PRELIMINARY DESIGN OF E-COMMERCE
IN ORDERING INFORMATION SYSTEM

by

Ms. Ruchanee Kuruvelukorn

A 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
Assumption University

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Project Title	Preliminary Design of E-commerce in Ordering Information System
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Academic Year	November 2000

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

This system presents the analysis and design of the Preliminary Design of E-commerce in Ordering System. This system is developed to solve the problem of manual operation. The objective of this project is to boost the sales volume of the sales and marketing department by introducing the product to the online marketplace called Internet.

The study of this project begins with analyzing the current system. From gathering the requirement we found that this system is current manual process and the structure is already presented in Appendix B using data flow diagram. From investigating the existing system, the proposed system is designed to solve the problem of the existing system. To develop the proposed system, the computerized system is designed to ease the user in doing their work. The networking environment is also developed to help the user in hardware and information sharing among the users in the organization that utilizes the use of computer hardware. The benefit expected from this system is to help user to work faster with no mistake which can be achieved with the use of computer. This system must be able to help the company in inventory control where the product will be kept available for selling at all times. The cost analysis of this system is also provided in this report showing the breakeven and how this system creates profit in a long run.

After this system is fully developed, the system will be installed and tested for correctness. Before the user can use this program, the training course is required. Training process will start before the system is fully developed. Total time estimated for this project is about 6 months in which the process will start from gathering user requirement and analyzing the existing system then the proposed system is developed.

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I. INTRODUCTION

1.1 Background of the Project

This project is carried out to the purpose of the growth of business and the rapid change of world technology. The technology of IT has greatly influenced the company to react fast in this changing period. Today the technology of Internet can directly access to the direct consumers of billions users around the world. Therefore, the company needs to expand the sales and marketing channel and to introduce the products into Internet to capture the consumers directly.

To start and learn how the business runs in the cyberspace, the study of this project will show the preliminary design of E-commerce in ordering system of the company. By doing so, the company needs to have a better-computerized system to support the future transaction of consumers via Internet. The new system needs to be designed and implemented.

1.2 Objectives of the Project

This project is carried out to help the company to understand how online marketplaces could become pervasive as the new trading channel. We would determine the potential impact of E-commerce on traditional supply chains. Running the business in E-commerce, we would have to identify and analyze the business opportunities in these online marketplaces. We would be able to understand clearer from this project that the business will run in the same way as in the normal channel.

This project also designs and implements the E-commerce program with database management systems to manage the customers' database and this would help to boost sales in the online trading apart from the normal trading.

1.3 Scope of the Project

First, collections of user's requirements and discussion with the management teams are vital. The more information collected from the users and management teams, the better design of E-commerce program will be.

The design and implementation of database systems is also the main purpose of this project. The better the design, the better database management of the company. The management of database will be easier and more secure and reliable. To be in the online trading, the security of information is very important; having the leaking of customers' information would affect in the sales decrease of the company. The company does not only sell the products but also the premium services to the customers. That is the privacy of the customers is kept in the secure place.

1.4 Project Plan

The project plan is represented in Gantt Chart in Figure 1.1 Project Plan of Preliminary Design of E-commerce.

No.	Task Name	April				May				June				July				August				September			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I.	System Analysis																								
1	Study the Existing System																								
2	Identify the Existing Problems																								
3	Studying the Existing System																								
4	Develop Context Diagram																								
5	Develop Data Flow Diagram																								
6	Cost & Benefit Analysis																								
II.	System Design																								
7	Web Interface Design																								
8	Input Design																								
9	Output Design																								
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14	Testing																								
15	Hardware Installation																								
16	Software Installation																								
17	Conversion																								

Figure 1.1.   Project Plan of Preliminary Design of E-Commerce.

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II.   EXISTING SYSTEM

2.1   Background of the Organization

RK Co., Limited was found in 1969. The company is the manufacturer and the exporter of finished leather for upholstery, rawhide dog chews products and leather goods. Most of our products are mainly exported with only 1% in the local market.

In the beginning, the very first product of the company was finished leather for upholstery and leather goods. Some later years, the company expanded the new product lines of Rawhide dog chews. The products were launched in various styles and introduced to the worldwide markets such as the United States of America, European countries, Japan and Australia through wholesalers and distributors.

The company forecasts that the technology of Internet would support the boost of sales in the present market. At the same time, the company plans to have a new channel of trading in the online market place in order to expand the market directly to the consumers.

The company first focuses on the rawhide dog chews in sales and marketing section because the products can easily be recognized, standardized, are various in styles and more suitable to trade online when compared with the other products of the company. The company believes that the ordering system in E-commerce will greatly support the consumers to purchase the products by instant clicking of the mouse.

2.2 Existing Business Function

The organization chart is represented in Figure 2.1 Organization Chart of RK Company Ltd.
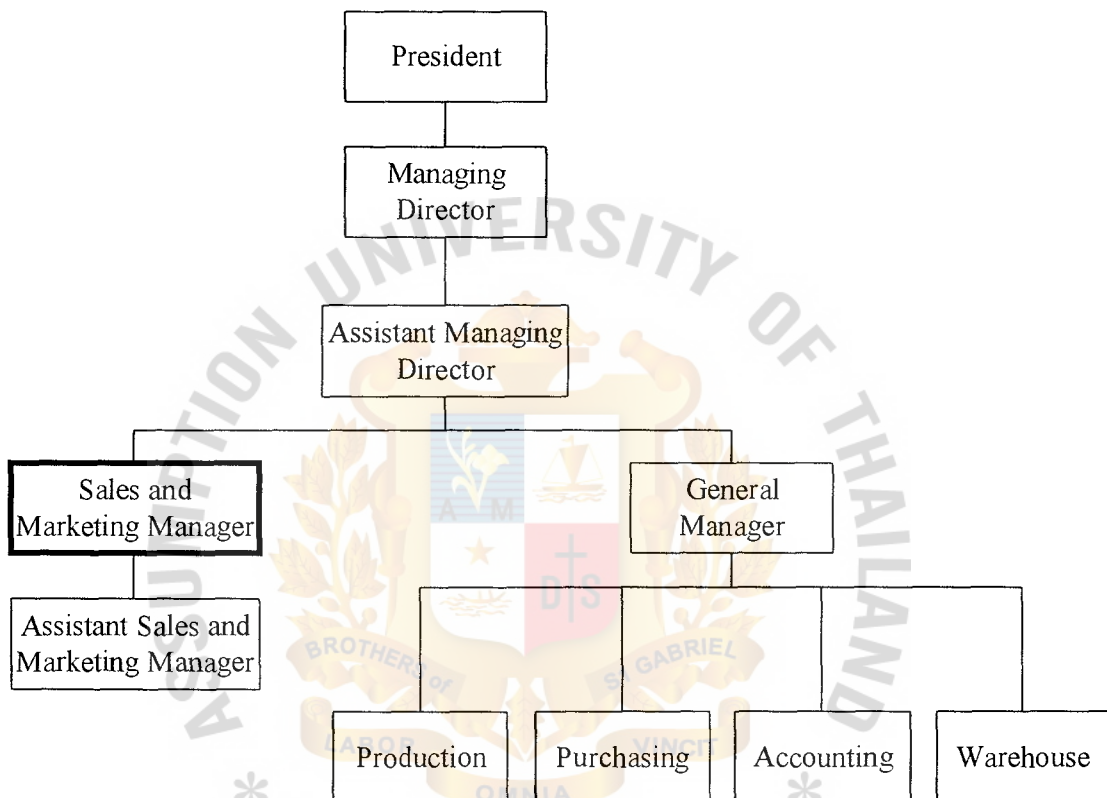
Figure 2.1. Organization Chart of RK Company Ltd.

The company policy is to have the best utilization of all resources including staff, materials, work spaces and manufacturing processes.

The company employs a few office staff to handle all the administration work. At the same time, the management executive also decentralized the working authority to the chief officer in each lower section. The General Manager will be in charge of each section by the report of the chief officer.

For the Sales and Marking Department, the staff normally operated manually with the normal use of basic computer application. The whole company operation is only 20% computerized system and 80% manually operated.

2.3 Current Problems and Areas for Improvements

After studied and analyzed the company's existing system, we found that the company's staffs have less computer skills, although they are fluent in typing. Some staffs are slow-learners, however they are willing to accept the new changes. The training course of the computer is required for the staff. Besides, their Reading and Spoken English is poor, the company has to provide the Language course for the staff in order to have a better communication with online customers.

Most of the jobs are still operated manually which leads to the lower speed of work compared with the computerized system. The new design and implementation of computerized system is needed to facilitate the better speed of work and support their working decision.

2.4 Existing Computer Systems

The current existing computer system is as in Table 2.1. The company currently has 4 sets of standalone computer systems and 2 sets of dot-matrix printers.

Table 2.1.   Existing Hardware Specifications.

Hardware	Specification
CPU	Pentium 166
Cache	256KB or higher
Memory	32MB
Hard Disk	2 GB
CD-Rom Drive	24x
Floppy Drive	1.44MB
Display Adapter	SVGA Card
Display	14" monitor
Printer	Dot Matrix

III.   PROPOSED SYSTEM

3.1   Design of the Proposed System

The proposed system is computerized system that eases the process of:

(1)   Checking the customer information and the outstanding order of the customer including the details of each customer.

(2)   Checking the inventory whether each product is adequate to supply to the customers' orders.

(3)   Generating the Production Order automatically when the inventory is lower than the minimum level.

(4)   Printout of customers, products, sales report and other adhoc reports is required whenever requested.

(5)   Quick checking of the availability of the products in the stock.

The technology of 32-bits software is fully supported. As the requirement of the proposed system, the Pentium class CPU must be the most suitable in term of price/performance. The Windows 95 or higher is the base operating system. The application software itself is also fully developed using 32-bits software architecture and Object Oriented Technology to guarantee the outstanding performance.

