cost Comparison between the Existing System and the Proposed System for Alternative 2
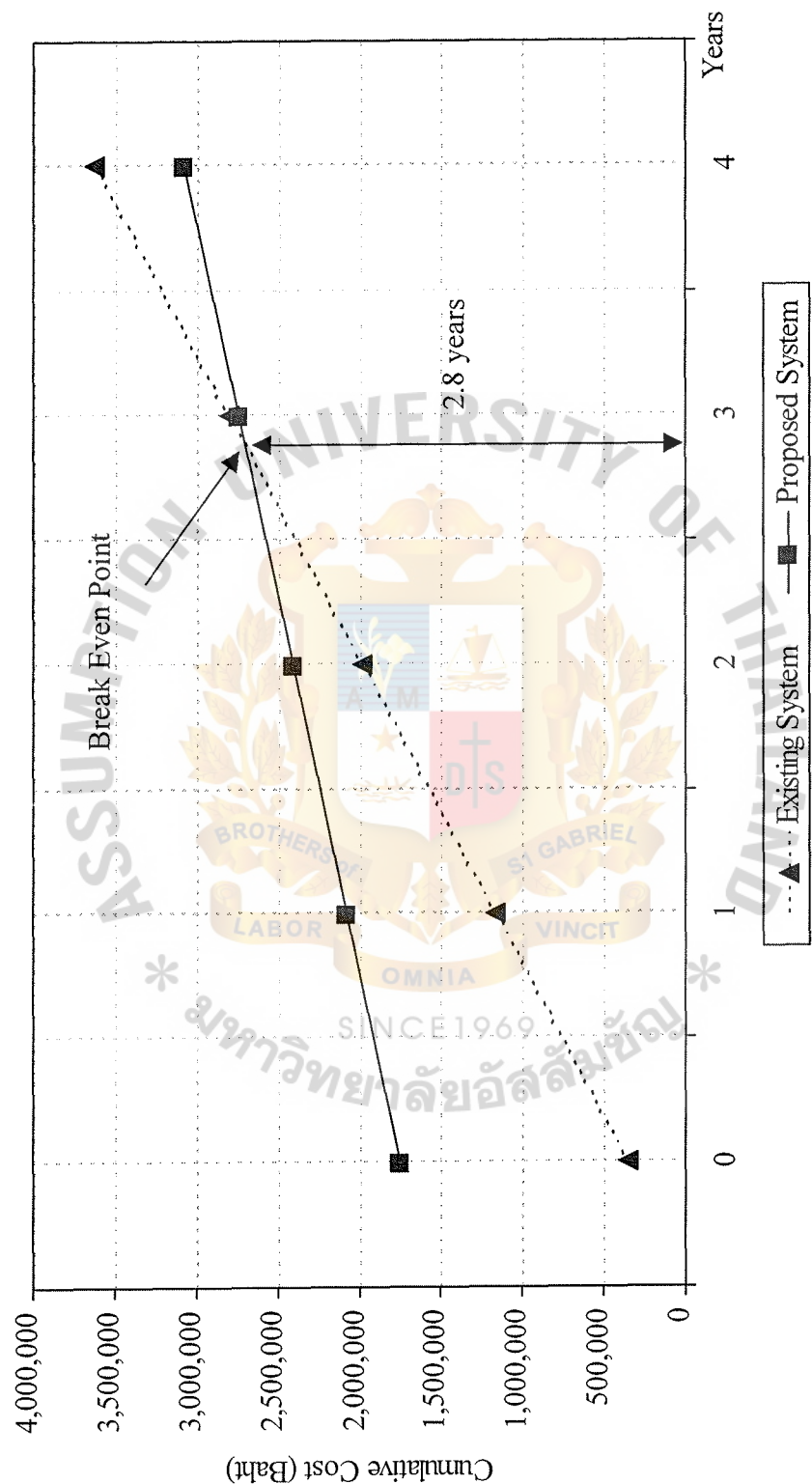
Figure 3.5.   Cost Comparison between the Existing System and the Proposed System for Alternative 2.
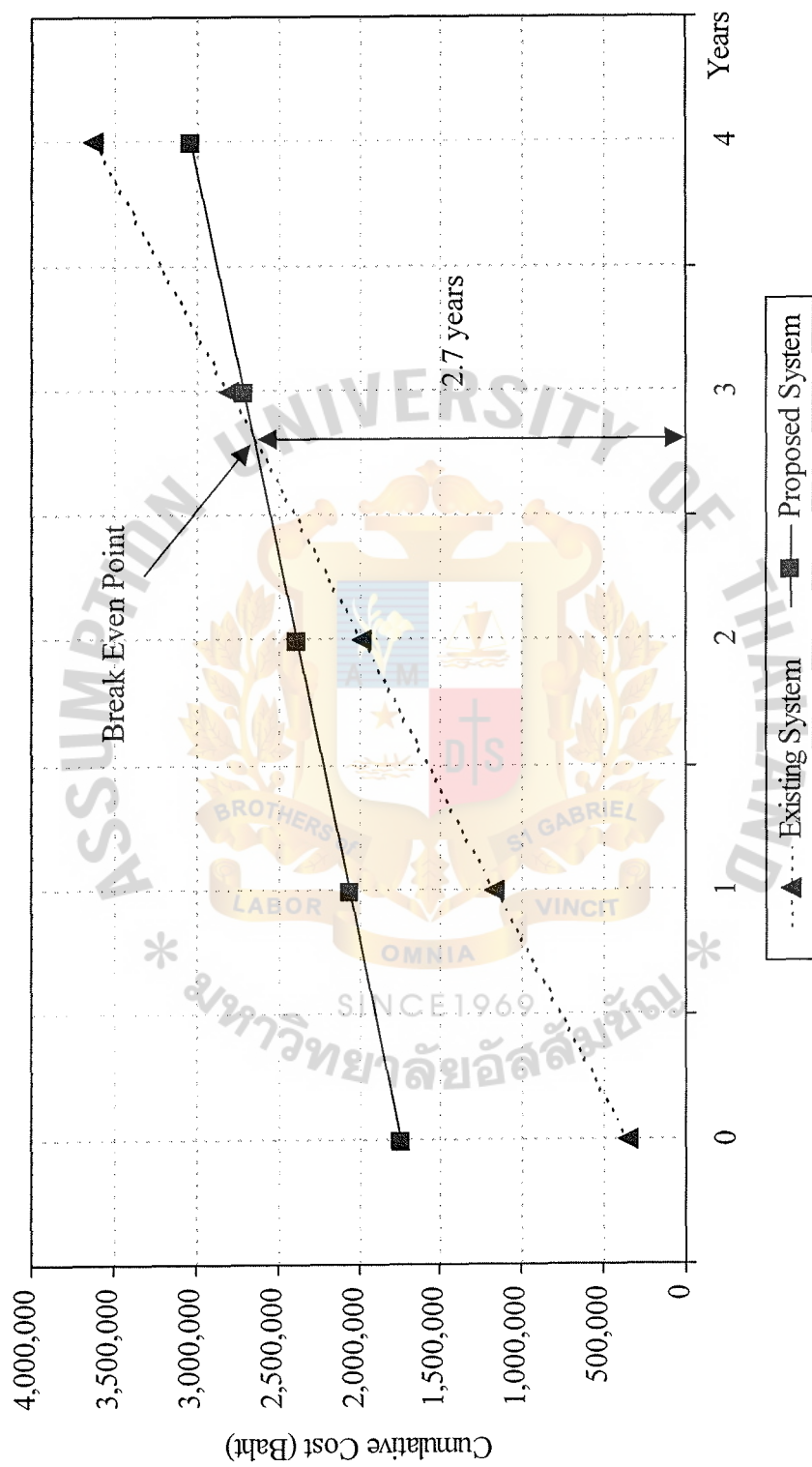
Figure 3.6. Cost Comparison between the Existing System and the Proposed System for Alternative 3.

Total Network
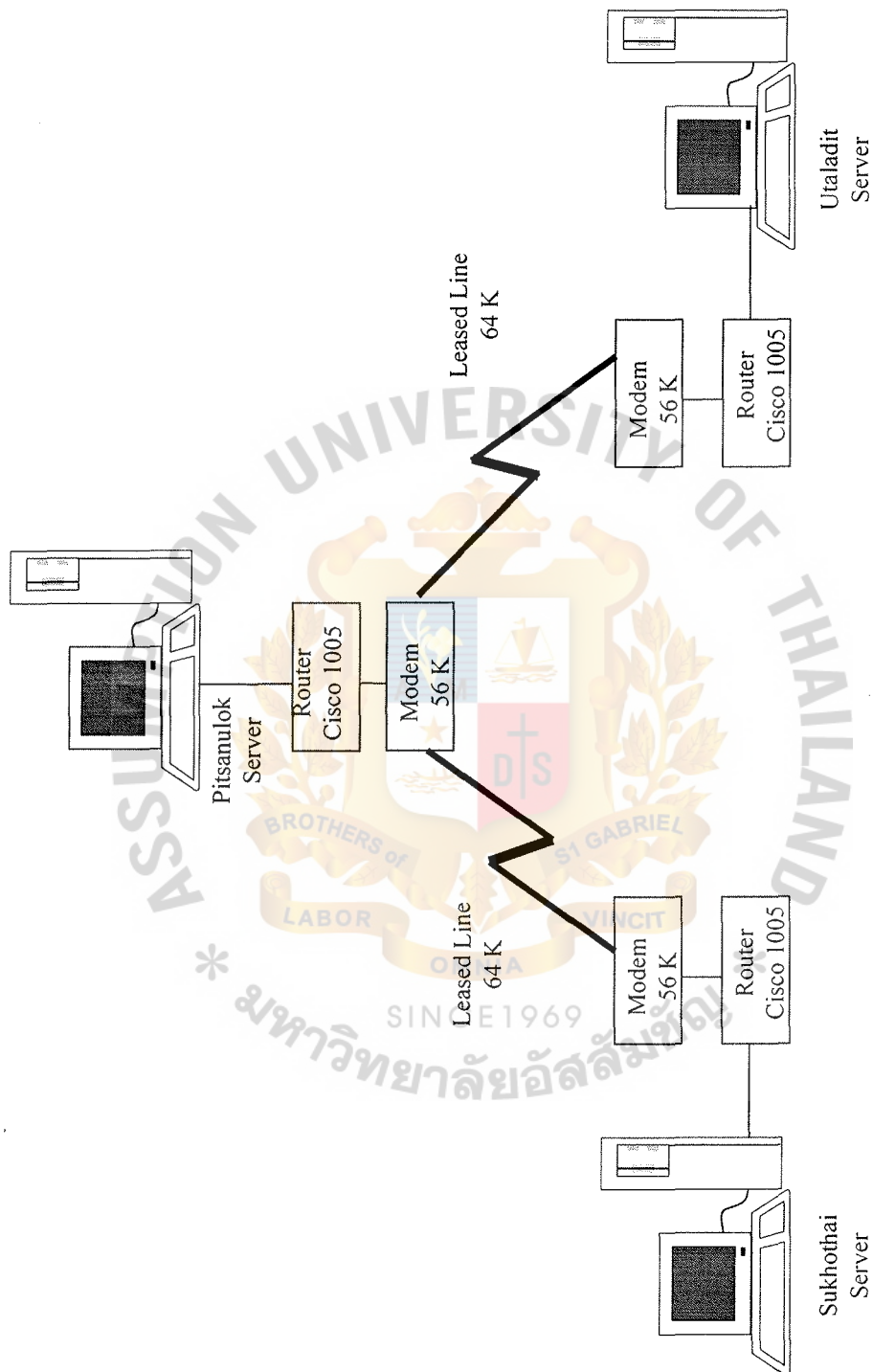
Figure 3.7. Total Network.

Figure 3.8. Sukhothai Network.

IV. PROJECT IMPLEMENTATION

4.1 Project Implementation Schedule

The project plan started on Dec.1, 98, it can be classified into three main steps as:

1. System Analysis

2. Detail Analysis and Design

3. Implementation

The project has been done according to the project time schedule which is represented in term of Gantt chart show in the following page.

4.2 Test Plan and Results

4.2.1 Feasibility Study

Study the current system including hardware and overall operation of the related system and user. The investigation of existing problem and user requirement should be done.

4.2.2 System Analysis and Design

The system analysis and design involved study in detail about the current system and doing problem definition by interviewing the related functions and discussing with management. Then, make summary of the existing system, problem and draft proposed system which need to present to users for acceptance.

4.2.3 System Implementation

♦ Install standard electricity capability for computer or terminal whether power is available to support the system by having an electrical engineer complete a power requirement survey.

♦ Test the system as being operational which should be developed in conjunction with the design of the system. Testing process will cover not only program testing but also system testing which ensure the project completeness, correctness and reliability. The objectives of system testing are:

- To perform final testing program

- To aim at finding any discordant between the proposed system and existing system

- To ensure that end users can successfully interact with the system

- To verify that system components are correctly integrated

♦ Customer training will be conducted to each group according to their related work and the operational manual will also be provided.

4.2.4 System Conversion

Data conversion: The converting files will depend upon at least the for installation of the new system.

The existing files are prepared for conversion but we have to consider the cost and possibility of conversion the existing file to match the new system.

Both existing and new system must be operated concurrently for a certain period of time. Often this parallel operation period coincides with business processing

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cycles during the interim period. All input transactions are used to update the database that supports both old and new system.

Project Time Schedule

Activities	Dec 1	Dec 2	Dec 3	Dec 4	Jan 1	Jan 2	Jan 3	Jan 4	Feb 1	Feb 2	Feb 3	Feb 4	Mar 1	Mar 2	Mar 3	Mar 4	Apr 1	Apr 2	Apr 3	Apr 4
System Analysis :																				
Identify the area under study	█	█																		
Develop physical work flow of existing system			█	█																
Identify the contents of the existing data stores				█	█															
Details Analysis & Design																				
Develop the context diagram						█														
Develop the physical DFD of the new system development							█	█												
Data Dictionary										█	█									
Develop the database design												█	█							
Design the screen & report output														█						
Design the screen inputs															█					
Implementation																				
Set up master data														█	█					
Testing																█				
Evaluating																	█			
Document																		█	█	

Figure 4.1.   Project Plan.

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V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Since there are many departments in the company, it is difficult to communicate with different departments and branches to share the same updated information. So, there is a workload for administrative staffs for filing and preparing the report for the management and it takes a long time to retrieve information from system. The new system's main objectives are:

- To solve and improve the overall performance of the company, the system should be automated by having the database of the product customer, etc.

- To reduce the duplicated works, to create the central database.

- To train staffs to know how to use the new system to work more efficiently and effectively.

Table 5.1 represents the time spent comparing between the existing system and the proposed system. It shows that the existing system time spent for the total process is 2 hours and 30 minutes which spend more than the proposed system which use only 1 hour and 5 minutes. This can be explained that the proposed system is more efficient and effective in term of investment time than the existing system.