The Proposed System Network is represented in Figure 3.1. Proposed System Network.
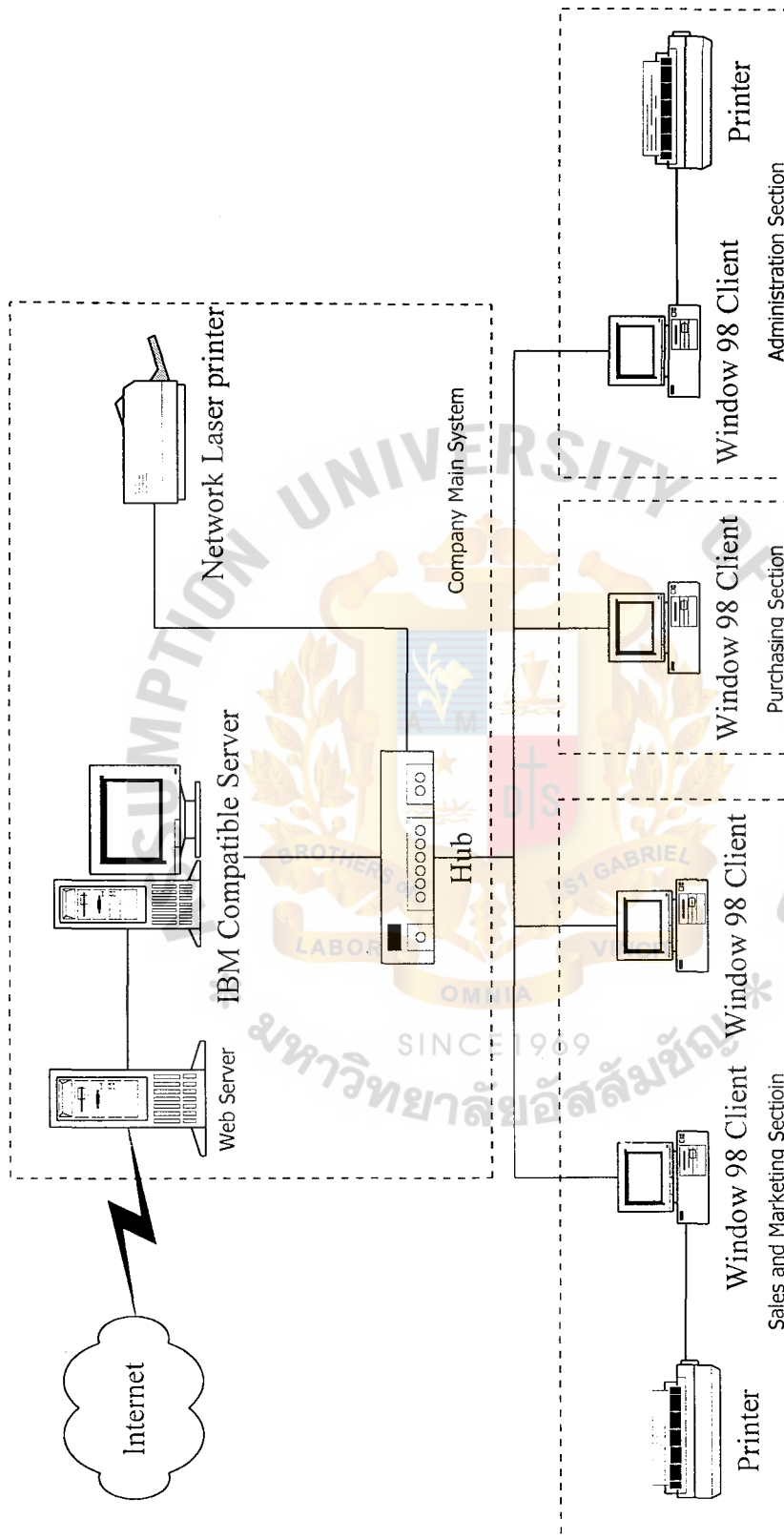
Figure 3.1. Proposed System Network.

3.2 User Requirement

The requirements of the users collected in the interviewing phase are as follows:

(1) To use the computer as the medium of data collection, data processing and retrieving information.

(2) Assigning the customer code automatically after the system has received the online order from the new customer.

(3) Assigning the product code to identify product. Each product will have product code to identify itself.

(4) Automatic checking minimum stock is required. Every time the system is run up, the minimum stock checking process is run.

(5) Report or any information will be retrieved and printed by only authorized user.

(6) To edit or update some part of information, specific authorization is required.

(7) Reliable system security is required.

(8) Every time product is out of stock and minimum stock checking is working, the system will automatically warn and print out the production order to the Production Department.

3.3 Hardware and Software Specification

The company will use the personal computers to operate the computer systems. All computers will be connected to one another called workstations on a small LAN. One set of computer will be assigned to be a file server, which will be used to store the data and is sharable to all workstations. Having a file server helps to reduce time and cost of separate storages in the system and increase the database accessibility.

The hardware specification is as follows:

(1) The IBM Compatible Server (1 set)

    (a) Intel Pentium III 800 or higher

    (b) Motherboard Intel

    (c) RAM 128MB

    (d) Hard disk 20GB

    (e) 50x CD-Rom Drive

    (f) Floppy Drive 1.44MB

    (g) SVGA Display Adapter

    (h) 15" Digital Monitor

    (i) Keyboard

    (j) Mouse

    (k) NIC 10MB

(2) Workstation (4 sets)

    (a) Intel Pentium 166 or higher

    (b) Motherboard Intel

    (c) RAM 32 MB or higher

    (d) Hard disk 2GB

    (e) Floppy Drive 1.44MB

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(f)   SVGA Display Adapter

(g)   14" Digital Monitor

(h)   Keyboard

(i)   Mouse

(j)   NIC 10MB

(3)   HUB

    (a)   10MB 5 Ports HUB

(4)   Printer

    (a)   2 sets of Dot-matrix Printer

    (b)   1 set of Laser Printer

The software specification is as follows:

(1)   Operating System: Microsoft Windows 95

(2)   Web Browser: Microsoft Internet Explorer 5.0

(3)   Application Software: Microsoft Office 97 Professional Edition

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3.4 Security and Controls

The security of this system starts at the launching of the system through login process. The user needs to put his/her username and password to have the authorized access to the system. Each user has different authorization access levels, which has been assigned by the system admin, in advance.

The authorization access level is divided into group (group of users) as shown in Table 3.1 Group of Users.

Table 3.1. Group of Users.

Group Name	Group Number
Admin	10
Manager	20
Staff	30

3.5 Cost/benefit Analysis

(1) Costs of Manual System

Table 3.2. Manual Cost Analysis, Baht.

Cost Items		Years				
		1	2	3	4	5
Office Equipment Cost:						
Facsimile	2 @ 10.000	20.000	-	-	-	-
Type writer	4 @ 5.000	20.000	-	-	-	-
Calculator	5 @ 2.000	10.000	-	-	-	-
Total Cost of Investment		50.000	-	-	-	-
Operating Cost:						
Sales & Marketing Manager	1 @ 25.000	300.000	360.000	432.000	518.400	622.080
Sales Supervisor	2 @ 18.000	360.000	432.000	518.400	622.080	746.496
Marketing Staff	2 @ 15.000	300.000	360.000	432.000	518.400	622.080
Office Supplies:						
Stationery	Per Annual	21.000	25.200	30.240	36.288	43.546
Paper	Per Annual	20.000	24.000	28.800	34.560	41.472
Utility	Per Annual	18.000	21.600	25.920	31.104	37.325
Miscellaneous	Per Annual	20.000	24.000	28.800	34.560	41.472
Total Operating Cost		1.039.000	1.246.800	1.496.160	1.795.392	2.154.470
Total Manual Cost		1.089.000	1.246.800	1.496.160	1.795.392	2.154.470

Table 3.3. Five Years Accumulated Manual System Cost.

Year	Total Manual Cost (Baht)	Accumulated Cost (Baht)
1	1,089.000.00	1,089.000.00
2	1,246.800.00	2,335.800.00
3	1,496.160.00	3,831.960.00
4	1,795.392.00	5,627.352.00
5	2,154.470.40	7,781.822.40
Total	7,781.822.40	

(2) Costs of Computerized System

Table 3.4. Computerized System Cost Analysis. Baht.

Cost Items		Years				
		1	2	3	4	5
Investment in Infrastructure :						
Hardware Cost:						
Computer Server		18.000	18.000	18.000	18.000	18.000
Web Server		18.000	18.000	18.000	18.000	18.000
Workstation		30.000	30.000	30.000	30.000	30.000
Leased-line		20.000	20.000	20.000	20.000	20.000
Maintenance Cost:						
Maintenance Fee		-	-	-	14.000	16.000
Software Cost:						
Computer Server Operating System		10.000	10.000	10.000	10.000	10.000
Application program		6.000	6.000	6.000	6.000	6.000
Database Management System		7.000	7.000	7.000	7.000	7.000
Implementation Cost:						
Language training		20.000	-	-	-	-
Basic training		25.000	-	-	-	-
Advance training		20.000	-	-	-	-
Installation		13.000	-	-	-	-
Office Equipment Cost:						
Facsimile Machine	2 @ 10.000	20.000	-	-	-	-
Calculator	5 @ 2.000	10.000	-	-	-	-
Total Cost of Investment		217.000	109.000	109.000	123.000	125.000
Operating Cost:						
Sales & Marketing Manager	1 @ 30.000	360.000	432.000	518.400	622.080	746.496
Sales Supervisor	1 @ 20.000	300.000	360.000	432.000	518.400	622.080
Marketing Staff	1 @ 15.000	150.000	180.000	216.000	259.200	311.040
Office Supplies:						
Stationery	Per Annual	38.000	45.600	54.720	65.664	78.797
Paper	Per Annual	28.000	33.600	40.320	48.384	58.061
Utility	Per Annual	25.000	30.000	36.000	43.200	51.840
Miscellaneous	Per Annual	35.000	42.000	50.400	60.480	72.576
Total Operating Cost		936.000	1.123.200	1.347.840	1.617.408	1.940.890
Total Computerized System Cost		1.153.000	1.232.200	1.456.840	1.740.408	2.065.890

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Table 3.5.   Five Years Accumulated Computerized Cost.

Year	Total Computerized Cost (Baht)	Accumulated Cost (Baht)
1	1,153,000.00	1,153,000.00
2	1,232,200.00	2,385,200.00
3	1,456,840.00	3,842,040.00
4	1,740,408.00	5,582,448.00
5	2,065,889.60	7,648,337.60
Total	7,648,337.60	

(3)   The Comparison of the System Costs between Computerized System and

Manual System

Table 3.6.   The Comparison of the System Costs.

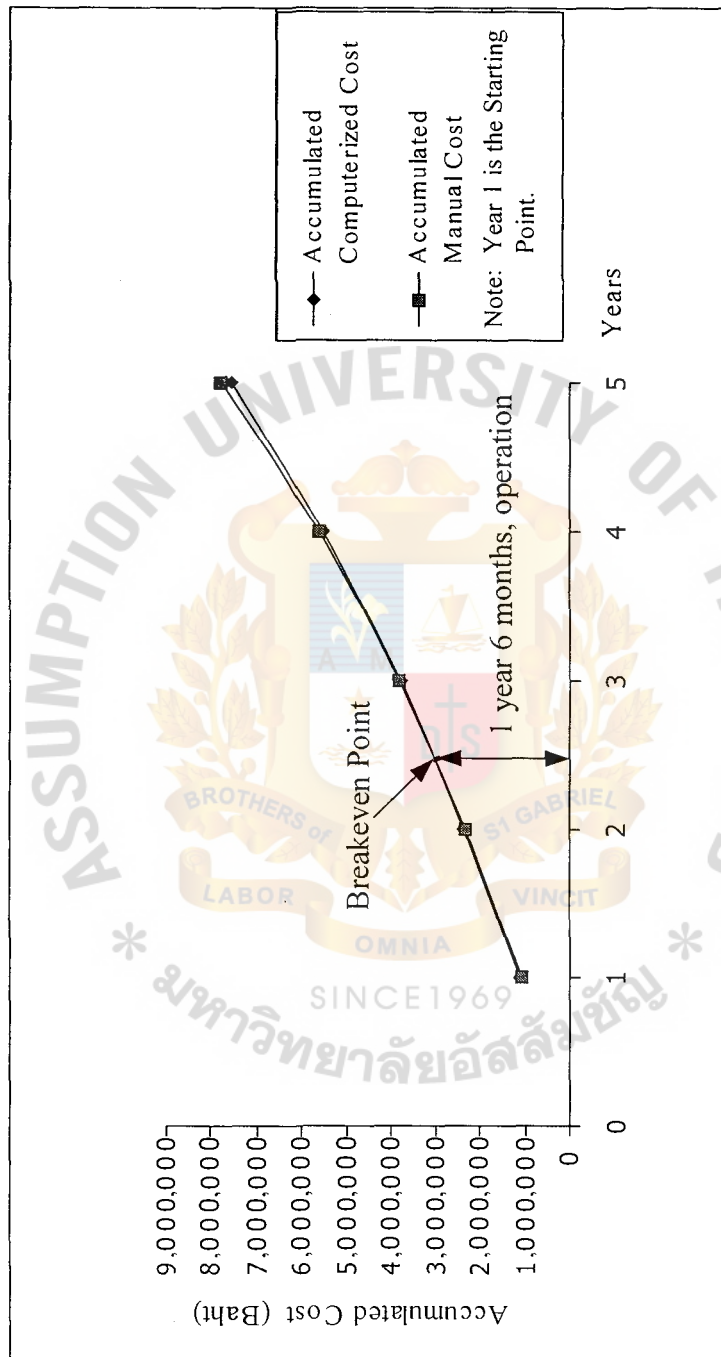| Year	Accumulated Computerized Cost (Baht)	Accumulated Manual Cost (Baht)
1	1,153,000.00	1,089,000.00
2	2,385,200.00	2,335,800.00
3	3,842,040.00	3,831,960.00
4	5,582,448.00	5,627,352.00
5	7,648,337.60	7,781,822.40

Figure 3.2. Cost Comparison between Manual and Proposed System.

IV. PROJECT IMPLEMENTATION

4.1 Coding

The proposed system composed of many sections for example menu, windows, error message, popup windows and report. All sections in this project are coded by using Microsoft Visual Interdev 6.0 Enterprise Edition and Microsoft Visual Basic 6.0 Enterprise Edition. The software is the front-end software used to create interface to communicate with database server via ODBC and web server. The advantage of using this software is as follows:

(1)   The program fully supports the OOP programming technique.

(2)   The software is used to create the interface for communicating with database server via native connection and ODBC. That means this software can communicate with any kind of database server.

(3)   The code is compiled to machine language level which gives better performance.

(4)   The program code used in this program can be shared between modules, shorter code is written.

4.2 Test Plan and Results

Program testing is very important to assure quality of software, any error occurs must be found and corrected during program testing. To test this program, white box and black box technique is applied. Test cases are set to test all possible sets of input and output. Since this program is composed of many modules, each module is tested and all modules are tested as the interchange of data between modules to assure the correctness of the software. Output is also tested and each report is printed out to make

sure that the desired outcome is created without any error. If the error is found, it will be immediately corrected and tested again until the desired outcome is received.

Since the current system is not computerized, the implementation of the new system as computerized based system must be done in parallel to ensure that if the error is found during the operation, the old system is still working simultaneously and no mistake occurs.

Finally, the whole system has to be tested again by the set of testing data for a period of time as the final verification. Then the verified system will be sent to the user to test again with the real data. The state can be set usually into state as the alpha testing of the application and before the complete version is released, the number of beta test can be released. The unpleasant test result requires the system modification and the software installation can be started simultaneously.

4.3 Training

Although this system is not the huge system but when the conversion is from manual system to computerized, training is required. The training will start from installing Windows NT, the user who works as the system administrator must know the structure of the file in Server. The system administrator needs to know some basic commands such as how to create new user, delete user from the server and given the right to the user in access to the network.

For the normal user, they need to know how to use their program and how to solve the basic problem in using program.

The system administrators need to learn more on the system maintenance, user management, database handling, system backup, system documents, and so. In this training, the simulation of problem and situation is generated to show the solution to solve the problem.

4.4 Post Implementation and Evaluation

The evaluation period is set to every 2 months after the system fully functioned. The evaluation results must be collected to ensure that:

(1) The system goal and objective have been achieved.

(2) Reduce paper work in office.

(3) Time used in searching particular piece of product is reduced.

(4) All users' requirements are fulfilled.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

As technology grows continuously, the computer systems play the important roles in the overall business activities including manufacturing, sales and marketing, accounting, purchasing, warehouse as well as in the online business.

Although the online business has high potential customers, the technology in Thailand to support this online business is not fully equipped at the moment. We expect that this online technology will be ready by the next few years and that there will probably be a huge volume of demands in this business. Moreover, the staffs are also important, the company has to support their skills and learning of the new technology in order to ease the new operation systems.

The company needs to take this improvement into immediate action as we learnt that after the installation of the new system, the company would get the higher sales revenue and volume. The company has higher benefit and worth investing compared with the cost of this new computerized system project. The higher returns on this investment can greatly support the company and at the same time the company will have the better operating system in Sales and Marketing Department. The new computerized system really boosts the sales volume.

The new computerized system also reduces the time in each process as shown in Table 5.1 The Degree of Achievement of the Proposed System shows the time performance on each process of the proposed system compared with the existing system. Each process is described as follow:

(1) Accept Customer Order Process: For manual operation, the staff has to issue the Proforma Invoice with the letter stated the confirmation of the

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customers' order which takes much time. In contrast, the computerized system takes less time only 10 minutes, the customers can receive our order confirmation.

(2) Issue Production Order Process: After receiving the customer orders and checking with the Inventory Records, the staff can summarize the outstanding balance whether he has to issue the Production Order to the Production Department.

(3) Deliver the Products Process: After the products are ready for delivering, the staff has to collect the records from Warehouse and Sales Department to the Accounting Department for issuing the invoice to the customer.

(4) Prepare the Reports Process: Management Executives can retrieve the information at any time so the staff has to collect the information of all departments and make the reports which takes much time in doing this. The computerized system will automatically summarize and produce the reports immediately upon requests.

Table 5.1. The Degree of Achievement of the Proposed System.

Process	Existing System	Proposed System
Accept Customer Order Process	1 hr.	10 mins.
Issue Production Order Process	1 hr.	15 mins.
Deliver the Products Process	45 mins.	10 mins.
Prepare the Reports Process	2 hrs.	30 mins.
Total	4 hrs. 45 mins.	1 hr. 5 mins.

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5.2 Recommendations

Since this project is completely changed to the computerized system, the users need authentic training to be able to work with this system. General knowledge about using computer is also required to protect the computer operating system from being damaged.

To make sure that this system will work as expected and will not produce any undesirable outcome, the parallel use of this system and the current manual system may still be required until the proposed system is fully functional and does not produce any undesirable outcome or any mistake is removed, then the current system can be terminated and only the computerized system is running.

By introducing the E-commerce, the company will be non-store-based (no inventory). The company needs not to handle too much inventory. Besides the Internet users around the world can access to the company's online ordering system (globalization access). The company will gain price competitive (less mark-up), however the company may face some difficulties in dealing with the distributors in term of price. Therefore, the company may give some discounts or extend the credit term to the distributors to solve this conflict.

In the future, the company should install the Barcode System in order to improve the Inventory control for Warehouse. This barcode system will facilitate the faster speed of work and the good inventory management system to the company.

We also recommend the company to continue implementing the applications to support the whole organization's system. This will affect in the cost reduction of the company operation and it will, in return, yield higher performance.

APPENDIX A

WEB INTERFACE DESIGN

Figure A.1.   Main Menu.

Figure A.2.   Product Menu.

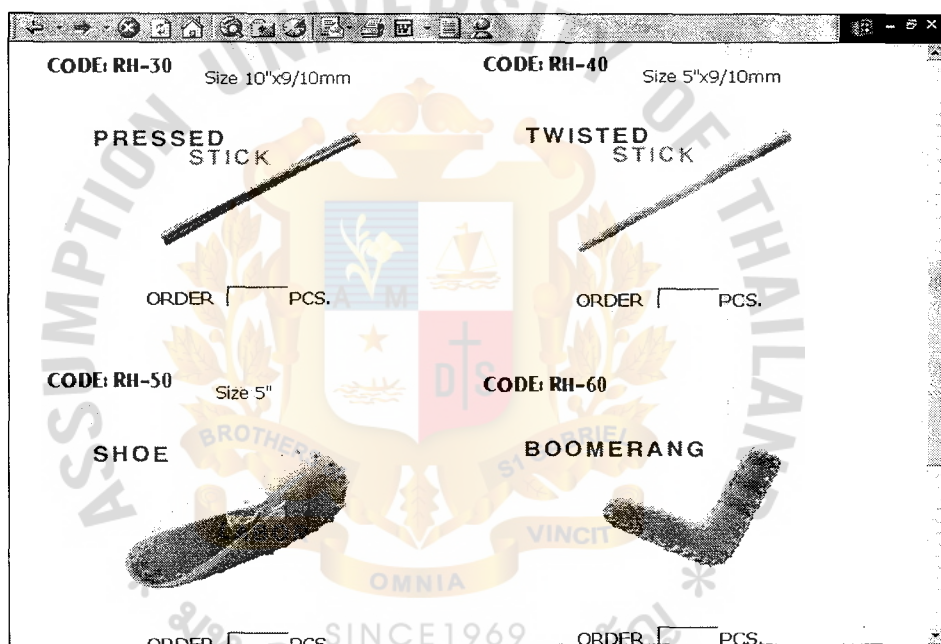Figure A.3.   Rawhide Product Menu (1).

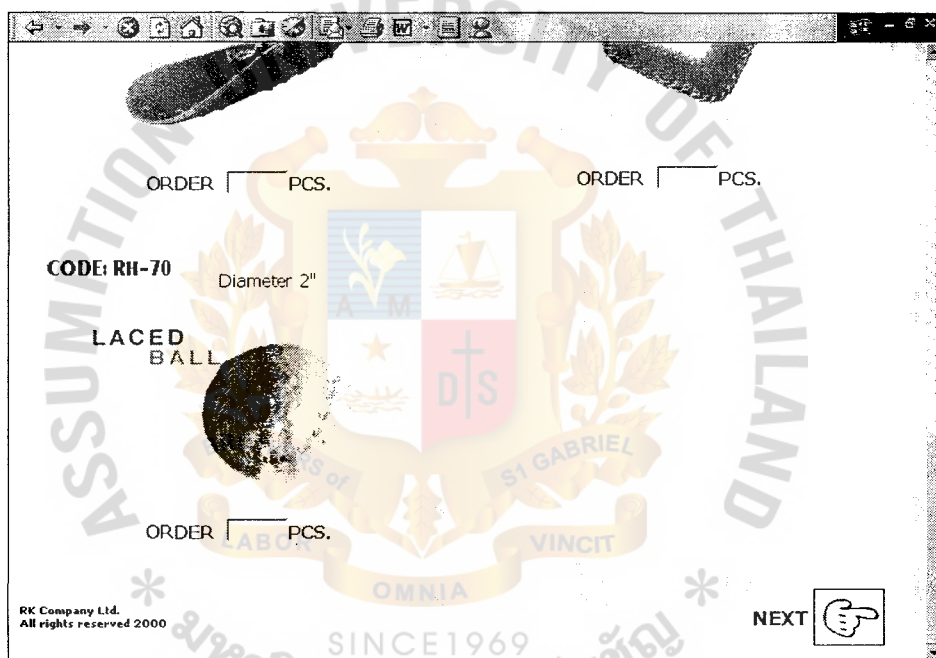Figure A.4.   Rawhide Product Menu (2).