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Table 5.1.   Comparison of Degree of Achievement between the Existing System and the Proposed System.

Process	Existing System (Time Spent)	Proposed System (Time Spent)
Request Process	30 mins.	20 mins.
Customer Information Process	15 mins.	5 mins.
Product Checking Process	15 mins.	5 mins.
Product Transferring Process	20 mins.	10 mins.
Reservation Process	15 mins.	5 mins.
Stock Cutting Process	15 mins.	5 mins.
Invoice Process	10 mins.	5 mins.
Stock Updating Process	30 mins.	10 mins.
Total	2 hrs. 30 mins.	1 hr. 5 mins.

5.2   Recommendations

There should be the computer network in the company for better communication and sharing the information

There should be a study on structure of existing database of all departments for the feasibility of doing data conversion.

The company should implement this project as soon as possible to gain the competitive advantage.

APPENDIX   A
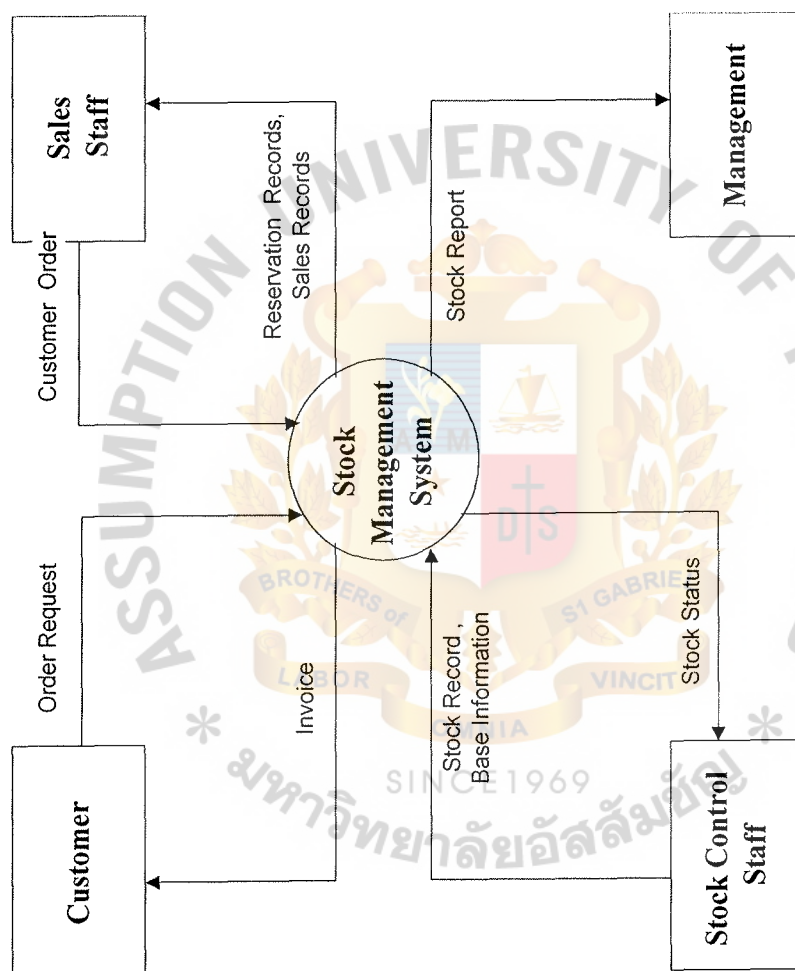
CONTEXT DIAGRAM

Figure A.1.   Context Diagram.

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APPENDIX   B
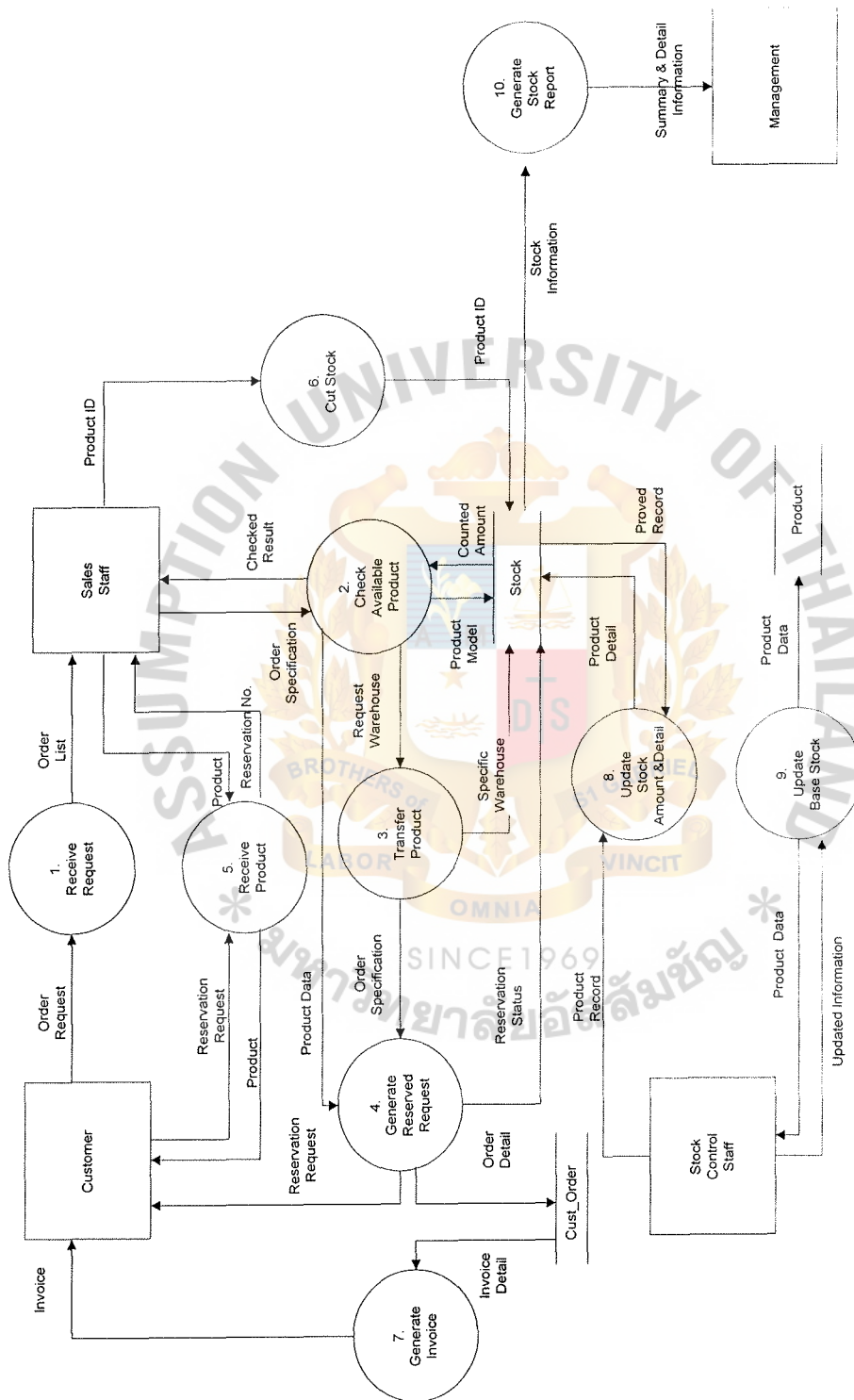
DATA FLOW DIAGRAM

Figure B.1.   Data Flow Diagram Level 0 : Automobile Stock Management System.

42
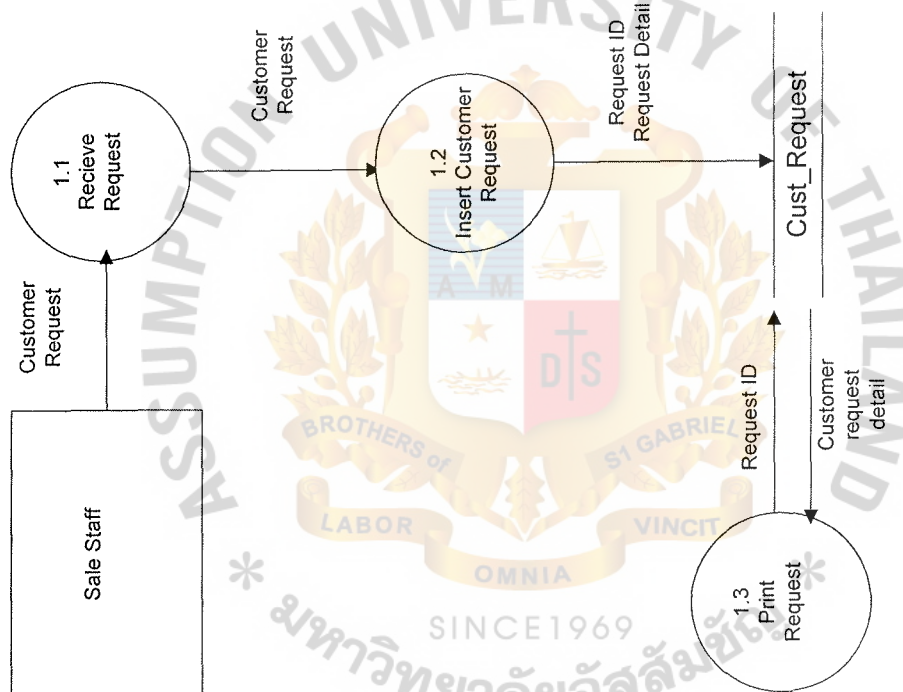
Figure B.2.   Data Flow Diagram Level 1 Process 1 : Receive Request.

43
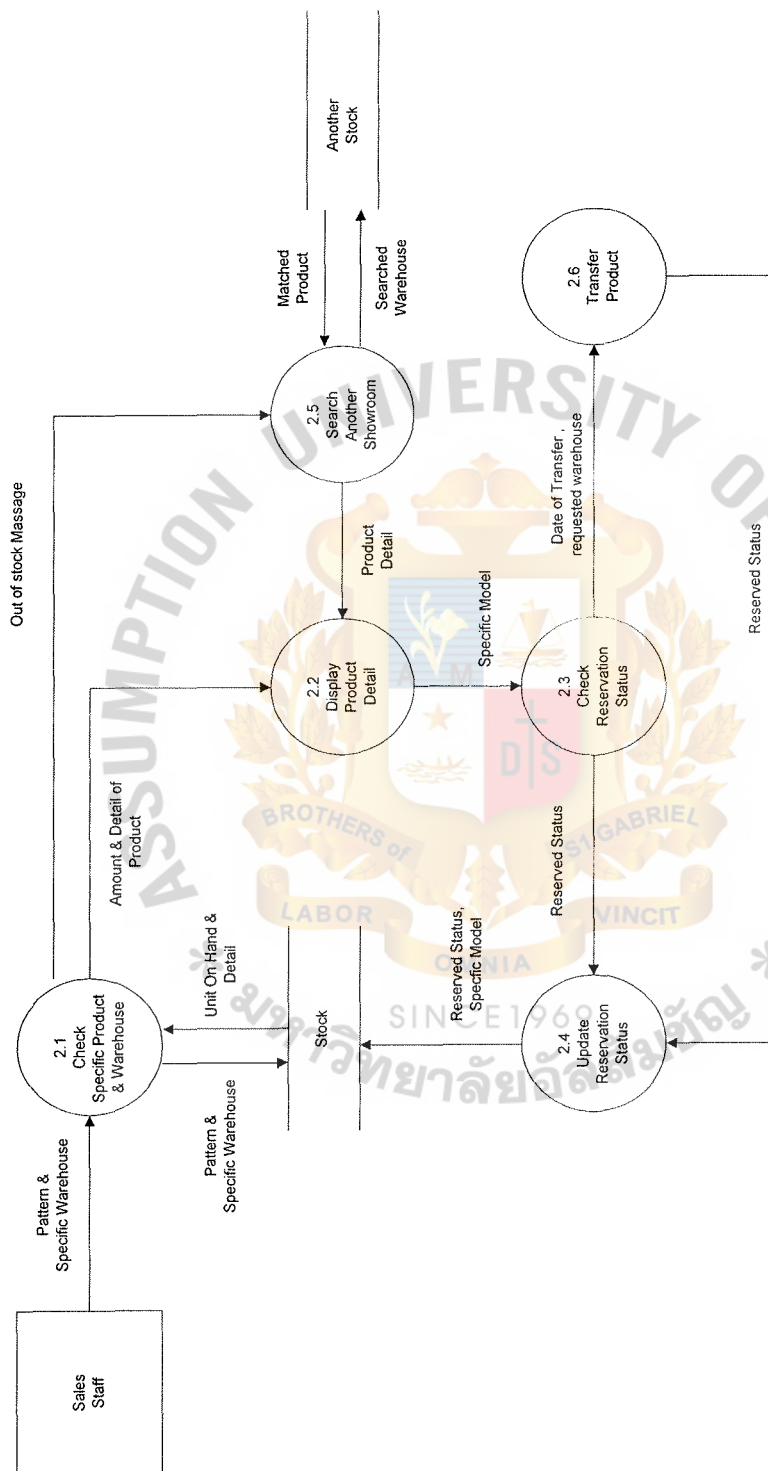
Figure B.3.   Data Flow Diagram Level 1 Process 2 : Check Available Product.