Figure A.5.   Rawhide Product Menu (3).
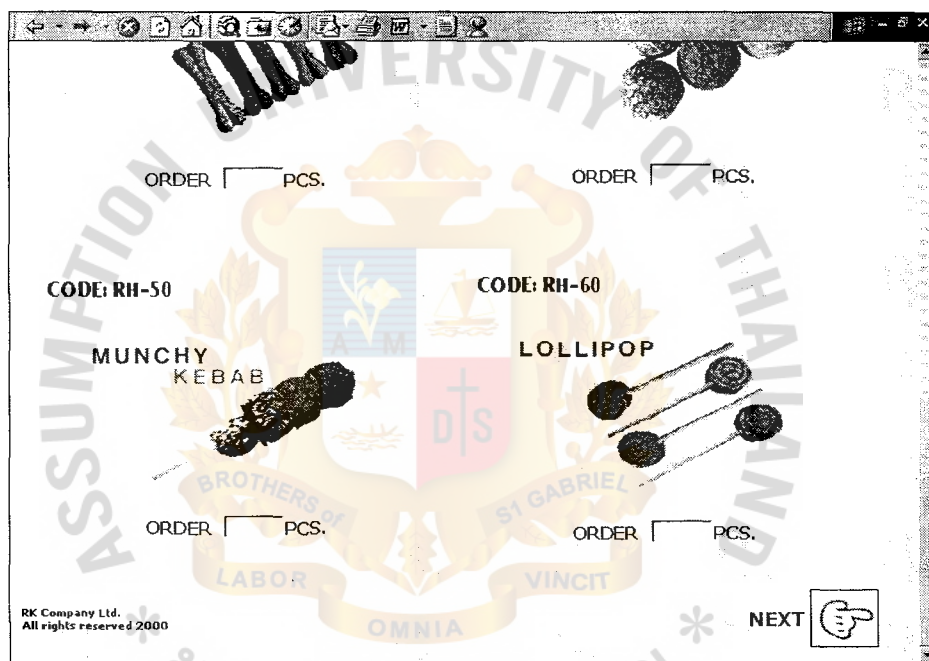
Figure A.6. Munchy Product Menu (1).

Figure A.7.   Munchy Product Menu (2).

Figure A.8.   Customer Order Menu.

Figure A.9.   Customer Record Menu.

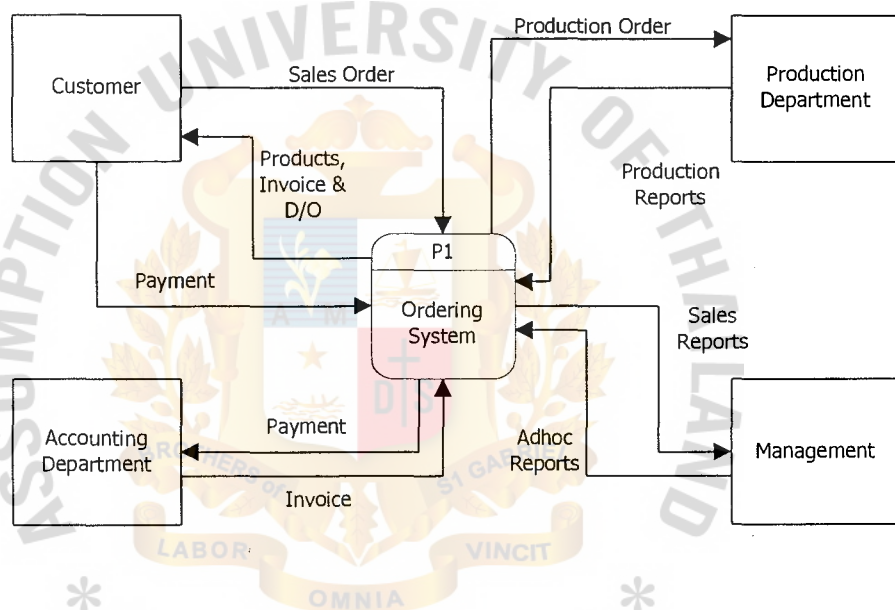**APPENDIX   B**

PROPOSED SYSTEM DATA FLOW DIAGRAM
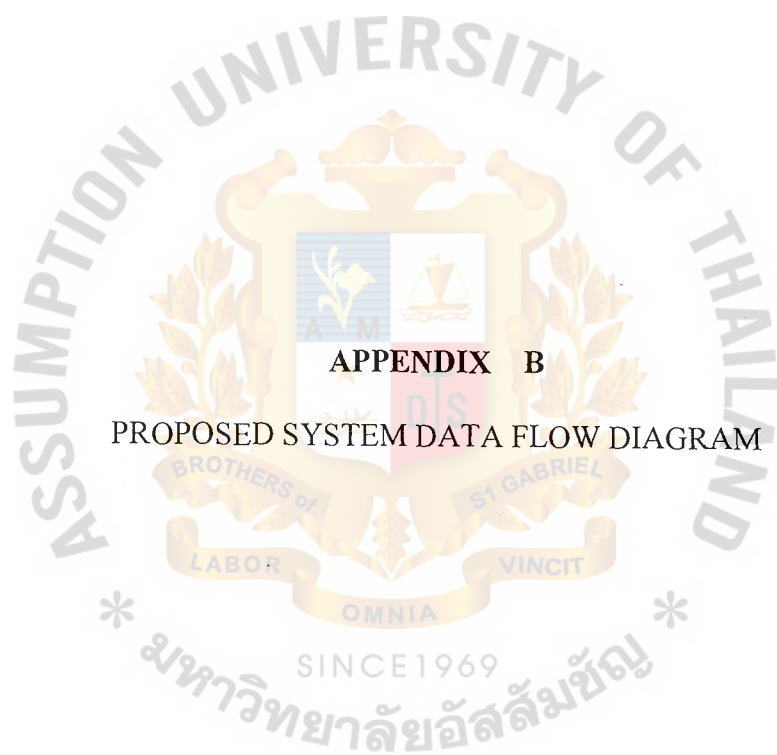
Figure B.1. Proposed System Context Diagram.
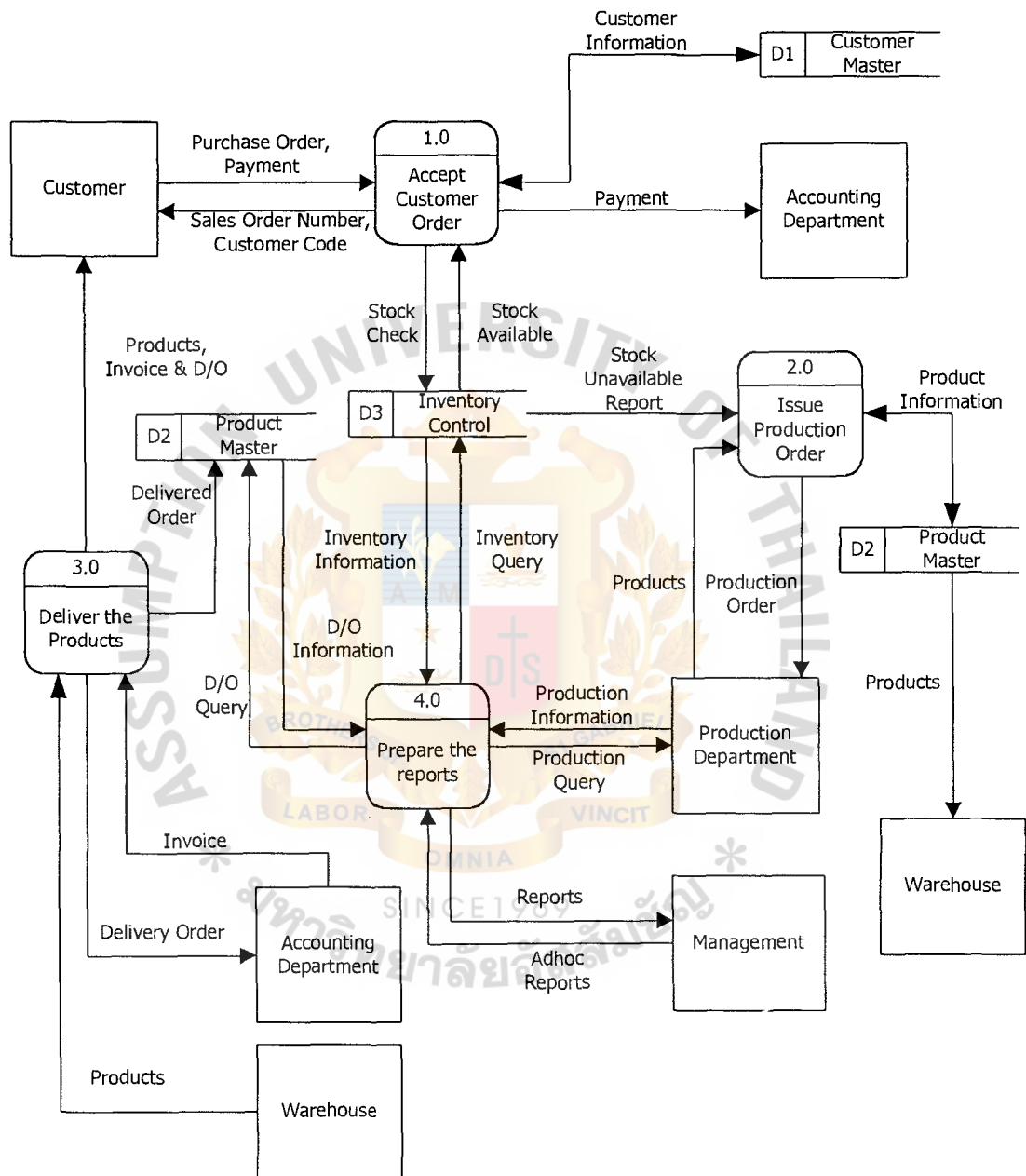
Figure B.2.   Proposed System Level 0 Diagram.
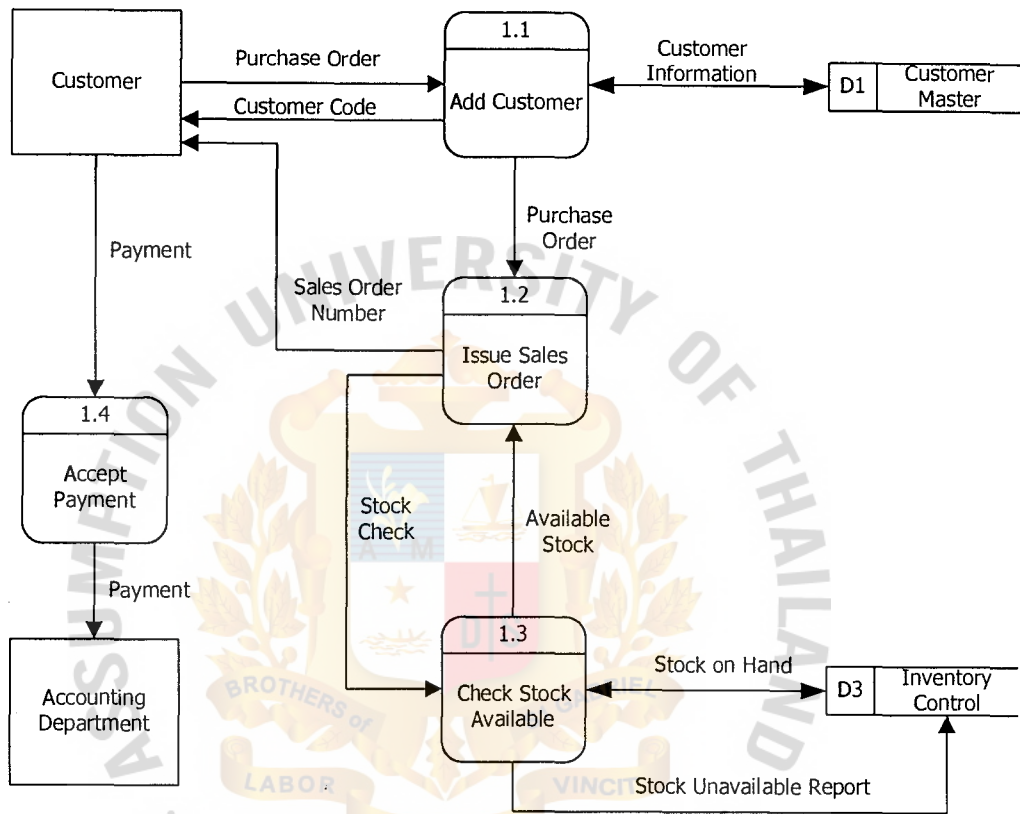
Figure B.3. Accept Customer Order Process.
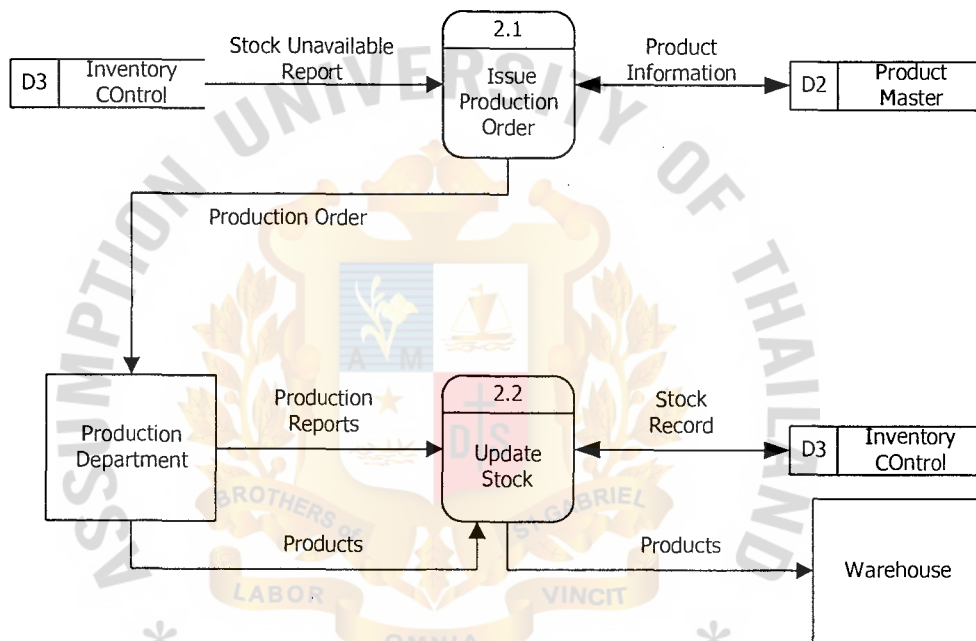
Figure B.4. Issue Production Order Process.
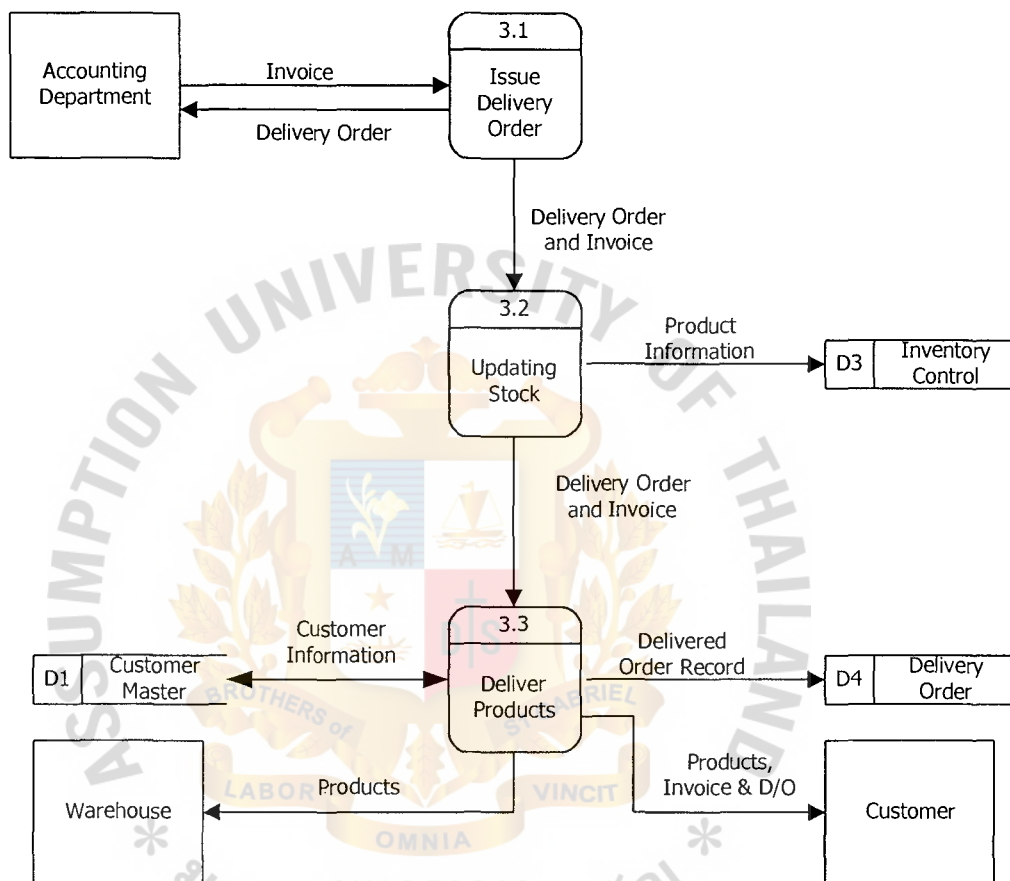
Figure B.5. Deliver the Products Process.

APPENDIX   C

DATABASE TABLE

Table C.1.   Customer Table.

Field Name	Field Type	Width	Decimal
cust_code	Char	5	
cust_fname	Char	35	
cust_lname	Char	40	
company	Char	50	
addr1	Char	50	
addr2	Char	50	
addr3	Char	50	
city	Char	45	
zip	Char	5	
tel	Char	10	
email	Char	50	

Table C.2.   Product Table.

Field Name	Field Type	Width	Decimal
pcode	Char	5	
pname	Char	35	
pdesc	Char	40	
price	Number	9	2
pnote	Memo	50	

Table C.3.   Customer Order Table.

Field Name	Field Type	Width	Decimal
cust_code	Char	5	
pcode	Char	5	
pname	Char	35	
qnty	Number	9	
price	Number	9	2
amount	Number	9	2
tamount	Number	12	2

Table C.4.   Sales Table.

Field Name	Field Type	Width	Decimal
cust_code	Char	5	
cust_fname	Char	35	
cust_lname	Char	40	
pcode	Char	5	
pname	Char	35	
qnty	Number	9	
price	Number	9	
amount	Number	9	

Table C.5.   User Table.

Field Name	Field Type	Width	Decimal
username	Char	20	
password	Char	20	
group	Char	2	

APPENDIX   D

INPUT DESIGN
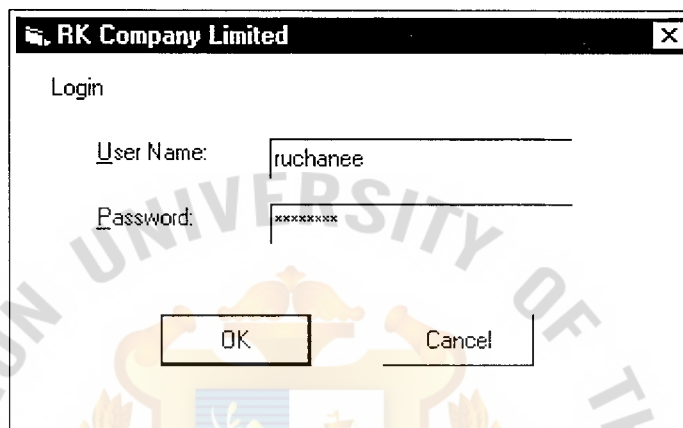
Figure D.1.   System Login Menu.
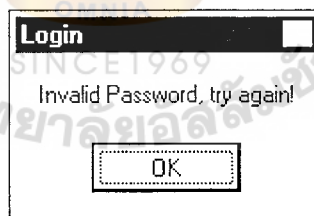
Figure D.2.   Error Login Message.

Figure D.3.   Customer Menu.

Figure D.4.   Customer Find Menu.

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Figure D.5.   Product Menu.

Figure D.6.   Product Find Menu.

APPENDIX   E

OUTPUT DESIGN

RK COMPANY LIMITED
CUSTOMER LIST
As at Month Date, Year

Customer Code	Customer Name	Address	City	Country	Zip	Telelphone	E-mail

Figure E.1. Customer List Report.

RK COMPANY LIMITED

SALES ORDER

Customer code		Sales Order Number		
Customer Name		Date		
Address				
City				
Country	Zip	Credit Term		
Product Code	Product Name	Quantity	Price	Amount
			Total Amount	

Expected Delivery Date :
Payment by : ☐ Cash   ☐ Cheque
Remark:

Figure E.2.   Sales Order Report.

RK COMPANY LIMITED

SALES REPORT BY CUSTOMER

From _____ To _____

Customer code	Customer Name			
Product Code	Product Name	Quantity	Price	Amount
			Total Amount	

Figure E.3. Sales Report by Customer.

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RK COMPANY LIMITED

SALES REPORT BY DATE

From _____ To _____

Date	Customer Code	Customer Name	Sales Ref.	Amount
				Total

Figure E.4.   Sales Report by Date.
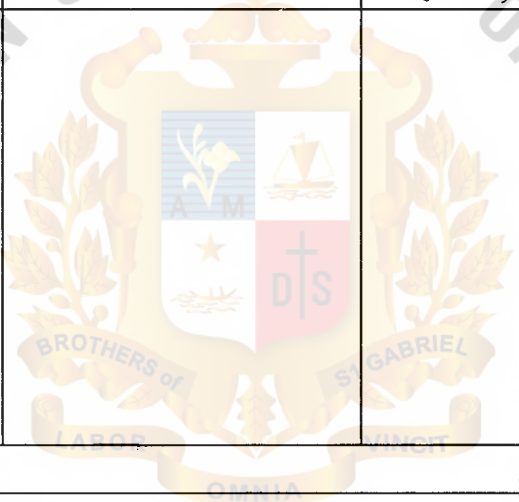
RK COMPANY LIMITED

PRODUCTION ORDER

ATTENTION :   NO.

                                              DATE :

Product Cod	Product Name	Quantity	Expected Date

Remarks:

                                              _____

                                              AUTHORIZED BY

Figure E.5.   Production Order.

RK COMPANY LIMITED

DELIVERY ORDER

Customer code		D.O. Number	
Customer Name		Date	
Address		Sales Order No.	
City			
Country	Zip	Credit Term	
Product Code	Product Name	Quantity	Remarks

Delivery on:

_____   _____
RECIPIENT'S SIGNATURE   AUTHORIZED SIGNATURE

Figure E.6.   Delivery Order.

RK COMPANY LIMITED

INVOICE

Customer code		Invoice Number	
Customer Name		Date	
Address		Sales Order No.	
City			
Country	Zip	Credit Term	

Product Code	Product Name	Quantity	Price	Amount
			Total Amount	

Delivery on:

Payment by : ☐ Cash   ☐ Cheque No. _____ Date_____

AUTHORIZED SIGNATURE

Figure E.7.   Invoice.

RK COMPANY LIMITED
RECEIVING REPORT

PRINT DATE: DD/MM/YY

FROM _____ TO _____

CUSTOMER CODE	CUSTOMER NAME	INVOICE NO.	SALES ORDER NO.	AMOUNT	PAYMENT

TOTAL

Figure E.8.   Receiving Report.

RK COMPANY LIMITED

INVENTORY REPORT

As at Month Date, Year

Product Code	Product Name	QUANTITY		
		IN	OUT	BALANCE

Figure E.9. Inventory Report.