44
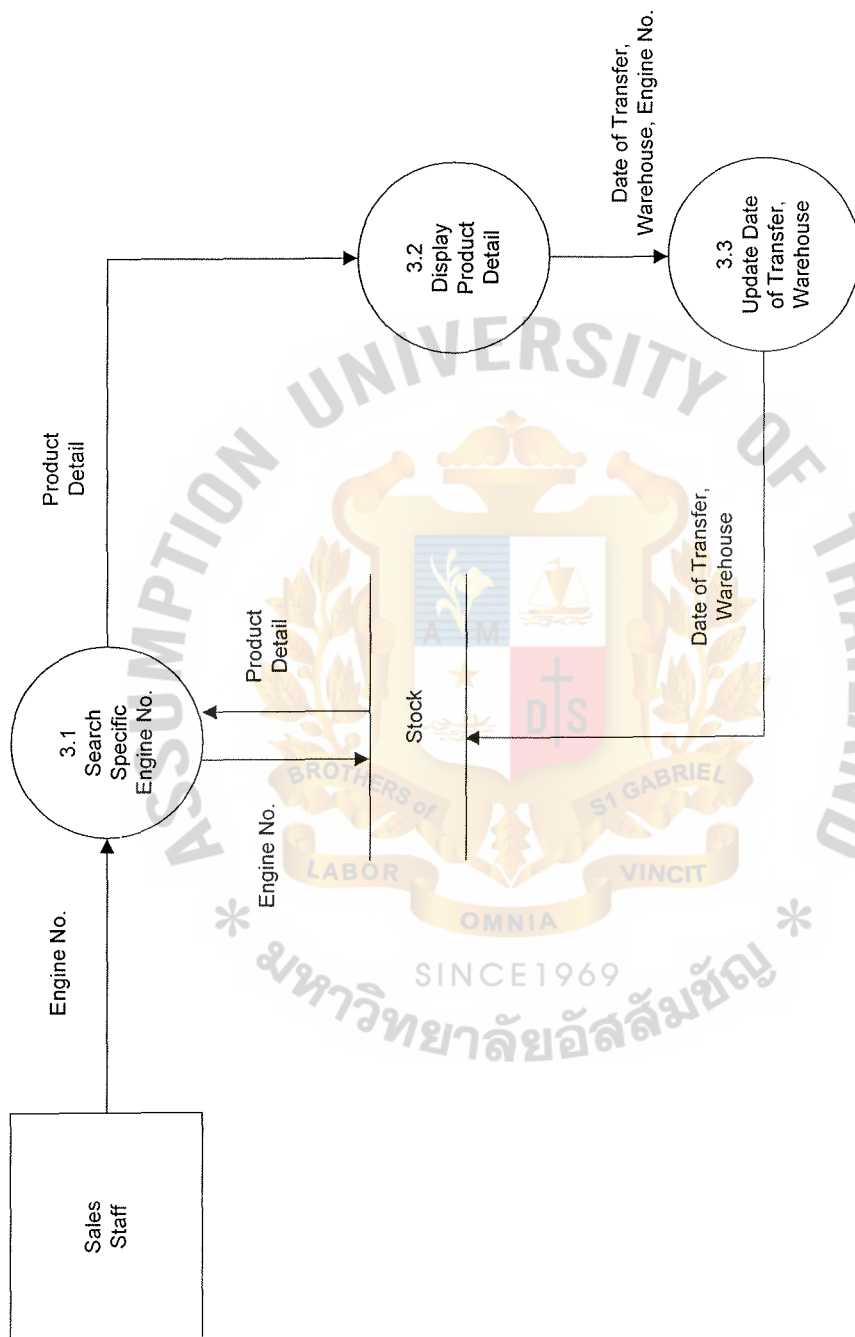
Figure B.4. Data Flow Diagram Level 1 Process 3 : Search Transfer Product.

45
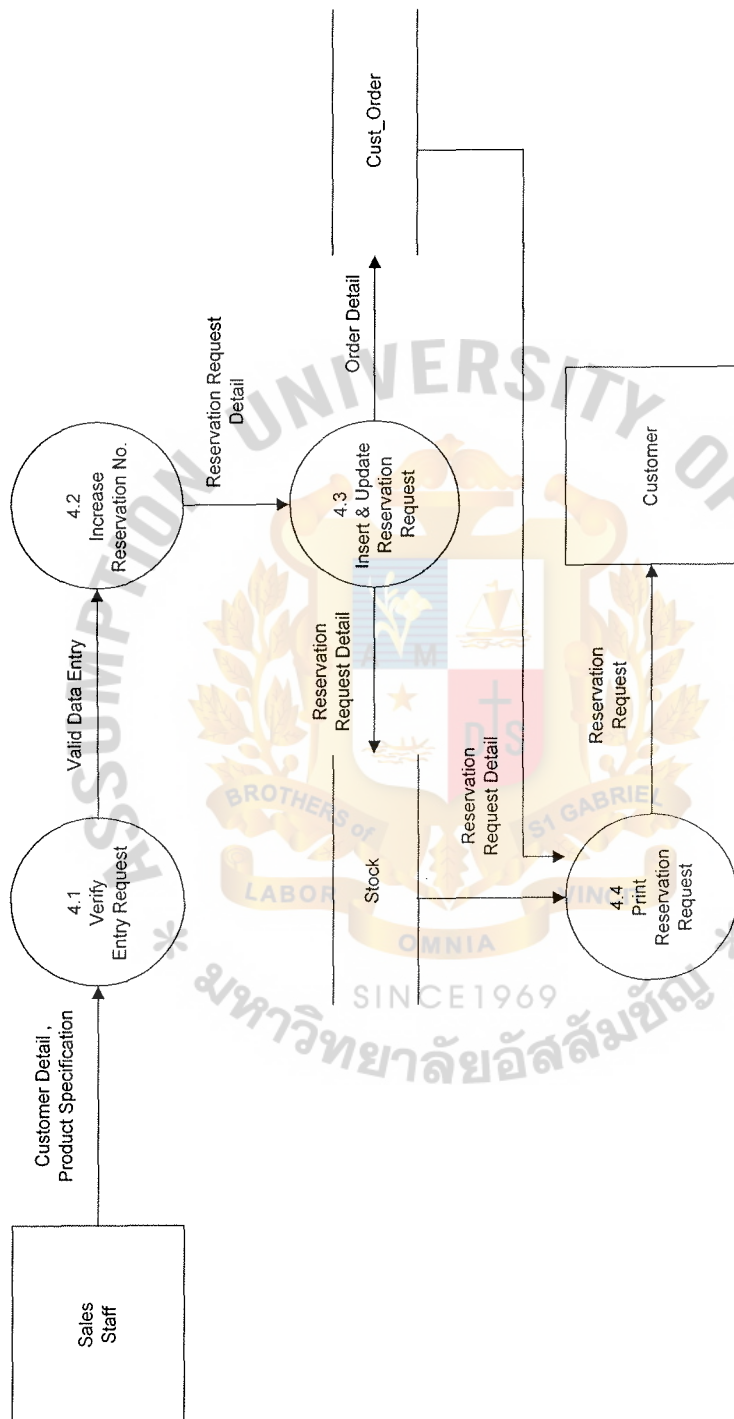
Figure B.5.   Data Flow Diagram Level 1 Process 4 : Generate Reserved Request.

46
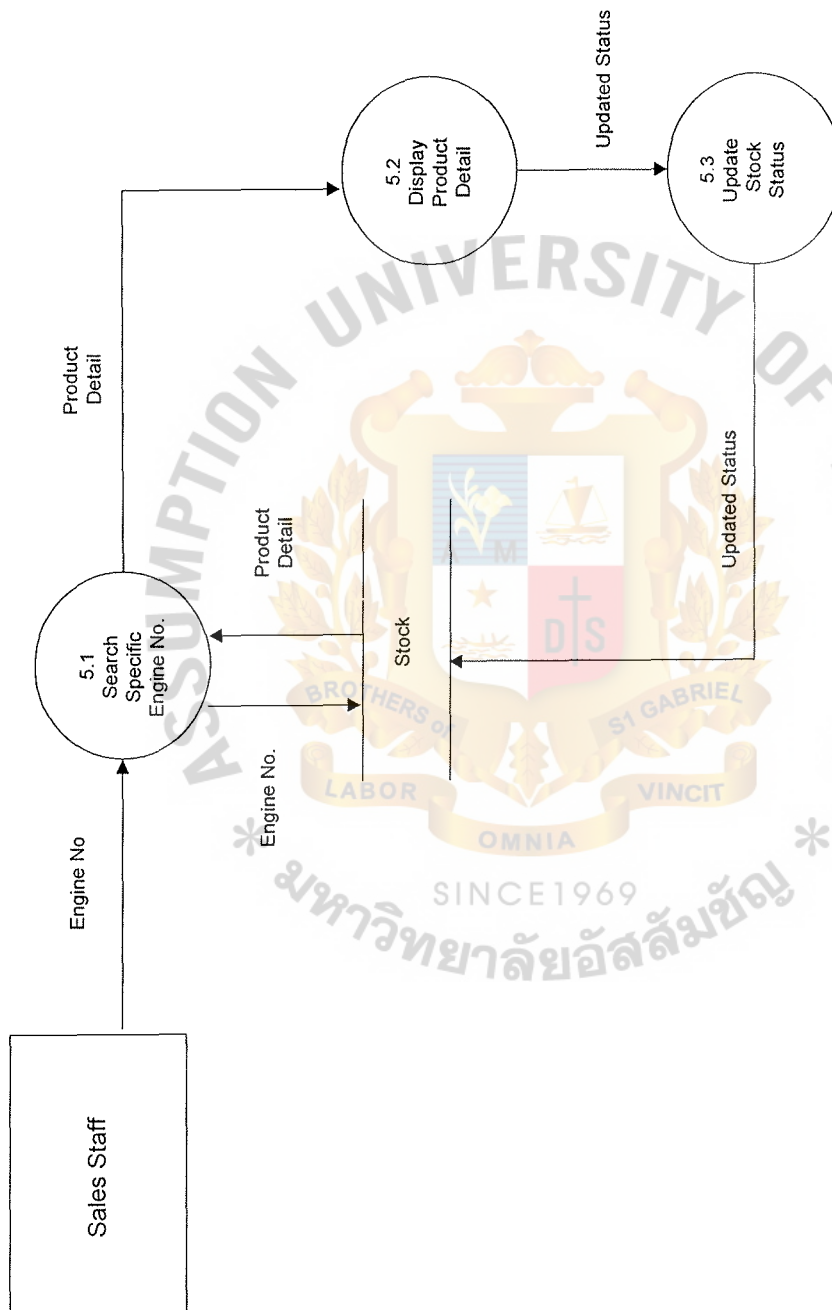
Figure B.6.   Data Flow Diagram Level 1 Process 5 : Cut Stock.
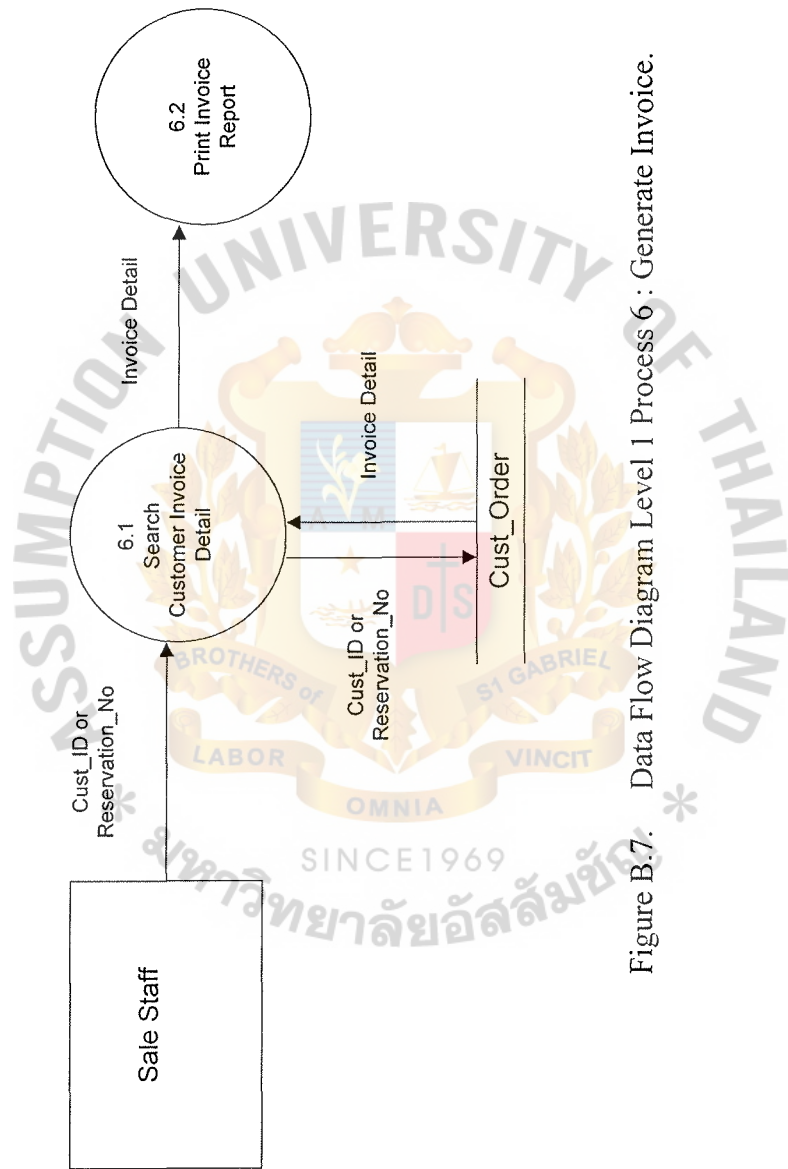
Figure B.7.   Data Flow Diagram Level 1 Process 6 : Generate Invoice.
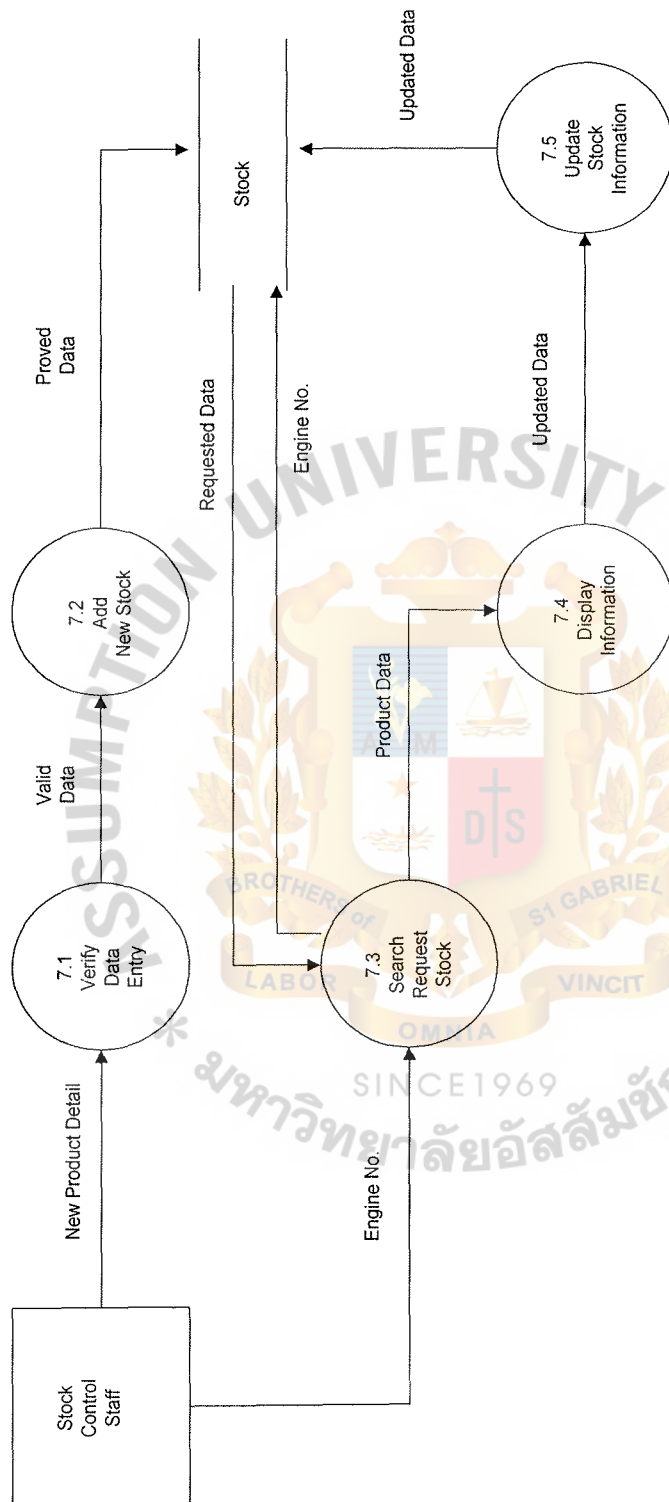
Figure B.8. Data Flow Diagram Level 1 Process 7 : Update Stock Amount & Details.
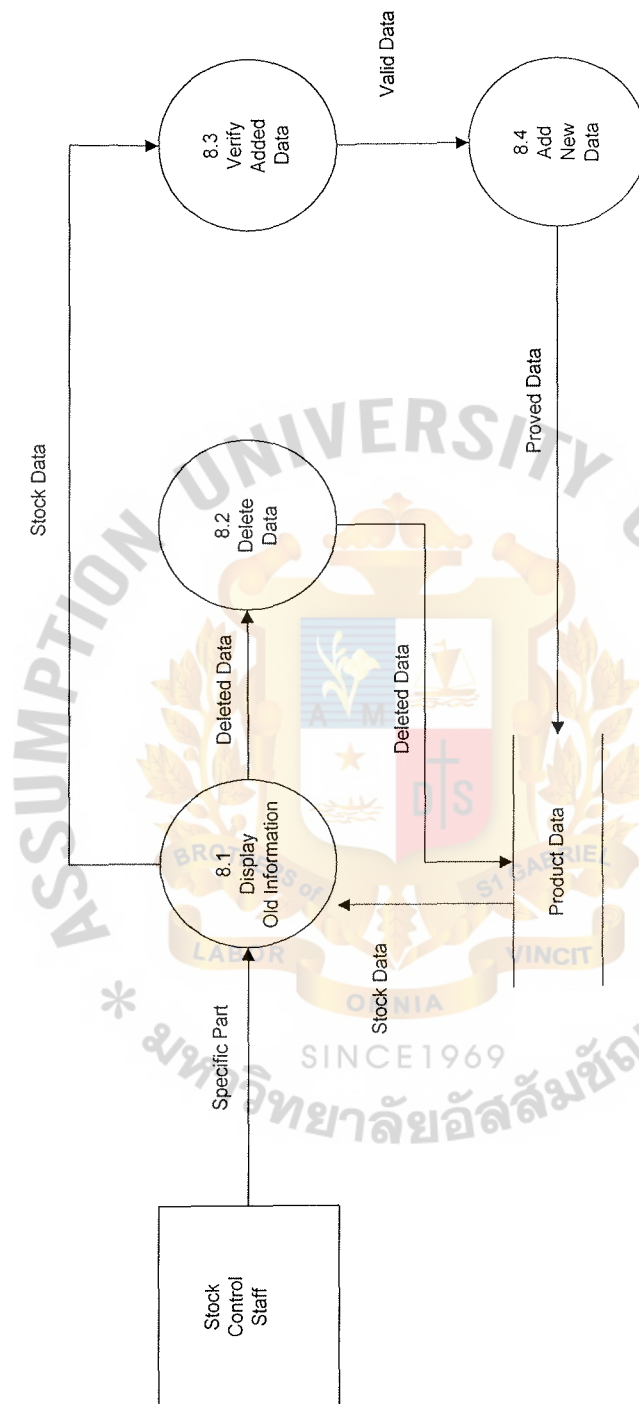
Figure B.9.   Data Flow Diagram Level 1 Process 8 : Update Base Stock.