Customer Code	Customer Name	Country	Product Code	Product Name	Total Quantity	Total Amount	Remarks

RK COMPANY LIMITED

CUSTOMER STATUS REPORT

As at Month Date, Year

Figure E.10. Customer Status Report.
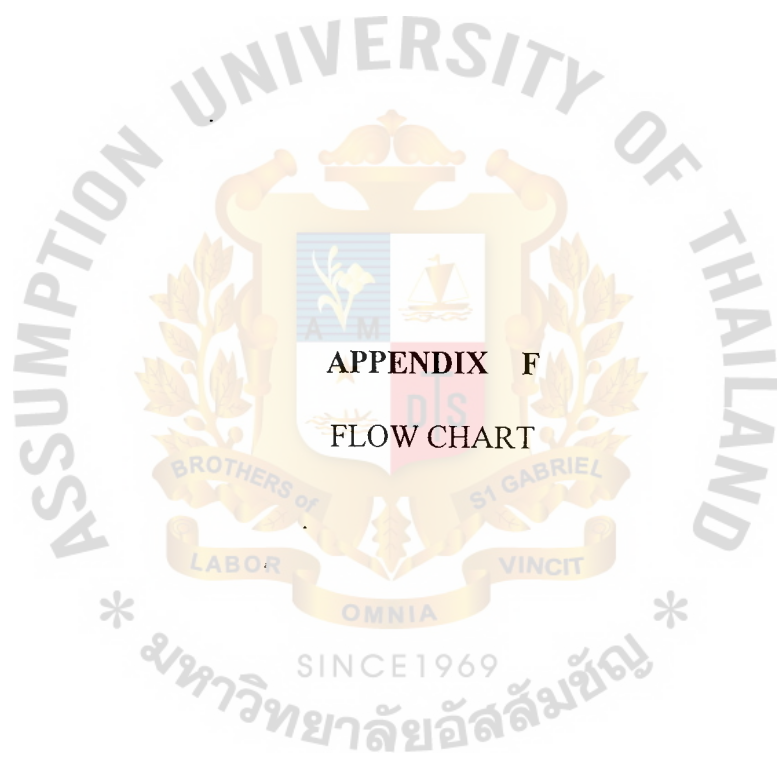
APPENDIX   F

FLOW CHART

Figure F.1. System Login Process.

Figure F.2.   Add New User.

Figure F.3.   Sell Order Process.

Figure F.4.   Check Minimum Stock.

APPENDIX   G

DATA DICTIONARY

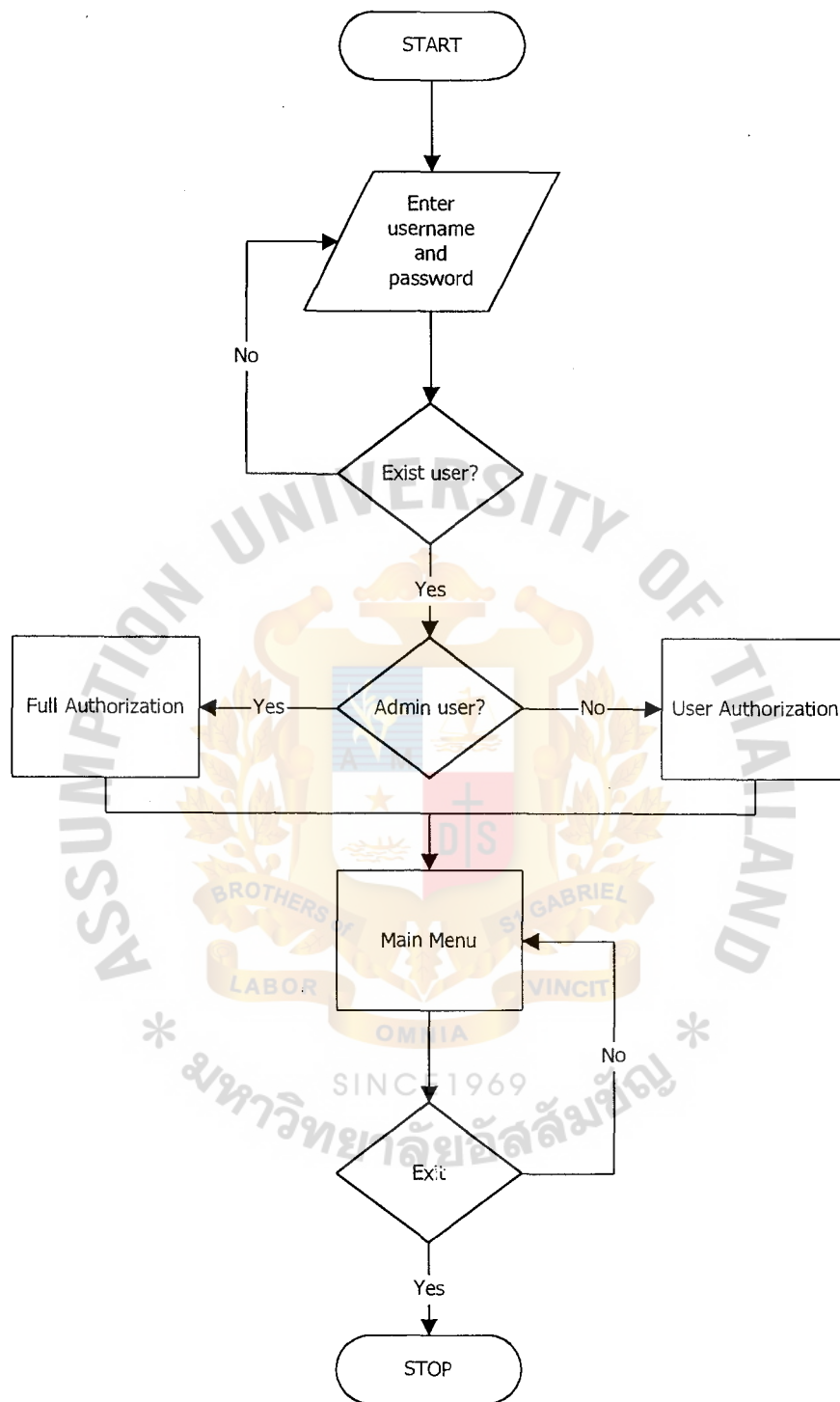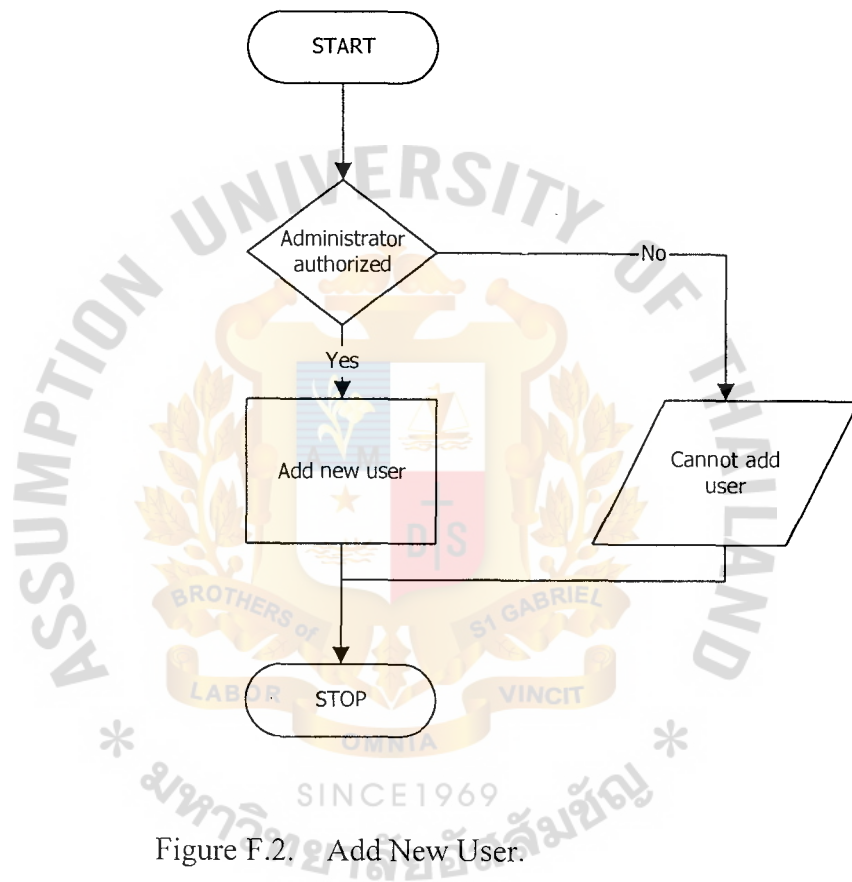Addr1   *Address of the customer*
                         {Character}
                         Character length: 50
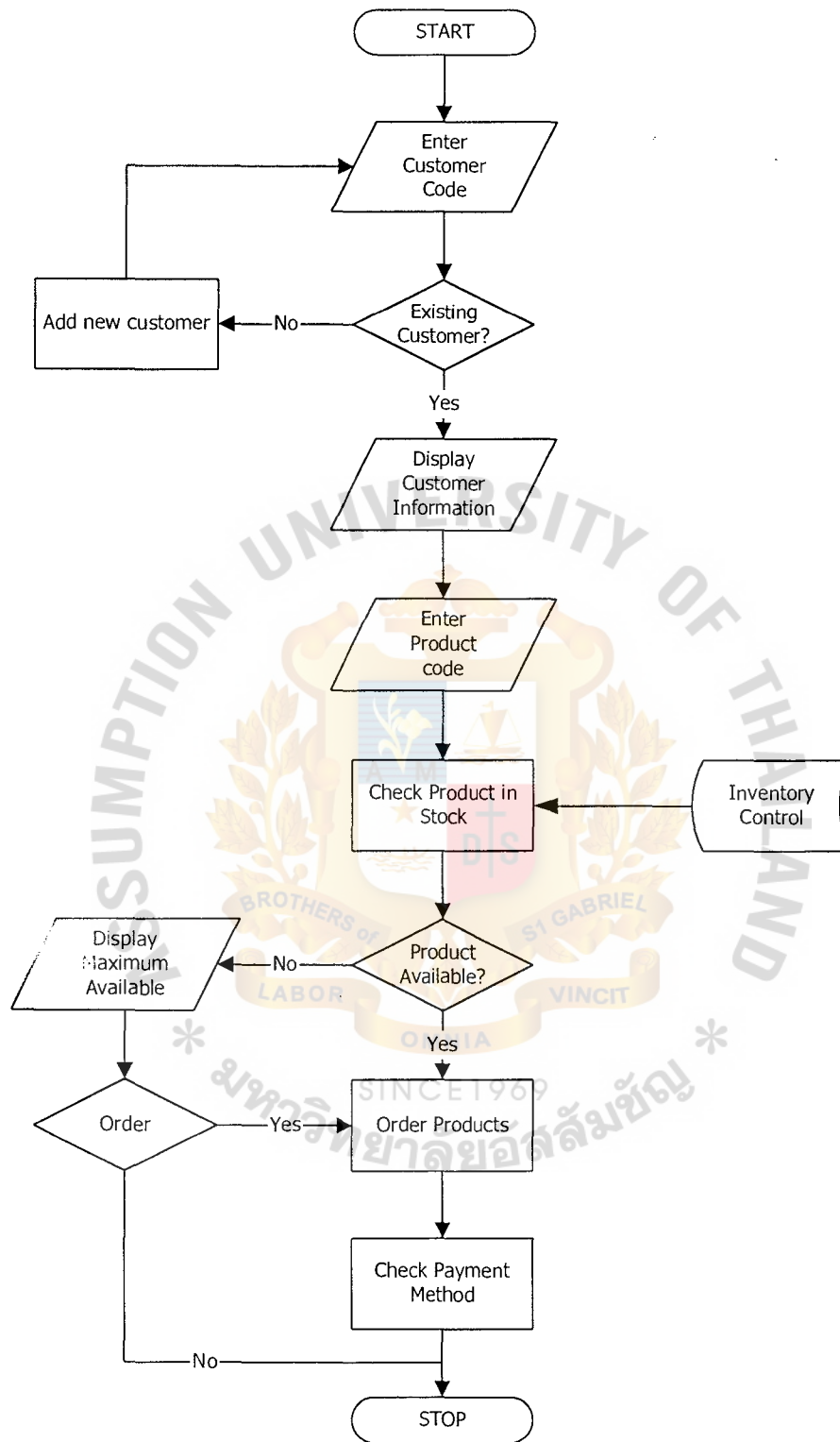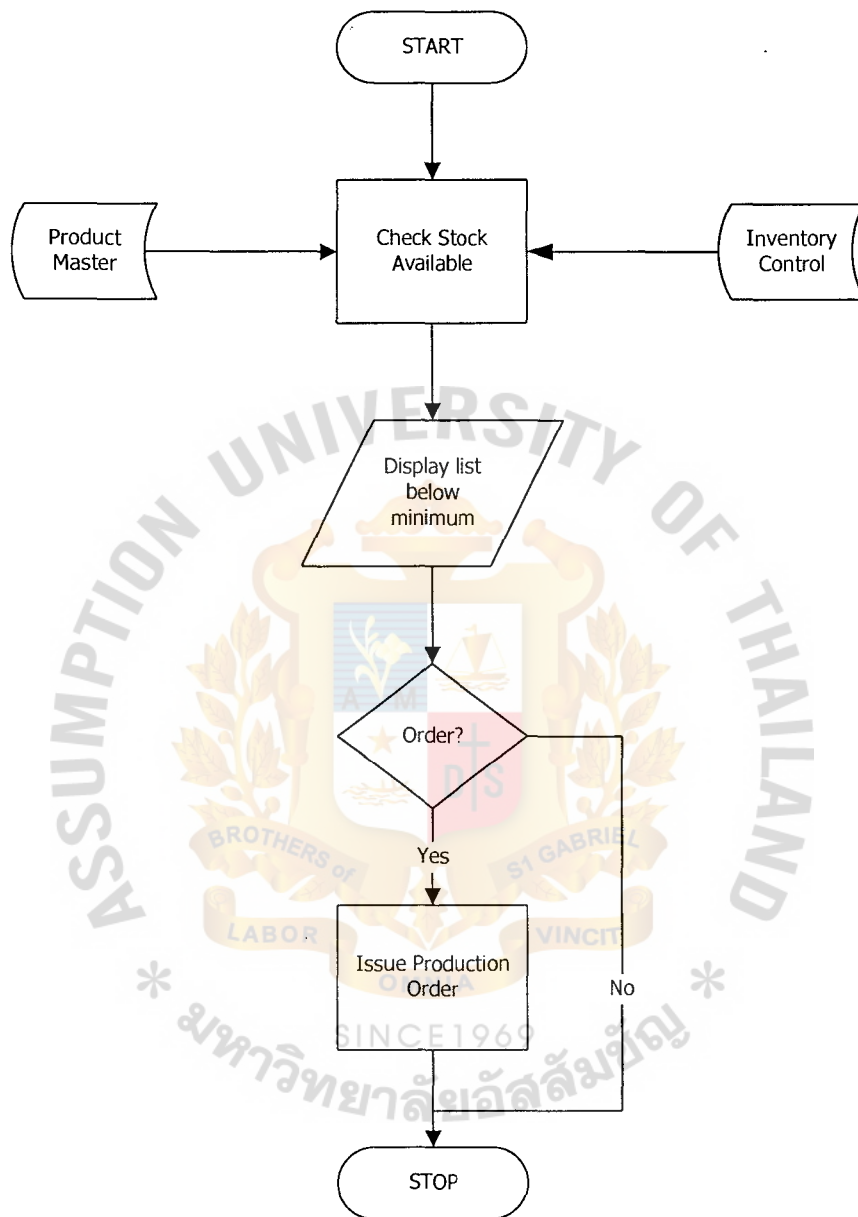
Addr2   *Address of the customer*
                         {Character}
                         Character length: 50

Addr3   *Address of the customer*
                         {Character}
                         Character length: 50

Amount   *Amount of each product*
                         {Numeric}
                         Numeric length: 9
                         Decimal: 2
                         Format: 999,999,999.99

City   *City*
                         {Character}
                         Character length: 45

Company   *Company name*
                         {Character}
                         Character length: 50

Cou   *Country*
                         {Character}
                         Character length: 30

Cust_code   *Customer code*
                         {Character}
                         Character length: 5
                         Format: XX-XXXX

Cust_fname   *Customer first name*
                         {Character}
                         Character length: 35

Cust_lname   *Customer last name*
                         {Character}
                         Character length: 40

D_date   *Delivery date*
                         {Date}
D_qnty   *Quantity delivered for each product*
                         {Character}
                         Character length: 30

Do_no   *Delivery order number*
                         {Character}
                         Character length: 5

Email   *Email address*
                         {Character}
                         Character length: 50

Password   *Password of the user to login the system*
                         {Character}
                         Character length: 20

Pcode   *Product code*
                         {Character}
                         Character length: 5
                         Format: XX-XXX

Pdesc   *Product description*
                         {Character}
                         Character length: 40

Pname   *Product name*
                         {Character}
                         Character length: 35

Pnote   *Memo*
                         {Character}
                         Character length: 50

Price   *Selling price*
                         {Numeric}
                         Numeric length: 9
                         Decimal: 2
                         Format: 999,999,999.99

Qnty   *Quantity customer ordered*
                         {Numeric}
                         Numeric length: 9
                         Format: 999,999,999

So_no   *Sales order number*
                         {Character}
                         Character length: 5

Tamount   total amount of each order
                         {Numeric}
                         Numeric length: 12
                         Decimal: 2
                         Format: 999,999,999,999.99

Tel   *Telephone number*
                    {Character}
                    Character length: 10

User_name   *User name to login to system*
                    {Character}
                    Character length: 20

Zip   *zipcode*
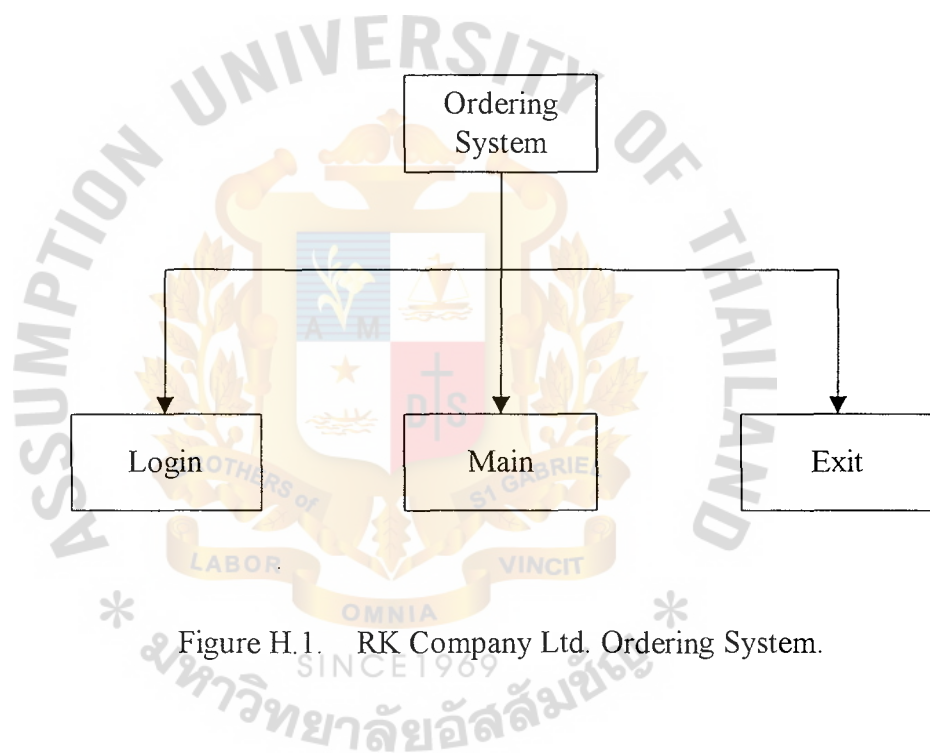   {Numeric}
                    Numeric length: 5

APPENDIX   H

FUNCTIONAL DESCRIPTION
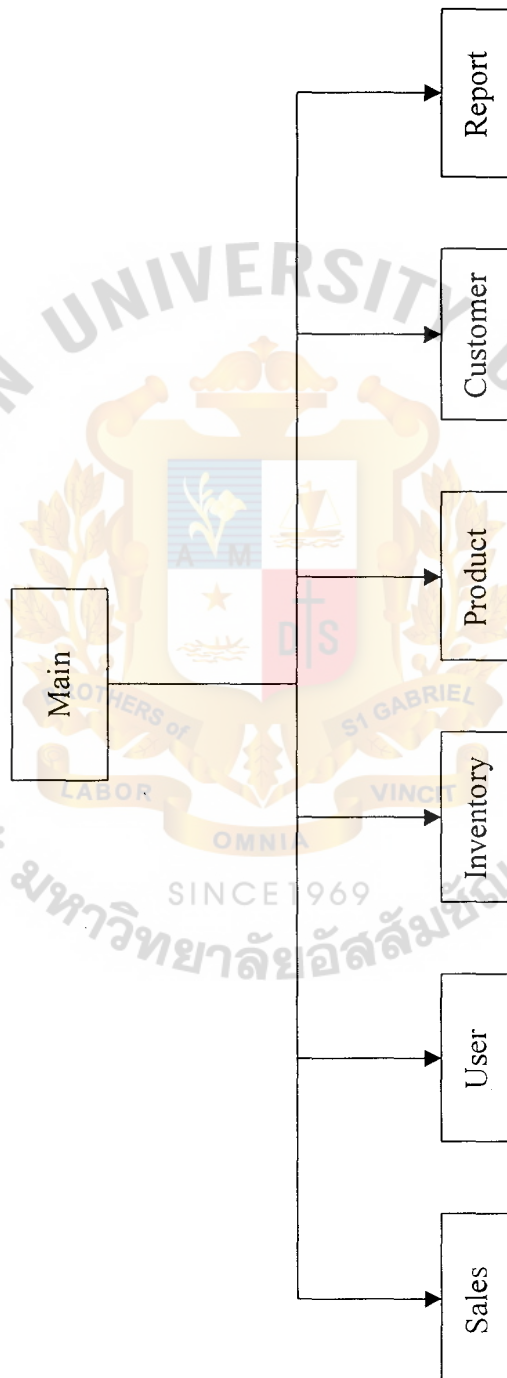
Figure H.1.   RK Company Ltd. Ordering System.
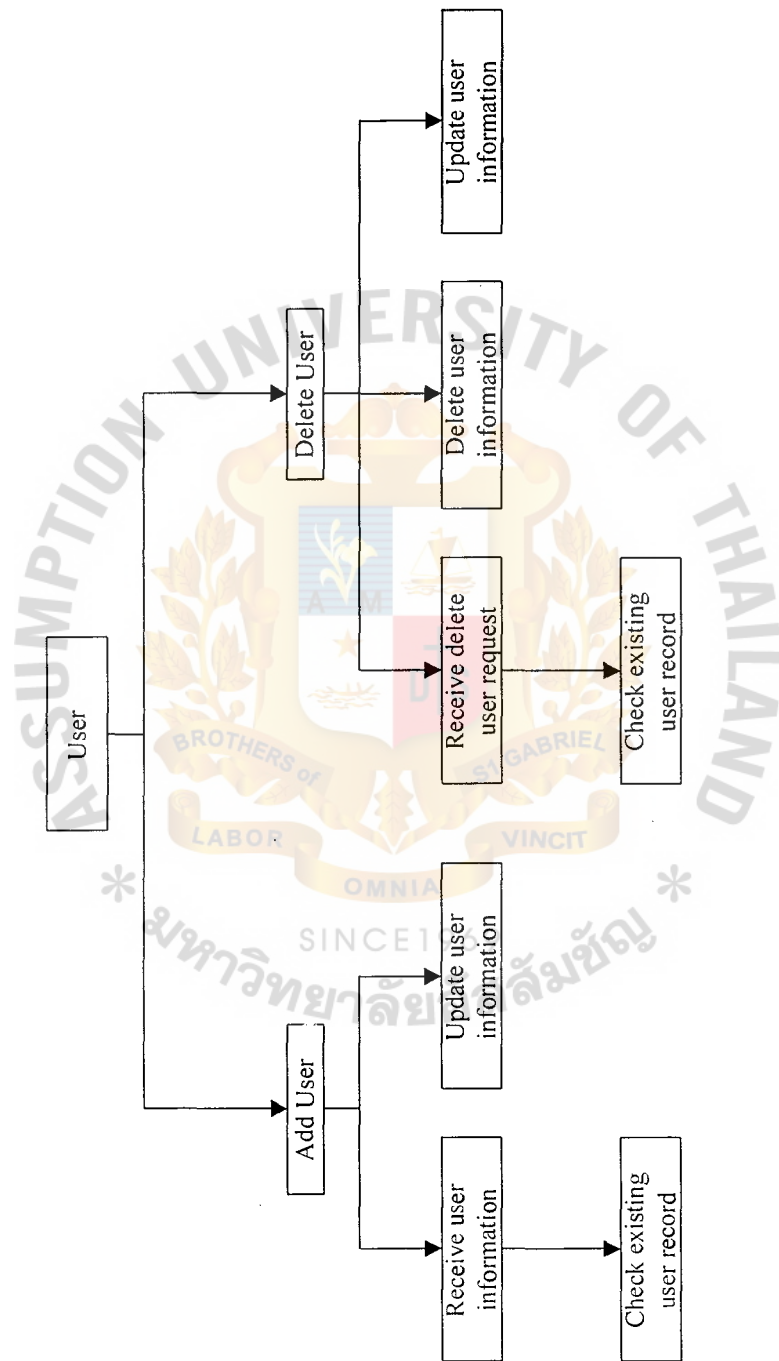
Figure H.2. Detail Structure Chart of Main System.