50
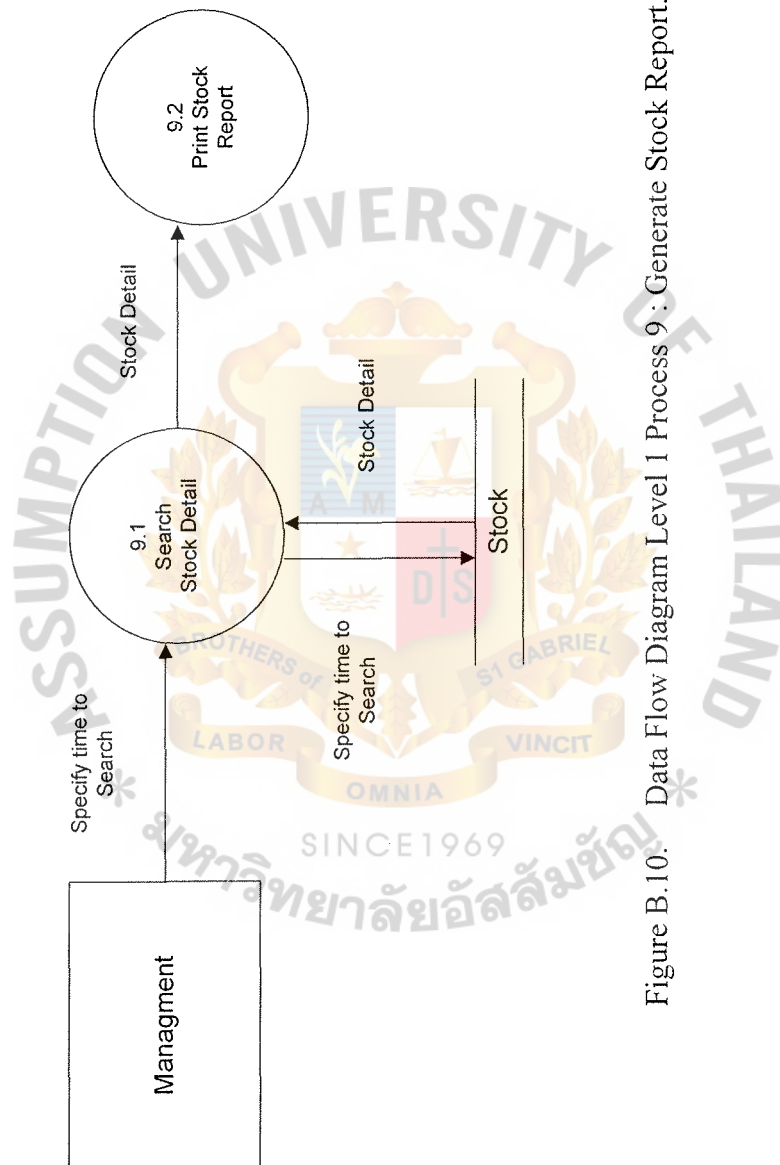
Figure B.10. Data Flow Diagram Level 1 Process 9 : Generate Stock Report.

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APPENDIX C

PROCESS SPECIFICATION

Process Specification

Process1.1 Receive Request

Precondition Customer specify car model car type and car color

Postcondition All customer request will be update

Begin

      Make Graphic receive request screen

      Entry All Customer Request car into receive request screen

      If Verify=True

            To process1.2 Update Customer Request

      Else

            Clear Incorrect Data

      Endif

END

Process1.2 Insert Customer Request

Precondition   All Customer Request

Begin

      Insert New Customer Request into Cust_Request

      If InsertComplete

            Messages Insert new customer request complete

      Else

            Messages Error during insert new customer request

      Endif

END

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Process1.3 Print Customer Request

Begin

    R_ID = specify customer request identification

    Select Customer Request Detail from Cust_Request where Request_ID=R_ID

    If FoundRequest

        Load Customer request report

        Send Customer request detail to specify Stock Report

        Select Printer to print this report

        Print customer request report

        If Complete

            Messages Print customer request report complete

        ELSE

            Messages Error During Printing

        ENDIF

    Else

        Messages Not found this customer request identification

    Endif

END

Process 2.1 Check Specific Product & Warehouse

Begin

    Select product detail from CAR_STOCK where pattern = car_type

    and warehouse = place_name

    IF unit on hand occur

To process 2.2 Display Product Detail

ENDIF

IF out of stock occur

Find response = "No such product in stock"

To process 2.5 Search Another Warehouse

ENDIF

END

Process 2.2 Display Product Detail

Precondition 1

An amount of unit on hand and detail of each product display in term of
table of each product detail in CAR_STOCK which includes pattern, model,
color, engine no. , chassis no. , reserved status, etc.

Postcondition 1

A specific product model that require to check the reserved status

Process 2.3 Check Reservation Status

Begin

IF reserved status = false

IF Warehouse is Current

To process 2.4 Update Reservation Status

ELSE

To process 3 Transfer product form found warehouse

END IF

ELSE

Response = "The reserved status have to be false"

Exit

END IF

END

Process 2.4 Update Reservation Status

BEGIN

Select Product ID where Product_ID = Product ID

Update CAR STOCK

Set Reserve_Status = True

IF Update Reserve_Status Complete

Message Update Reserve Status Complete

ELSE

Message Error

ENDIF

END

Process 2.5 Search Another Showroom

Begin

Select product detail from CAR_STOCK where pattern = car_type

and warehouse = place_name

IF Unit on hand occur

To process 2.2 Display Product Detail

ELSE In case of Out of Stock occur in that warehouse

Message Request product is out of stock

END IF

END

Process 3.1 Search Specific Engine No.

Begin

    Engine_No = Engine no in order request provides as input to this process

    Select Car_Detail from CAR_STOCK where Engine_No = Engine No

    IF Engine_No is matched Engine_No in CAR_STOCK

        To Process 3.2 Display Product Detail

    ELSE

        Message Not found product detail of searching Engine_No

    END IF

END

Process 3.2 Display Product Detail

Precondition Product Detail which Engine_No is matched searching

        Engine No in CAR_STOCK

Postcondition All product details are to be display

Process 3.3 Update Date of Transfer

Begin

    Set Date of Transfer = Request Date

    Update STOCK

    Set Date = Request Date where Engine_No = Engine No

    IF Update Complete

        Message Update Car Transfer Complete

ELSE

Message Error

ENDIF

END

Process 4.1 Verify Entry Request

Begin

Get all data entry format

IF Valid = True

To process 4.2 Increase Reservation No.

ELSE

Return to Text Box which invalid data entry

ENDIF

END

Process 4.2 Increase Reservation No.

Begin

Get Last Reserve No.

Reserve No = Reserve No + 1

END

Process 4.3 Insert & Update Reservation Request

Begin

Insert New Reservation Request into Cust_Order

IF Insert Complete

Update Stock

Set Reservation_No = Reserve No

Message Insert & Update Reservation Request Complete

ELSE

Message Error

ENDIF

END

Process 4.4 Print Reservation Request

Precondition All Reservation Detail which insert to Stock

Postcondition Completed the Reservation Request

Process 5.1 Search Specific Engine No.

Begin

Engine_No = Engine no in order request provides as input to this process

Select Car_Detail from CAR_STOCK where Engine_No = Engine No

IF Engine_No is matched Engine_No in CAR_STOCK

To Process 3.2 Display Product Detail

ELSE

Message Not found product detail of searching Engine_No

END IF

END

Process 5.2 Display Product Detail

Precondition Product Detail which Engine_No is matched searching

Engine No in CAR_STOCK

Postcondition All product details are to be display

Process 5.3 Update Stock Status

Begin

    Update Stock

    Set Car Status equal sold

    IF Update Complete

        Message Update Car Status Complete

    ELSE

        Message Error

    ENDIF

END

Process 6.1 Search Customer Invoice

Precondition Customer ID or Reservation NO is matched is searching Cust_ID

Reservation_NO in CUST_ORDER

Postcondition All Customer Invoice are to be print

Begin

    R_NO=Reservation Number

    Select Invoice_detail from Cust_Order where Cust_ID=Customer_ID or

Reservation_No=R_NO

    IF Customer_ID or R_NO is matched in Cust_Order

        To process 7.2 to Print Customer Invoice

    ELSE

        Messages Not Found This Invoice

    ENDIF

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END

Process 6.2 Print Customer Invoice

Precondition Customer Invoice detail which use to generate Customer invoice

Begin

    Load Invoice Report

    Send Invoice Detail to specify Invoice Report

    Select Printer to print this report

    Print Invoice Report

    If Complete

        Messages Print Invoice Report complete

    ELSE

        Messages Error During Printing

    ENDIF

END

Process 7.1 Valid Data Entry

Begin

    Get all data entry format

    IF Valid = True

        To process 8.2 Add New Stock Product

    ELSE

        Return to Text Box which invalid data entry

    ENDIF

END

Process 7.2 Add New Stock Product

Begin

 Select Product Detail from STOCK where Product_ID = Added Product ID

 IF Record is found

  Message Duplicate Data

 ELSE

  Insert into STOCK

  IF Insert Complete

   Message Insert New Product Complete

  ELSE

   Message Error

  ENDIF

 ENDIF

END

Process 7.3 Search Request Stock

Begin

 Engine_No = Engine no in order request provides as input to this process

 Select Car_Detail from CAR_STOCK where Engine_No = Engine No

 IF Engine_No is matched Engine_No in CAR_STOCK

  To Process 8.4 Display Product Detail

 ELSE

  Message Not found product detail of searching Engine_No

 END IF

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END

Process 7.4 Display Information

Precondition Product Detail which Engine_No is matched searching

Engine No in CAR_STOCK

Postcondition All product details are to be display

Process 7.5 Update Stock Information

Begin

Update Stock

Set All Changed Information

IF Update Complete

Message Update Product Information Complete

ELSE

Message Error

ENDIF

END

Process 8.1 Display Old Information

Precondition Selected product type such as color , model ,etc

Postcondition Display current information of selected product type

Process 8.2 Delete Data

Begin

Key of selected product type = Selected data that request to delete provides as

input to this process

Select Key Search

Delete record

IF Delete record complete

Message Delete record complete

ELSE

Message Error

END IF

END

Process 8.3 Verify Added Data

Begin

Get all data entry format

IF Valid = True

To process 9.4 Add New Data

ELSE

Return to Text Box which invalid data entry

ENDIF

END

Process 8.4 Add New Data

Begin

Select Product Type Detail from Product where Product Type Key = Added

Product Type Key

IF Record is found

Message Duplicate Data

ELSE

Insert into Product

IF Insert Complete

Message Insert New Product Data Complete

ELSE

Message Error

ENDIF

ENDIF

END

Process 9.1 Search Stock

Precondition   Specify time to search (by day or by month or by year)

Postcondition All Stock Detail are to be print

BEGIN

If Specify time is by day

Print_date=Date to print

ELSE IF Specify time is by month

Print_date=Month to print

ELSE IF Specify time is by year

Print_date=Month to year

ENDIF

Select Stock Detail from stock where Date=Print_date

If Print_Date is matched Date in CAR_STOCK

To Process 10.2 Print Report Stock Detail

ELSE

Messages Not found Stock Detail in specify time

ENDIF

END

Process 9.2   Print Stock Report

Procondition All Stock Detail are to be print

Begin

Load Stock Report by day or by month or year

Send Stock Detail to specify Stock Report

Select Printer to print this report

Print Stock Report

If Complete

Messages Print Stock Report complete

ELSE

Messages Error During Printing

ENDIF

END

APPENDIX   D

DATA DICTIONARY

Data Dictionary

Customer	=	@ Customer_ID + (Company name) + Customer_Name + Customer_address
Customer_ID	=	[{number-digit}]
Customer_name	=	Courtesy-title + First name + Last name
Customer_address	=	Address number + Street name + District + City + Zip_code + Phone + Fax
Customer Order	=	@Reservation_no. + Cust_ID + Price + Order_date + Reserve_price + Available_car
Reservation_no	=	*Identification of reserved car* [{legal-character}]+[{numeric-digit}]
Cust_ID	=	[{numeric-digit}]
Price	=	*The unit price of single product* *unit:baht*
Order_date	=	*Date of ordering which specify day/month/year* *date*
Reserve_price	=	*Price of car that was reserved by customer* *unit:baht*
Available_car	=	*Number of car that are in stock during that time*
Car_stock	=	Product_ID + Type_ID + Model_ID + Color_ID + Engine_no. + Chassis_no. + Price +Warehouse_ID + Reserve_status + Receive_date + Move_date

Product_ID	=	*Identification of product code number*
		[{number-digit}]
Type_ID	=	*Identification of car type*
		[{legal-character}]
Model_ID	=	*Identification of car model*
		[{legal-character}]+[{number-digit}]
Color_ID	=	*Identification of car color*
		[{legal-character}]
Chassis_no.	=	*Identification of car chassis number*
		[A-Z/a-z/0-9/-]
Price	=	*The unit price of single product*
		unit:baht
Warehouse_ID	=	*Identification of warehouse*
		[{number-digit}]
Reserve_status	=	*Status of reservation*
		Boolean
Receive_date	=	*Date that customer expect to receive the reserved car*
		date
Move_date	=	*Date that the car has moved to another warehouse or cutting stock date*
Inventory	=	@Product_ID + Product_name + Unit on hand + Unit Price

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Product_ID	=	*Identification of product code number*
		[{number-digit}]
Product_name	=	*Identification of product name*
		[{legal-character}]
Unit on hand	=	*Number of product which are in stock*
Unit price	=	*The unit price of single product*
		unit:baht
Invoice	=	@Invoice_no + Customer_name + Product Inquiry
		+ Quantity + Unit price + VAT + Total
Invoice_no	=	*Identification of request for the following
		products*
		[{number-digit}]
Customer_name	=	Courtesy-title + First name + Last name
Product Inquiry	=	*Requested product in warehouse*
Quantity	=	*Number of product that has been ordered*
Unit price	=	*The unit price of single product*
		unit:baht
VAT	=	*Value Added Tax amount, currency : baht*
Total	=	*The total sale amount that customer placed
		order*
Warehouse	=	@Warehouse_ID + Warehouse_name + Car Stock
Warehouse_ID	=	*Identification of warehouse*
		[{number-digit}]

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Warehouse_name   =   *Identification of warehouse name*

                     [{legal-character}]

Car_stock   =   *The amount and type of car in stock*

APPENDIX   E

INPUT AND OUTPUT SCREEN
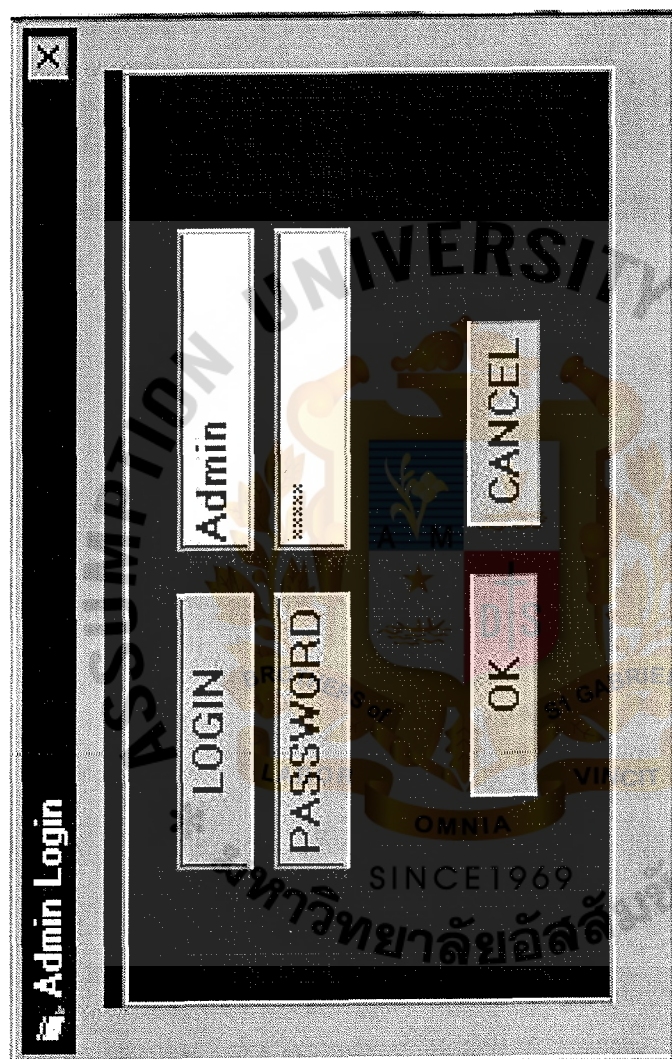
Figure E.1. Admin Login Screen.
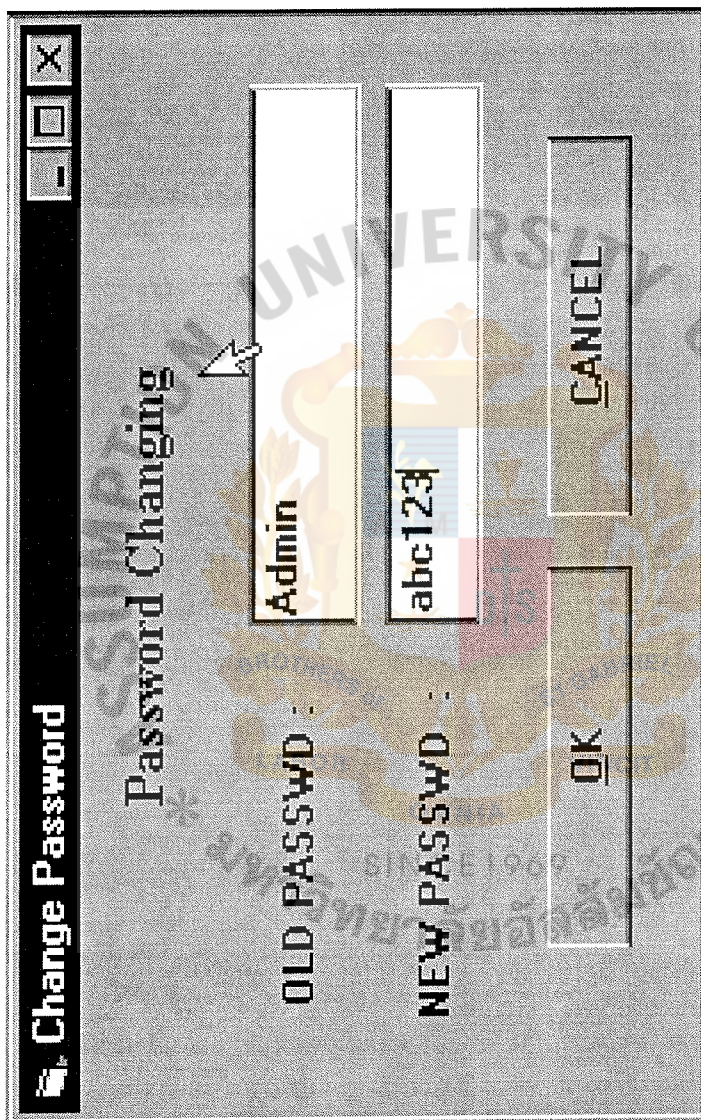
Figure E.2.   Change Password.

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Figure E.3.   Main Menu of Stock Information System.

Figure E.4.   Add Stock Information.

Figure E.5.   Display Stock Information.

Figure E.6. Display Stock Information.

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Figure E.7.   Stock Information.

Figure E.8.   Reservation.

Figure E.9.   Customer Request Form.

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Figure E.10.   Main Menu (Moving).

Figure E.11.   Inform Moving Product.

Figure E.12.   Inform Moving Product.

Figure E.13.   Moving Warehouse.

Figure E.14.   Moving Warehouse.
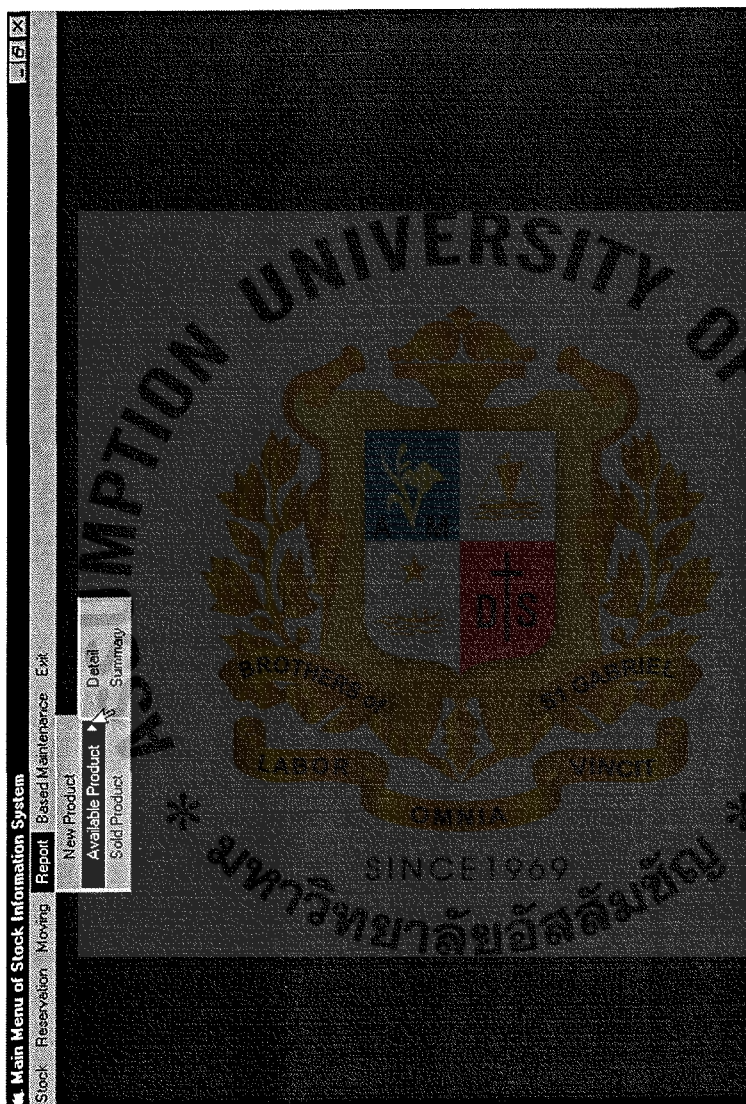
Figure E.15. Main Menu (Report).

Figure E.16. Sold Car.

Figure E.17.   Main Menu (Base Maintenance).

Figure E.18.   Add / Delete Warehouse.
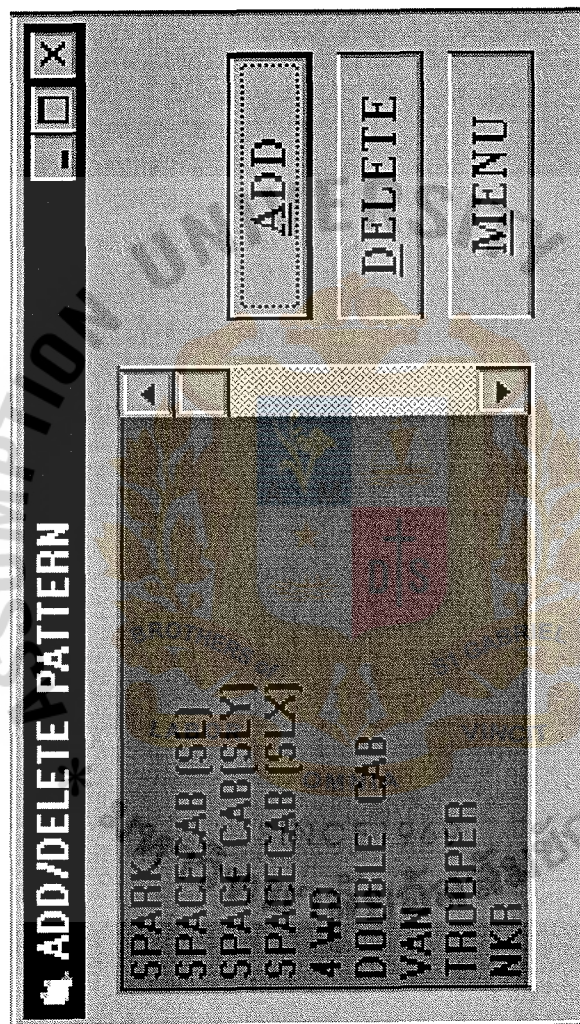
Figure E.19. Add / Delete Pattern.
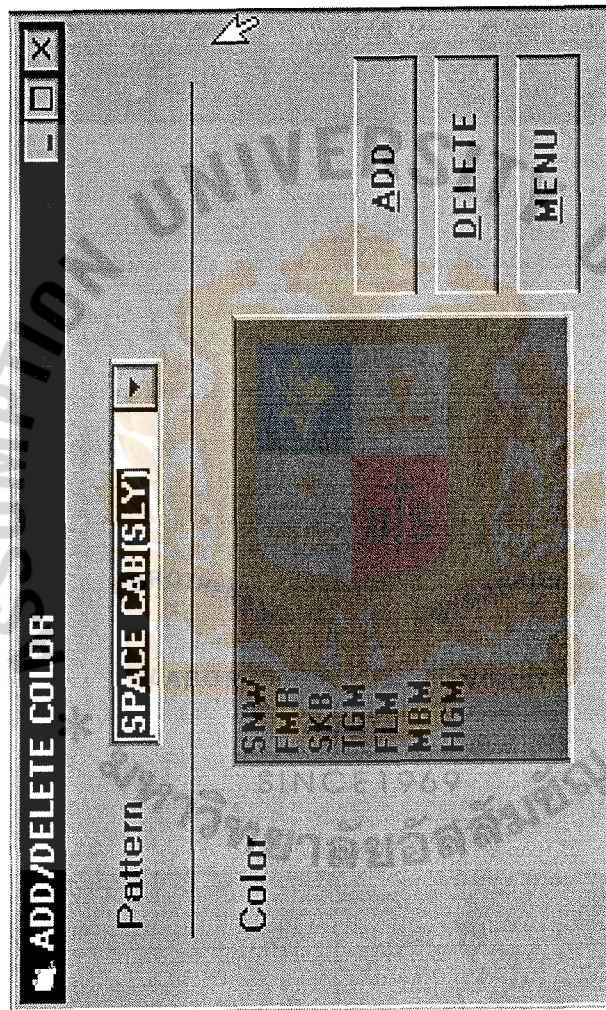
Figure E.20.   Add / Delete Color.
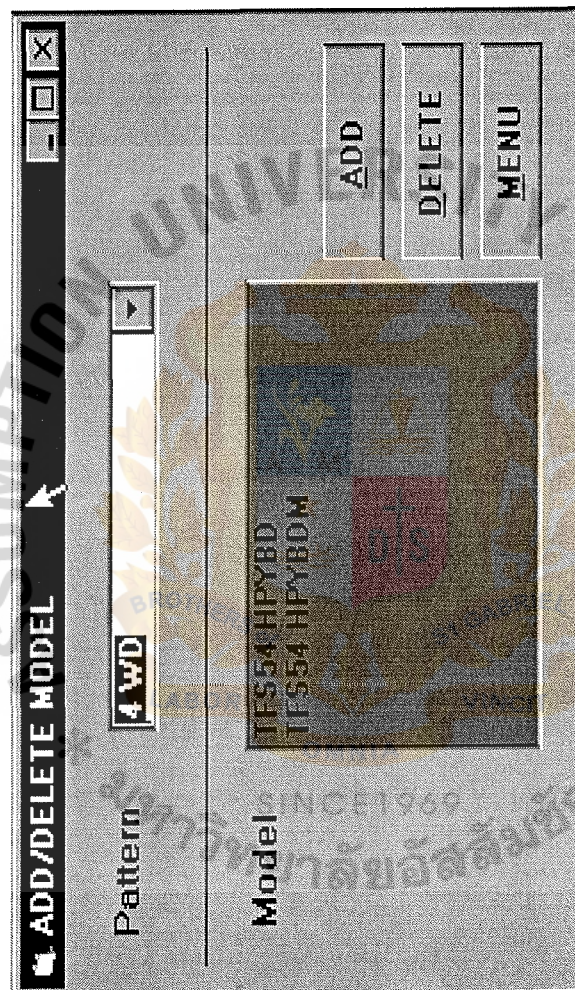
Figure E.21. Add / Delete Model.