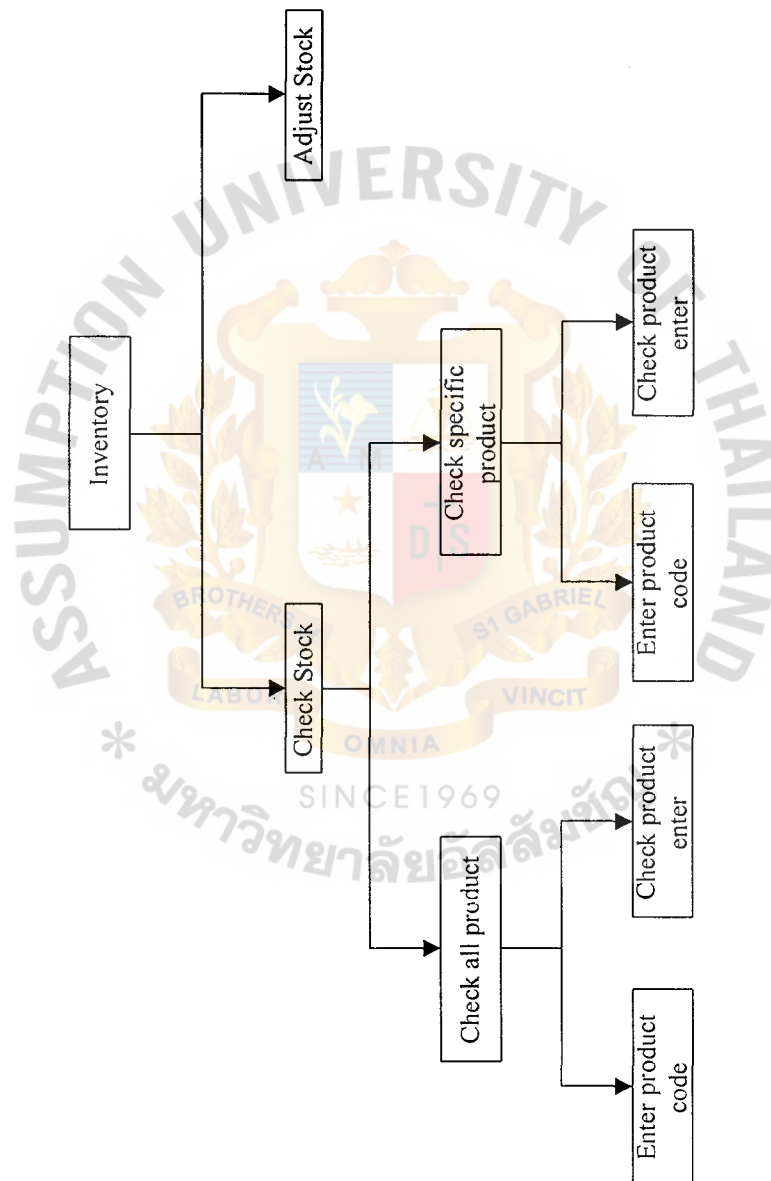Figure H.3. Detail Structure Chart of User System.

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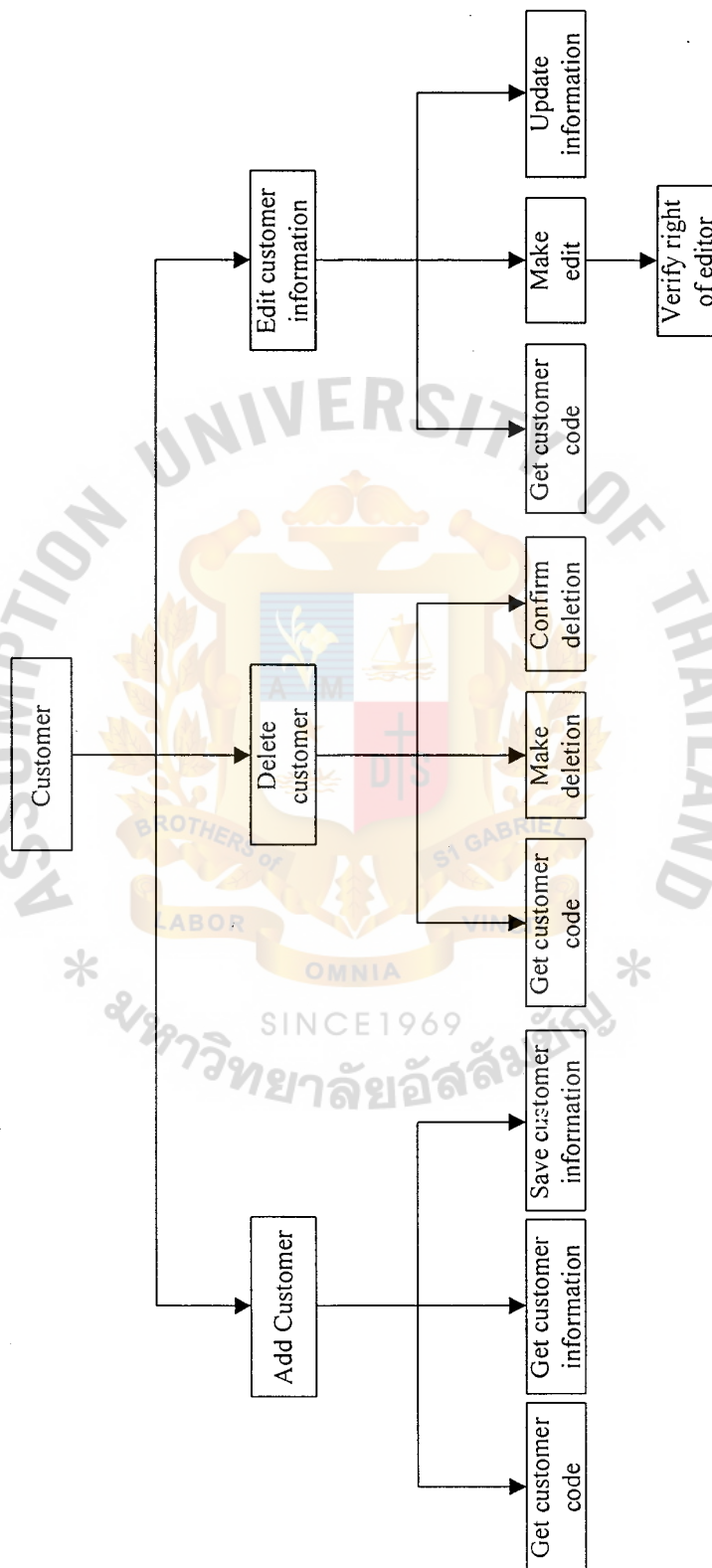Figure H.4.   Detail Structure Chart of Inventory System.

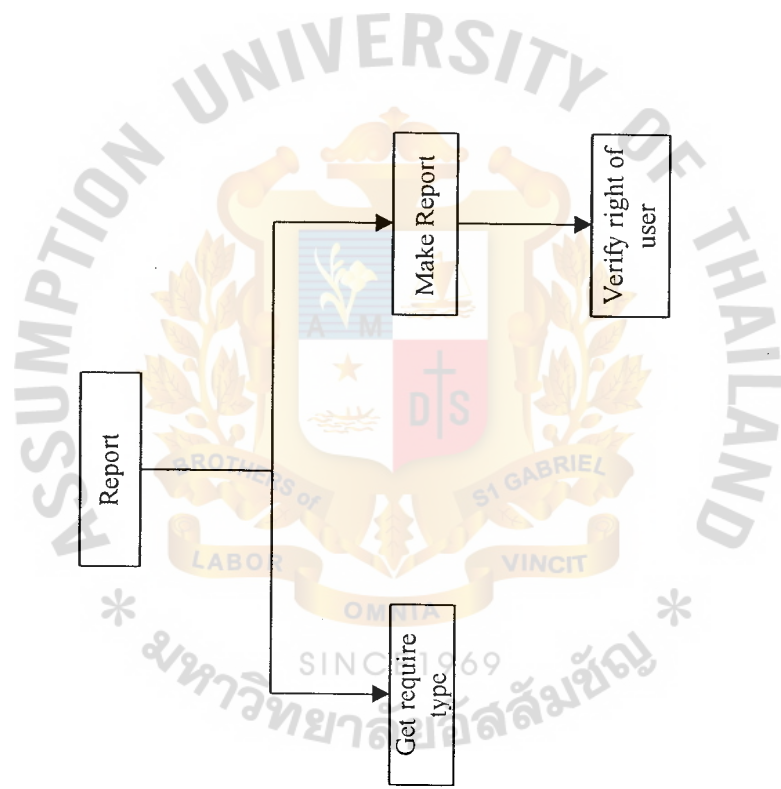Figure H.5. Detail Structure Chart of Customer System.

Figure H.6.   Detail Structure Chart of Printing Report System.

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