90
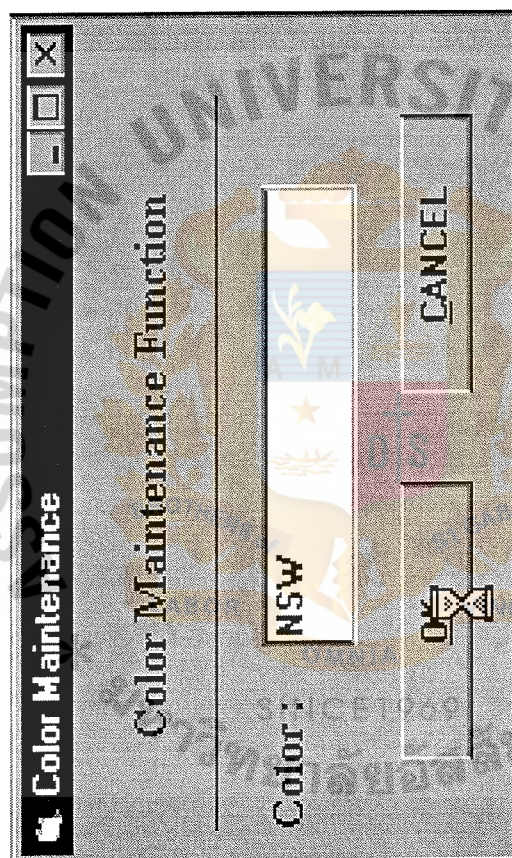
Figure E.22.   Color Maintenance.

91
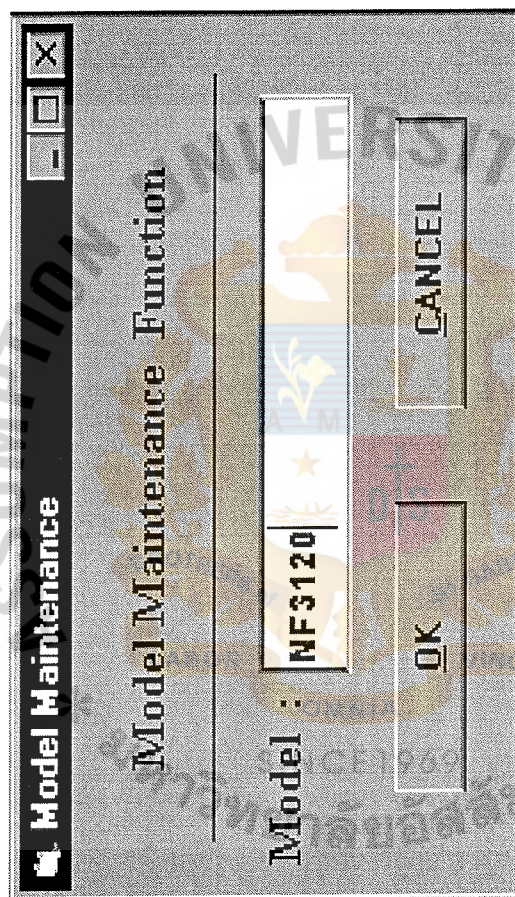
Figure E.23. Model Maintenance.
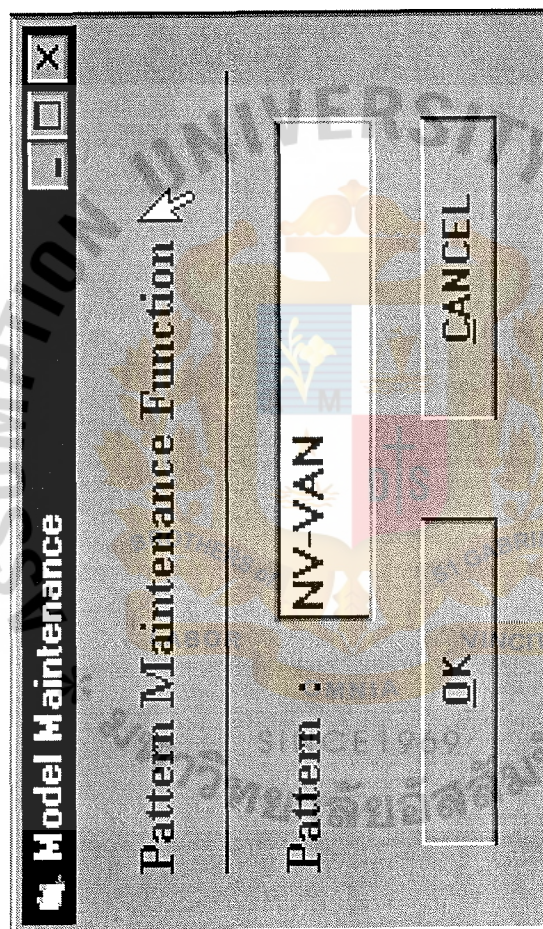
Figure E.24.   Pattern Maintenance.
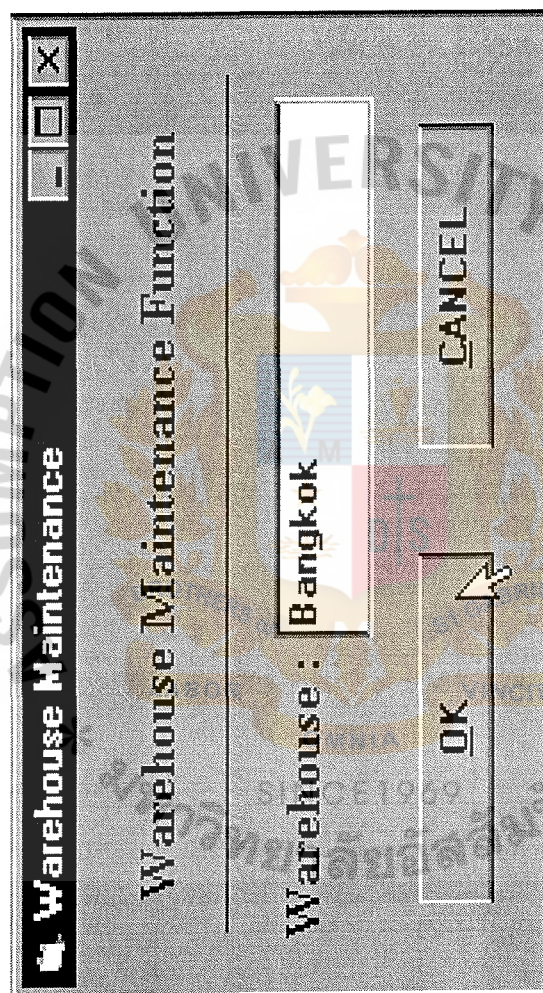
Figure E.25.   Warehouse Maintenance.

Figure E.26. Admin Tool.

APPENDIX   F

REPORT LAYOUT

ISUZU SUKHOTHAI CO., Ltd.

Daily Ending Inventory Report

Date ___/___/___

Warehouse : _____

Product ID	Engine No.	Chassis No.	Pattern	Model	Color	D/N No.	Price	Status

Figure F.1.   Daily Ending Inventory Report.

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ISUZU SUKHOTHAI CO., Ltd.

Monthly Car Inventory Report

Date ___ / ___ / ___

Month : _____

Warehouse : _____

Pattern	Model	Unit On Hand	Unit Price

Figure F.2.   Monthly Car Inventory Report.

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ISUZU SUKHOTHAI CO., Ltd.

Reservation Report

Warehouse : _____   Month : _____   Date __/__/__

Reserved No.	Date of Reserve	Customer Name	Address	Pattern	Model	Color	Price

Figure F.3.   Reservation Report.

ISUZU SUKHOTHAI CO., Ltd.

Customer Profile Report

Date ___ / / ___

Warehouse : ___   Month : ___

Customer ID	Customer Name	Address	Road	District	Province	Telephone no.

Figure F.4.   Customer Profile Report.

ISUZU SUKHOTHAI CO., Ltd.

Customer Profile Report

Date ___ / / ___

Month : _____

Warehouse : _____

Order	Pattern	Model

Figure F.5. Car Model In Stock Report.

ISUZU SUKHOTHAI CO., Ltd.

Weekly Sales Report

Starting Date ___ / / ___   Ending Date ___ / / ___   Printing Date ___ / / ___

Warehouse _____

Product ID	Engine No.	Chassis No.	Pattern	Model	Color	D/N No.	Price	Sales Price

Figure F.6.   Weekly Sales Report.

ISUZU SUKHOTHAI CO., Ltd.

Product Purchase Sequence By Date Report

Starting Date ___/___/___   Ending Date ___/___/___   Printing Date ___/___/___

Date	Product ID	Engine No.	Chassis No.	Pattern	Model	Color	D/N No.	Owner	Warehouse	Price

Figure F.7.   Product Purchase Sequence By Date Report.

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ISUZU SUKHOTHAI CO., Ltd.

Invoice Report

Starting Date ___ / / ___

Ending Date ___ / / ___

Printing Date ___ / / ___

Warehouse : _____

Invoice No.	Invoice Date	Total Sales Amount	Revenue

Figure F.8.   Invoice Report.

ISUZU SUKHOTHAI CO., Ltd.

Out Of Stock Report

Date ___/___/___

Pattern	Model	Color	Requested Unit

Figure F.9.   Out of Stock Report.

ISUZU SUKHOTHAI CO., Ltd.

Car Transfer Report

Starting Date ___/___/___   Ending Date ___/___/___   Printing Date ___/___/___

Warehouse _____

Product ID	Engine No.	Chassis No.	Pattern	Model	Color	Date of Transfer	Destination

Figure F.10.   Car Transfer Report.

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ISUZU SUKHOTHAI CO., Ltd.

Car Price List Report

Date ____/____/____

Pattern	Model	Color	Price	Selling Price

Figure F.11.   Car Price List Report.

ISUZU SUKHOTHAI CO., Ltd.

List of Sales Report

Starting Date ___/__/___   Ending Date ___/__/___   Printing Date ___/__/___

Warehouse _____

Invoice No	Sales Date	Product ID	Engine No.	Chassis No.	Pattern	Model	Color	D/N No.	Selling Price

Figure F.12.   List of Sales Report.
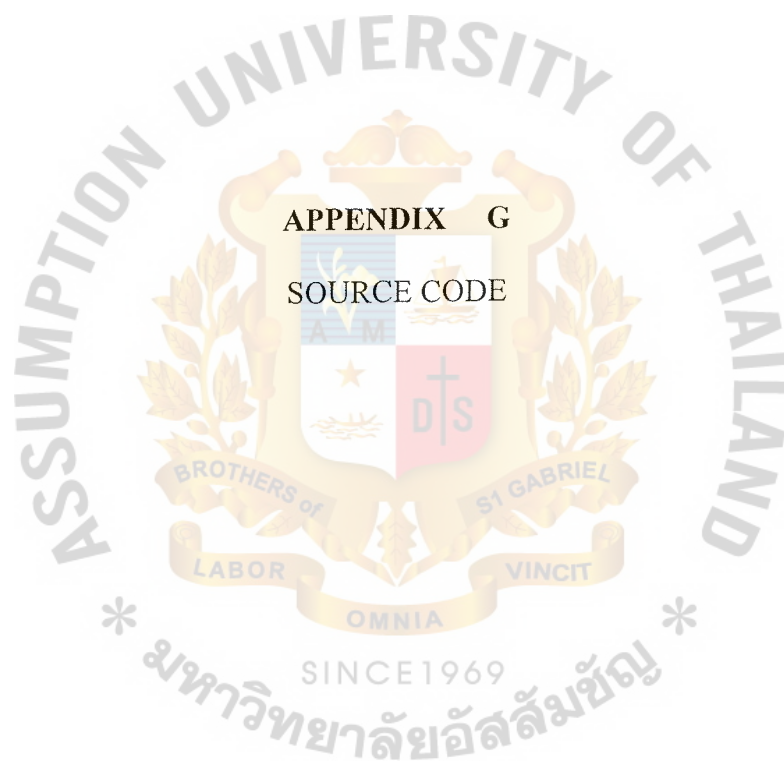
APPENDIX   G

SOURCE CODE

ADD_COLOR

```vb
Private Sub Command1_Click()

Dim temp As Long

Dim find As Boolean

Dim car_temp1, car_temp2 As Long

Dim color_temp1, color_temp2 As String

Find = False

If Text1.Text <> "" Then

  ' edit_color.data_color.Recordset.MoveFirst

    color_temp1 = UCase(Text1.Text)

    car_temp1 = CLng(Val(edit_color.DBCombo1.BoundText))

    Do Until (edit_color.data_color.Recordset.EOF)

      If (edit_color.data_color.Recordset![color_name] =

edit_color.DBList1.BoundText) And (edit_color.data_color.Recordset![car_type] = Val

(edit_color.DBCombo1.BoundText)) Then

        Find = True

      End If

      If find Then

        car_temp2 = edit_color.data_color.Recordset![car_type]

        color_temp2 = edit_color.data_color.Recordset![color_name]

        edit_color.data_color.Recordset.Edit

edit_color.data_color.Recordset![color_name] = color_temp1
```

```
            edit_color.data_color.Recordset![car_type] = car_temp1

            edit_color.data_color.UpdateRecord

            car_temp1 = car_temp2

            color_temp1 = color_temp2

        End If

            edit_color.data_color.Recordset.MoveNext

    Loop

    edit_color.data_color.Recordset.AddNew

    edit_color.data_color.Recordset![color_name] = color_temp1

    edit_color.data_color.Recordset![car_type] = car_temp1

    edit_color.data_color.UpdateRecord ' add the record.

    edit_color.data_color.Refresh

    Unload add_color

Else

    MsgBox "Add the additional wanted car color"

End If

End Sub

Private Sub Command2_Click()

Unload add_color

End Sub

ADD_MODEL

Private Sub Command1_Click()
```

```
Dim temp As Long

Dim find As Boolean

Dim car_temp1, car_temp2 As Long

Dim mod_temp1, mod_temp2 As String

find = False

If Text1.Text <> "" Then

    mod_temp1 = UCase(Text1.Text)

    car_temp1 = CLng(Val(edit_model.DBCombo1.BoundText))

    Do Until (edit_model.data_mod.Recordset.EOF)

        If (edit_model.data_mod.Recordset![model] = edit_model.DBList1.BoundText)

And (edit_model.data_mod.Recordset![car_type] =

Val(edit_model.DBCombo1.BoundText)) Then

            Find = True

        End If

        If find Then

            car_temp2 = edit_model.data_mod.Recordset![car_type]

            mod_temp2 = edit_model.data_mod.Recordset![model]

            edit_model.data_mod.Recordset.Edit

            edit_model.data_mod.Recordset![model] = mod_temp1

            edit_model.data_mod.Recordset![car_type] = car_temp1

            edit_model.data_mod.UpdateRecord

            car_temp1 = car_temp2
```

```
            mod_temp1 = mod_temp2

        End If

            edit_model.data_mod.Recordset.MoveNext

    Loop

    edit_model.data_mod.Recordset.AddNew

    edit_model.data_mod.Recordset![model] = mod_temp1

    edit_model.data_mod.Recordset![car_type] = car_temp1

    edit_model.data_mod.UpdateRecord ' add the record.

    edit_model.data_mod.Refresh

    Unload add_model

Else

    MsgBox "Add the additional wanted car model"

End If

End Sub

Private Sub Command2_Click()

Unload add_model

End Sub

ADDCAR_FRM

Private Sub Command1_Click()

Dim name1, name2 As String

Dim code1, code2 As Long

Dim find As Boolean
```

```
find = False

name1 = UCase(addcar_txt.Text)

If addcar_txt.Text <> "" Then

'    edit_car_type.type_data.Recordset.Edit

'    edit_car_type.type_data.Recordset![type_code] = edit_car_type.type_data.Recordset!

[no]

'    edit_car_type.type_data.Recordset.Update

    code1 = 0

  Do Until edit_car_type.type_data.Recordset.EOF

      If (Not find) And (edit_car_type.type_data.Recordset![type_code] = CLng(Val

(edit_car_type.DBList1.BoundText))) Then

          find = True

      End If

      If find Then

        name2 = edit_car_type.type_data.Recordset![type_name]

        code2 = edit_car_type.type_data.Recordset![type_code]

        edit_car_type.type_data.Recordset.Edit

        edit_car_type.type_data.Recordset![type_name] = name1

         edit_car_type.type_data.Recordset![type_code] = code1

        edit_car_type.type_data.UpdateRecord

        name1 = name2

        code1 = code2
```

```
        End If

          edit_car_type.type_data.Recordset.MoveNext

      Loop

        edit_car_type.type_data.Recordset.AddNew

        edit_car_type.type_data.Recordset![type_name] = name1

        edit_car_type.type_data.Recordset![type_code] = code1

        edit_car_type.type_data.UpdateRecord

        If edit_car_type.type_data.Recordset.EOF Then

          edit_car_type.type_data.Recordset.MovePrevious

      End If

      code1 = edit_car_type.type_data.Recordset![no]

      edit_car_type.type_data.Recordset.FindFirst "type_code = 0"

      If Not edit_car_type.type_data.Recordset.NoMatch Then

          edit_car_type.type_data.Recordset.Edit

          edit_car_type.type_data.Recordset![type_code] = code1

          edit_car_type.type_data.UpdateRecord

      End If

      edit_car_type.type_data.Refresh

      Unload addcar_frm

  Else

      MsgBox "Add the wanted car type"

  End If
```

```
If addcar_txt.Text <> "" Then

    Unload addcar_frm

End If

End Sub

Private Sub Command2_Click()

Unload addcar_frm

End Sub

ADDPLACE

Private Sub Command1_Click()

Dim temp1, temp2 As String

Dim find As Boolean

find = False

temp1 = addplace_txt.Text

If addplace_txt.Text <> "" Then

    Do Until edit_place.place_Data.Recordset.EOF

If (Not find) And StrComp(edit_place.place_Data.Recordset![place_name],

edit_place.DBList1.BoundText) = 0 Then

        find = True

    End If

    If find Then

        temp2 = edit_place.place_Data.Recordset![place_name]

        edit_place.place_Data.Recordset.Edit
```

```
        edit_place.place_Data.Recordset![place_name] = temp1

        edit_place.place_Data.UpdateRecord

temp1 = temp2

    End If

    edit_place.place_Data.Recordset.MoveNext

  Loop

  edit_place.place_Data.Recordset.AddNew

  edit_place.place_Data.Recordset![place_name] = temp1

  edit_place.place_Data.Recordset.Update

  edit_place.place_Data.Refresh

  Unload addplace

Else

  msg = "Add the additional stock before recording"

  MsgBox msg

End If

End Sub

Private Sub Command2_Click()

Unload addplace

End Sub


F_ADDSTOCK

Dim mytables As Table
```

```
Public Max_rec, number, nullrecord As Integer

    ' Max_rec  used for keep record in file carstock

    ' number used for pointing to present record

    ' nullrecord used for pointing the empty record in file carstock or not

    ' nullrecord = 0   mean no empty record

    ' nullrecord = 1  mean record available

Public MyRecordset As Recordset

Dim edit_mode, add_mode, UtilStart As Boolean

Dim WorkMode As Integer ' 0 display ; 1 exit ; 2 add

Public order_flag, chang_place As Boolean

Private Sub add_comm_Click()

If WorkMode = 0 Then

    WorkMode = 3  'setting the additional car in stock

    order_txt.Text = ""

    order_txt.Enabled = False

    order_comm.Enabled = False

'   Frame1.Enabled = True

f_addstock.Caption = "Add Stock Information"

    DBCombo3.Text = ""

    DBCombo1.Text = ""

    DBCombo2.Text = ""

    engine_txt.Text = ""
```

```
            chassis_txt.Text = ""

            saleday_txt.Text = ""

            DnNum_txt.Text = ""

            price_txt.Text = ""

            owner_combo.Text = ""

            place_combo.Text = ""

            note_txt.Text = ""

            state_opt(0).Value = True

            edit_comm.Enabled = False

            prev_comm.Enabled = False

            next_comm.Enabled = False

            exit_comm.Enabled = False

            search_comm.Enabled = False

            add_comm.Caption = "&CANCEL"

            save_comm.Enabled = True

            WorkMode = 2

Else

'       Frame1.Enabled = False

        If (MyRecordset.BOF) Or (MyRecordset.EOF) Then

            DBCombo3.Text = ""

            DBCombo1.Text = ""

            DBCombo2.Text = ""
```

```
            engine_txt.Text = ""

            chassis_txt.Text = ""

            saleday_txt.Text = ""

            DnNum_txt.Text = ""

            price_txt.Text = ""

            owner_combo.Text = ""

            place_combo.Text = ""

            note_txt.Text = ""

            state_opt_Click (0)

    Else

            DBCombo1.Text = MyRecordset![model_name]

            DBCombo3.Text = MyRecordset![type_name]

            DBCombo2.Text = MyRecordset![color_name]

            engine_txt.Text = MyRecordset![engin_number]

            chassis_txt.Text = MyRecordset![chassis_number]

            saleday_txt.Text = MyRecordset![d/n_Date]

            DnNum_txt.Text = MyRecordset![d/n_number]

            price_txt.Text = MyRecordset![price]

            owner_combo.Text = MyRecordset![owner_name]

            place_combo.Text = MyRecordset![place_name]

            If MyRecordset![note] <> "" Then

                note_txt.Text = MyRecordset![note]
```

```
    Else

      note_txt.Text = ""

    End If

    If MyRecordset![status] = False Then

      state_opt_Click (0)

    Else

      state_opt_Click (1)

      order_txt.Text = MyRecordset![order_id]

    End If

  End If

  exit_comm.Enabled = True

  save_comm.Enabled = False

  add_comm.Caption = "&ADD"

  WorkMode = 0

  f_addstock.Caption = "Display Stock Information"

  If Max_rec > 0 Then ' if data more that 1 record in table cust_stock

    edit_comm.Enabled = True

    prev_comm.Enabled = True

    next_comm.Enabled = True

    search_comm.Enabled = True

  End If ' if no data in tabled cust_stock edit_comm       disable

End If
```

```
End Sub

Private Sub Command1_Click()

Dim count As Integer

Dim find As Boolean

If search_txt.Text <> "" Then

  If Not MyRecordset.BOF Then

    MyRecordset.MoveFirst

  End If

count = 0

  find = False

Do Until MyRecordset.EOF

    count = count + 1

    If StrComp(MyRecordset![engin_number], search_txt.Text) = 0 Then

      find = True

      Exit Do

    End If

    MyRecordset.MoveNext

  Loop

  If find Then

    DBCombo1.Text = MyRecordset![model_name]

    DBCombo3.Text = MyRecordset![type_name]

    DBCombo2.Text = MyRecordset![color_name]
```

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```
engine_txt.Text = MyRecordset![engin_number]

chassis_txt.Text = MyRecordset![chassis_number]

saleday_txt.Text = MyRecordset![d/n_Date]

DnNum_txt.Text = MyRecordset![d/n_number]

price_txt.Text = MyRecordset![price]

owner_combo.Text = MyRecordset![owner_name]

place_combo.Text = MyRecordset![place_name]

If MyRecordset![note] <> "" Then

    note_txt.Text = MyRecordset![note]

Else

    note_txt.Text = ""

End If

If MyRecordset![status] = False Then

state_opt_Click (0)

    Else

        state_opt_Click (1)

        order_txt.Text = MyRecordset![order_id]

    End If

    number = count

Else

MsgBox "number in the reservation form " no database"

MyRecordset.MoveFirst
```

```vb
        count = 1

     Do Until count = number

        count = count + 1

        MyRecordset.MoveNext

     Loop

End If

Else

   MsgBox " fill in the reservation number before press enter"

End If

End Sub

Private Sub Command1_Click()

Dim count As Integer

Dim find As Boolean

If search_txt.Text <> "" Then

   If Not MyRecordset.BOF Then

      MyRecordset.MoveFirst

   End If

count = 0

   find = False


   Do Until MyRecordset.EOF

      count = count + 1
```

```
If StrComp(MyRecordset![engin_number], search_txt.Text) = 0 Then

    find = True

    Exit Do

End If

MyRecordset.MoveNext

Loop

If find Then

    DBCombo1.Text = MyRecordset![model_name]

    DBCombo3.Text = MyRecordset![type_name]

    DBCombo2.Text = MyRecordset![color_name]

    engine_txt.Text = MyRecordset![engin_number]

    chassis_txt.Text = MyRecordset![chassis_number]

    saleday_txt.Text = MyRecordset![d/n_Date]

    DnNum_txt.Text = MyRecordset![d/n_number]

    price_txt.Text = MyRecordset![price]

    owner_combo.Text = MyRecordset![owner_name]

    place_combo.Text = MyRecordset![place_name]

    If MyRecordset![note] <> "" Then

        note_txt.Text = MyRecordset![note]

    Else

        note_txt.Text = ""

    End If
```

```
        If MyRecordset![status] = False Then

state_opt_Click (0)

    Else

      state_opt_Click (1)

      order_txt.Text = MyRecordset![order_id]

    End If

    number = count

  Else

    MsgBox "reservation number entering " no database"

    MyRecordset.MoveFirst

    count = 1

    Do Until count = number

      count = count + 1

      MyRecordset.MoveNext

    Loop

End If

Else

  MsgBox " fill in the reservation no before entering"

End If



End Sub

Private Sub DBCombo1_Click(Area As Integer)
```

```vb
If DBCombo3.Text <> "" Then

color_data.RecordSource = "select color_name from car_color where car_type = " &

DBCombo3.BoundText & ";"

   color_data.Refresh

DBCombo2.Enabled = True

   color_lbl.Enabled = True

End If

End Sub

Private Sub DBCombo2_Click(Area As Integer)

'color_lbl.Enabled = False

DBCombo2.Enabled = False

'model_lbl.Enabled = False

DBCombo1.Enabled = False

End Sub

Private Sub DBCombo3_Click(Area As Integer)

If DBCombo3.Text <> "" Then

   DBCombo1.Text = " "

   DBCombo2.Text = " "

   model_Data.RecordSource = "select model from car_model where car_type = " &

DBCombo3.BoundText & ";"

   model_Data.Refresh

   DBCombo1.Enabled = True
```

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```
'   model_lbl.Enabled = True

End If

End Sub

Private Sub edit_comm_Click()

   If WorkMode = 0 Then

      WorkMode = 1

      f_addstock.Caption = "Update Stock Information"

'      Frame1.Enabled = True

      add_comm.Enabled = False

      prev_comm.Enabled = False

      next_comm.Enabled = False

      exit_comm.Enabled = False

      search_comm.Enabled = False

      edit_comm.Caption = "&CANCEL"

      save_comm.Enabled = True

   Else

      WorkMode = 0

      f_addstock.Caption = "Display Stock Information"

'      Frame1.Enabled = False


      DBCombo1.Text = MyRecordset![model_name]

      DBCombo3.Text = MyRecordset![type_name]
```

```
DBCombo2.Text = MyRecordset![color_name]

engine_txt.Text = MyRecordset![engin_number]

chassis_txt.Text = MyRecordset![chassis_number]

saleday_txt.Text = MyRecordset![d/n_Date]

DnNum_txt.Text = MyRecordset![d/n_number]

price_txt.Text = MyRecordset![price]

owner_combo.Text = MyRecordset![owner_name]

place_combo.Text = MyRecordset![place_name]

If MyRecordset![note] <> "" Then

   note_txt.Text = MyRecordset![note]

Else

   note_txt.Text = ""

End If

If MyRecordset![status] = False Then

   state_opt_Click (0)

Else

   state_opt_Click (1)

   order_txt.Text = MyRecordset![order_id]

   custorder_data.Recordset.FindFirst "order_id = '" & order_txt.Text & "'"

   If Not custorder_data.Recordset.NoMatch Then ' Check if record found.

      custorder_data.Recordset.Edit

      custorder_data.Recordset![havecar] = True
```

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```
            custorder_data.Recordset.Update

            custorder_data.Refresh

        End If

    End If

    add_comm.Enabled = True

    prev_comm.Enabled = True

    next_comm.Enabled = True

    exit_comm.Enabled = True

    search_comm.Enabled = True

    edit_comm.Caption = "UPDATE"

    save_comm.Enabled = False

    End If

End Sub

Private Sub exit_comm_Click()

Unload f_addstock

f_main.Show

End Sub

Private Sub Form_Load()

Dim count As Integer


    Set mytables = mydb.OpenTable("car_owner")

Do Until mytables.EOF
```

```
        owner_combo.AddItem mytables("owner_name")

        mytables.MoveNext

    Loop

    mytables.Close

Set mytables = mydb.OpenTable("car_place")

Do Until mytables.EOF

        place_combo.AddItem mytables("place_name")

        mytables.MoveNext

    Loop

    mytables.Close

Set MyRecordset = mydb.OpenRecordset("car_stock")

    Max_rec = MyRecordset.RecordCount

    If Max_rec > 0 Then

        engine_txt.Text = MyRecordset![engin_number]

        chassis_txt.Text = MyRecordset![chassis_number]

        saleday_txt.Text = MyRecordset![d/n_Date]

        DnNum_txt.Text = MyRecordset![d/n_number]

        price_txt.Text = MyRecordset![price]

        owner_combo.Text = MyRecordset![owner_name]

        place_combo.Text = MyRecordset![place_name]

        If MyRecordset![note] <> "" Then

        note_txt.Text = MyRecordset![note]
```

```
                End If

            If MyRecordset![status] = False Then

                state_opt_Click (0)

            Else

                state_opt_Click (1)

                order_txt.Text = MyRecordset![order_id]

            End If

            number = 1

        Else

            prev_comm.Enabled = False

            next_comm.Enabled = False

            edit_comm.Enabled = False

            search_comm.Enabled = False

            MsgBox "There are no stock data in the database. Please select 'ADD' "

        End If

'   addorder_data.RecordSource = "select order_id from cust_order where cuted = false;"

'   addorder_data.Refresh

    save_comm.Enabled = False

    WorkMode = 0    ' start with stock display

    f_addstock.Caption = "Display Stock Information"

UtilStart = True

chang_place = False
```

```
If part <> 2 Then

    edit_comm.Enabled = False

End If

End Sub

Private Sub next_comm_Click()

Dim msg As String

    If number = Max_rec Then

        msg = " come to the end of data "

        MsgBox msg

        number = Max_rec

        MyRecordset.MoveLast

    Else

MyRecordset.MoveNext

    ' If number <> Max_rec - 1 Then

        owner_combo.Text = MyRecordset![owner_name]

        place_combo.Text = MyRecordset![place_name]

    ' Else

    '    owner_combo.Text = " "

    '    place_combo.Text = " "

    ' End If

    DBCombo1.Text = MyRecordset![model_name]

    DBCombo3.Text = MyRecordset![type_name]
```

```vb
DBCombo2.Text = MyRecordset![color_name]

engine_txt.Text = MyRecordset![engin_number]

chassis_txt.Text = MyRecordset![chassis_number]

saleday_txt.Text = MyRecordset![d/n_Date]

DnNum_txt.Text = MyRecordset![d/n_number]

price_txt.Text = MyRecordset![price]

If MyRecordset![note] <> "" Then

  note_txt.Text = MyRecordset![note]

Else

  note_txt.Text = ""

End If

If MyRecordset![status] = False Then

state_opt_Click (0)

Else

  state_opt_Click (1)

  order_txt.Text = MyRecordset![order_id]

End If

number = number + 1

End If


End Sub

Private Sub note_txt_LostFocus()
```

```vb
If Len(note_txt.Text) > 30 Then

    MsgBox "the length of remark over the limitation"

    note_txt.Text = Left(note_txt.Text, 29)

End If

End Sub

Private Sub order_comm_Click()

f_addstock.Enabled = False

f_customer.Show

End Sub

Private Sub order_txt_GotFocus()

If order_txt.Text = "" Then

    order_flag = False ' order_flag is public variable

Else

    order_flag = True

End If

End Sub

Private Sub owner_combo_KeyPress(KeyAscii As Integer)

If KeyAscii < 48 Or KeyAscii > 57 Then

KeyAscii = 0

End If

End Sub

Private Sub place_combo_Click()
```

```vb
If (WorkMode = 1) And (place_combo.ListIndex > -1) Then

    chang_place = True

 End If

End Sub

Private Sub prev_comm_Click()

Dim msg As String

  If number = 1 Then

    msg = " come to the first data "

    MsgBox msg

    number = 1

    MyRecordset.MoveFirst

  Else

    MyRecordset.MovePrevious

    For i = 1 To 100

      DoEvents

    Next i

    DBCombo1.Text = MyRecordset![model_name]

    DBCombo3.Text = MyRecordset![type_name]

    DBCombo2.Text = MyRecordset![color_name]

    engine_txt.Text = MyRecordset![engin_number]

    chassis_txt.Text = MyRecordset![chassis_number]

    saleday_txt.Text = MyRecordset![d/n_Date]
```

```
DnNum_txt.Text = MyRecordset![d/n_number]

price_txt.Text = MyRecordset![price]

owner_combo.Text = MyRecordset![owner_name]

place_combo.Text = MyRecordset![place_name]

If MyRecordset![note] <> "" Then

    note_txt.Text = MyRecordset![note]

Else

    note_txt.Text = ""

End If

If MyRecordset![status] = False Then

state_opt_Click (0)

    Else

    state_opt_Click (1)

    order_txt.Text = MyRecordset![order_id]

End If

number = number - 1

End If

End Sub

Private Sub price_txt_KeyPress(KeyAscii As Integer)

KeyAscii = txtnumber(KeyAscii)

End Sub

Private Sub save_comm_Click()
```

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```vb
If DBCombo3.Text <> "" Then

  If DBCombo1.Text <> "" Then

    If DBCombo2.Text <> "" Then

      If engine_txt.Text <> "" Then

        If chassis_txt.Text <> "" Then

          If saleday_txt.Text <> "" Then

            If DnNum_txt.Text <> "" Then

              If price_txt.Text <> "" Then

                If owner_combo.Text <> "" Then

                  If place_combo.Text <> "" Then

                    If WorkMode = 1 Then ' edit mode

                      MyRecordset.Edit

                      custorder_data.RecordSource = "select * from cust_order"

                      custorder_data.Refresh

                    Else ' add stock mode

                      MyRecordset.AddNew

                    End If

                    Frame1.Enabled = False

                    MyRecordset![type_name] = DBCombo3.Text

                    MyRecordset![model_name] = DBCombo1.Text

                    MyRecordset![color_name] = DBCombo2.Text

                    MyRecordset![engin_number] = engine_txt.Text
```

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```
MyRecordset![chassis_number] = chassis_txt.Text

MyRecordset![d/n_Date] = saleday_txt.Text

MyRecordset![d/n_number] = DnNum_txt.Text

MyRecordset![price] = Val(price_txt.Text)

MyRecordset![owner_name] = owner_combo.Text

If change_place Then ' change stock place'

    msg = "Do you want to issue the transferring notice?"

    Style = vbYesNo ' Define buttons.

    Response = MsgBox(msg, Style)

    If Response = vbYes Then    ' User chose Yes.

        prnreccar (MyRecordset![chassis_number])

    End If

    chang_place = False

End If

MyRecordset![place_name] = place_combo.Text

MyRecordset![cur_date] = Date

If note_txt.Text <> "" Then

    MyRecordset![note] = note_txt.Text

Else

    If WorkMode = 1 Then

        MyRecordset![note] = " "

    End If
```

```
        End If

    If state_opt(0).Value Then

        MyRecordset![status] = False

    Else

custorder

        custorder_data.Recordset.FindFirst "order_id = '" & order_txt.Text &
""""

        If Not custorder_data.Recordset.NoMatch Then ' Check if record
found.

            If StrComp(DBCombo3.Text, custorder_data.Recordset!
[car_type]) = 0 Then

                If StrComp(DBCombo1.Text, custorder_data.Recordset!
[model]) = 0 Then

                    If StrComp(DBCombo2.Text, custorder_data.Recordset!
[color_name]) = 0 Then

                    ' specify that the car has been reserved'

                    custorder_data.Recordset.Edit

                    custorder_data.Recordset![havecar] = True

                    custorder_data.Recordset.Update

                    MyRecordset![status] = True

                    MyRecordset![order_id] = order_txt.Text

                Else
```

```
MsgBox "Car color in stock is not match with the

reservation

form"

  state_opt_Click (0)

If custorder_data.Recordset![havecar] Then

   ' Change the car color in stock  need to change the

   reservation form

   custorder_data.Recordset.Edit

   custorder_data.Recordset![havecar] = False

   custorder_data.Recordset.Update

   MyRecordset![status] = False

   MyRecordset![order_id] = ""

  End If

 End If

Else

MsgBox "Car model in stock is not match the reservation f

   form "

 state_opt_Click (0)

 If custorder_data.Recordset![havecar] Then

   ' Change the reservation form since have a change in the car

   model

  custorder_data.Recordset.Edit
```

```
                    custorder_data.Recordset![havecar] = False

                    custorder_data.Recordset.Update

                    MyRecordset![status] = False

                    MyRecordset![order_id] = ""

                End If

            End If

        Else

            MsgBox "Car type is not match the reservation form"

            state_opt_Click (0)

            If custorder_data.Recordset![havecar] Then

                ' Change the reservation form since have a change in the car

                model

                custorder_data.Recordset.Edit

                custorder_data.Recordset![havecar] = False

                custorder_data.Recordset.Update

                MyRecordset![status] = False

                MyRecordset![order_id] = ""

            End If

        End If

    Else

        MsgBox "Cannot find Order Id number " & order_txt.Text & " in

        the reservation form"
```

```
        state_opt_Click (0)

        MyRecordset![status] = False

        MyRecordset![order_id] = ""

      End If

    custorder_data.Refresh

End If

    MyRecordset.Update

  If (WorkMode = 2) Then 'add stock mode

'   If Not MyRecordset.EOF Then

        MyRecordset.MoveLast

'   End If

    add_comm.Caption = "&ADD"

    Max_rec = Max_rec + 1

    number = Max_rec

  Else

    edit_comm.Caption = "Edit"

  End If

    edit_comm.Enabled = True

    add_comm.Enabled = True

    prev_comm.Enabled = True

    next_comm.Enabled = True

    exit_comm.Enabled = True
```

```
                    search_comm.Enabled = True

                    save_comm.Enabled = False

                    WorkMode = 0

                    f_addstock.Caption = "Stock Display"

                    custorder_data.RecordSource = "select * from cust_order where

                    have car = false"

                    custorder_data.Refresh

                Else 'Not select the record place

                    MsgBox "Select the file  and record again"

                End If

            Else 'Quota is not chosen

                MsgBox "Select the quota and record again"

            End If

        Else 'Price is not chosen

            MsgBox "Fill in the price and record again"

        End If

    Else

        MsgBox "Fill in D/N Number then record again"

    End If

Else

    MsgBox "Fill in D/N Date then record again"

End If
```

```
    Else

        MsgBox "Fill in  Chassis Number then record again"

    End If

  Else

      MsgBox "Fill in Engine Number then record again"

  End If

  Else

      MsgBox "Select the car color and then record again"

  End If

Else

    MsgBox "Select  Model then record again"

End If

Else

    MsgBox "Select car type and then record again"

End If

End Sub

Private Sub search_comm_Click()

prev_comm.Enabled = False

next_comm.Enabled = False

add_comm.Enabled = False

edit_comm.Enabled = False

search_comm.Enabled = False
```

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```
exit_comm.Enabled = False

search_fram.Visible = True

End Sub

Private Sub state_opt_Click(Index As Integer)

If WorkMode < 3 Then

If Index = 1 Then

    order_lbl.ForeColor = &H800000

    order_txt.Enabled = True

    order_txt.BackColor = &H80000005

    order_comm.Enabled = True

    state_opt(1).Value = True

Else

If Max_rec > 0 Then

    If MyRecordset![status] Then

      custorder_data.RecordSource = "select * from cust_order ;"

      custorder_data.Refresh

      custorder_data.Recordset.FindFirst "order_id = '" & MyRecordset![order_id] & "'"

      If Not custorder_data.Recordset.NoMatch Then ' Check if record found.

        custorder_data.Recordset.Edit

        custorder_data.Recordset![havecar] = False

        custorder_data.Recordset.Update

        custorder_data.Refresh
```

```
        End If

        custorder_data.RecordSource = "select * from cust_order where havecar = false"

        custorder_data.Refresh

    End If

    End If

        order_lbl.ForeColor = &H808080

        order_txt.Text = ""

        order_txt.Enabled = False

        order_comm.Enabled = False

        order_txt.BackColor = &HC0C0C0

        state_opt(0).Value = True

    End If

    End If

    End Sub

FRMCHKPASSWD

Private Sub Command1_Click()

If Text1.Text = "" Or Text2.Text = "" Then

MsgBox "Incomplete Information"

Else

    xx% = genpwd(Trim(Text1.Text))

    If mypasswd <> xx% Then

        MsgBox "Your Old Passwd Not Match "
```

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```
    Else

        tbpasswd.MoveFirst

        Do While Not mypasswd

        If tbpasswd("loginname") = Trim(mylogin) Then

            tbpasswd.Edit

            tbpasswd("passwd") = genpwd(Trim(Text2.Text))

            tbpasswd.Update

            Exit Do

        End If

        tbpasswd.MoveNext

        Loop

    End If

End If

Unload frmchkpasswd

f_main.Show

End Sub

Private Sub Command2_Click()

Text1.Text = ""

Text2.Text = ""

Unload Me

End Sub
```

BIBLIOGRAPHY

1. Elmasri, Ramez and Navathe, Shamkant B. Fundamental of Database System. California: Addison-Wesley Publishing Co.Inc., 1992.

2. Kendall, Kenneth E. and Kendall, Julie E. System Analysis and Design. New Jersey: Prentice Hall, 1992.

3. Loomis, Mary E.S. Data Management and File Structures. New Jersey: Prentice Hall, 1989.

4. Page-Jones, Meilir. The Practical Guide to Structured System Design. London: Yourdon press, 1989.

5. Pfleeger, Charles P. Security in Computing. New Jersey: Prentice Hall, 1989.

6. Senn, James A. Analysis & Design of Information Systems. New York: McGraw Hill, 1989.

7. Yourdon, Edward. Modern Structured Analysis. New York: Prentice Hall, 1989.

8. Shay, William A. Understanding Data Communications and Network. New York: PWS Publishing Company, 1995.