SALES INFORMATION SYSTEM

by

MS. NEERANUT SANGPOO

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	: Sales Information System
Name	: Ms. Neeranut Sangpoo
Project Advisor	: Prof. Dr. Srisakdi Charmonman
Academic Year	: 1996

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

Approval Committee

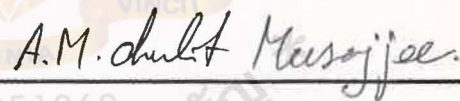(Prof. Dr. Srisakdi Charmonman)
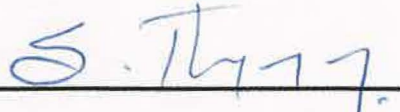Advisor

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(Assoc. Prof. Somchai Tayarnyong)
Member

November 1996

ABSTRACT

Nowadays the computer has been widely used in every field of the jobs. And it can help the people to increase the efficiency and effectiveness. It can process the job in the shorter time with more accurate. Therefor the computerized system to increase the competitive advantages against their rivals.

IRA Company face many problem in the sales management such as, delays in meeting customer orders, an abundance of paperwork, some inconsistent or repetitions, difficulties in querying existing data, and lack of controlling in inventory.

The project can developed to improve existing system operation at Sale Department and Accounting Department. The emphasis is on computerization as to provide the right information at the right time. Several reports can also be generated as output of integrated data for planner and management to use as tool in planning, forecasting and decision making.

ACKNOWLEDGEMENTS

This project can be finished with the assitance from many people. The author would like to express his deep gratitude to his advisor, Professor Dr.Srisakdi Charmonman for his help and sharing his valuable time in advising the author on this project.

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Finally, the author would like to pass his sincerely thanks to other people who involved but not proviously mentioned.
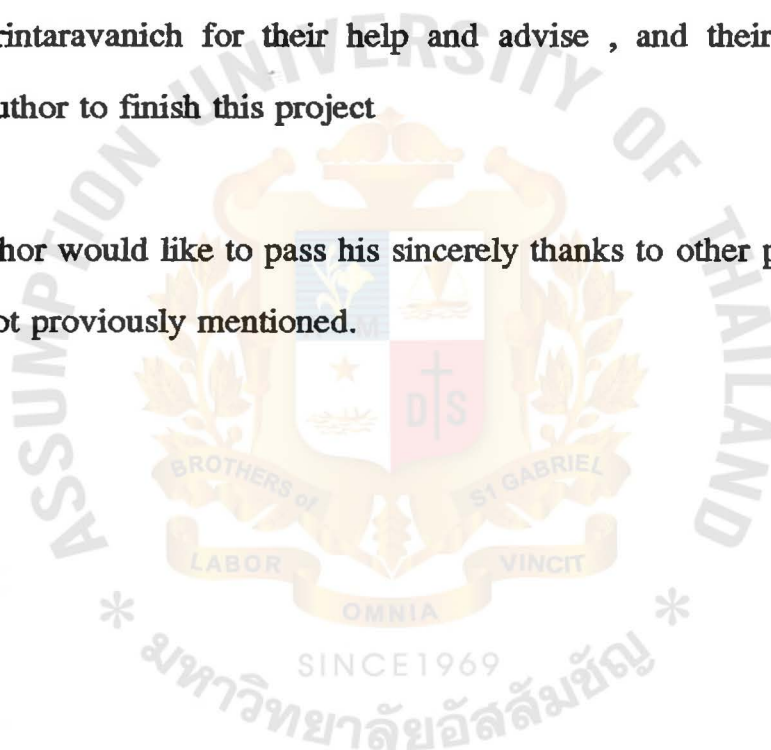
TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 BACKGROUND

The system developed provides management with an effective and efficient means of monitoring (can controlling) the sales activities in a typical high technology project oriented sales environment.

By and large, this market is very competitive, and often the users are looking for a solution to a problem, not just another piece of hardware, at a less expensive price. Accordingly, any sale plan is to consider the existing configuration, system software in use and nature of the problem.

This system has high speed to read or write file without helping of the speed of the hardware and this system can record database at minimum redundancy and integrity by using normalization. The structure of file and media that use to record data will be modify to the high record information structure.

The connection between the function will be work very efficiency without the routine job of enter the data again and again. About the security of system, I use password system to control. It can help the system to determine the priority of each user and it can protect the system from the user who want to damage, modify or copy my system.

About the security of hardware, the author use UPS to stabilize the power supply so the output will be correct and will be not lost when the power supply is load. The other thing that use to secure for the database the author will currently backup database on the tape backup. So the author can recovery the old database very easy.

Sales information system is the system that give many advantages to use in sale activity and management. My system involves account receivable, account payable and inventory. These 3 parts will be link together and the data will be record only once time and it will be link to all parts of the system.

About the tools, the author use Microsoft Foxpro for windows the application will be use friendly, easy to use and use mouse to pointing device. This database management system is the relational database.

With a change in emphasis and general growth and competitiveness, a much more sophisticated system is required. so the author think, this system can help the user to fight with all of the changes in the marketing very efficiency. The system provides management and indeed the entire sales organization with the following functionality via an interactive terminal.

    1. Access to full customer configuration details.

    2. Access to details of each customer call by sales person.

    3. Access to forecast from the time of initial forecast to becoming and order.

    4. Access to check stock.

    5. Access to collect payment for accounting department.

From the above, and in conjunction with the product information the following information may be deduced

    1. Achievement by sales person against target.

    2. Achievement of company against target by product group.

    3. Exception reporting an non standard price sales.

    4. Sales forecast.

    5. Revenue forecast.

1.2 OBJECTIVES OF THE PROJECT

The objectives of the project on the sales information system are as follow:

1. Study existing system of sales information system.

2. Identify problem and user requirement.

3. Design the new system

4. Implement the new system

5. Eliminate the weaknesses and lack of compliance controls in the manual system.

6. To utilize the use of artificial intelligence techniques to strengthen the marketing compettitive edges while costs are strictly controlled.
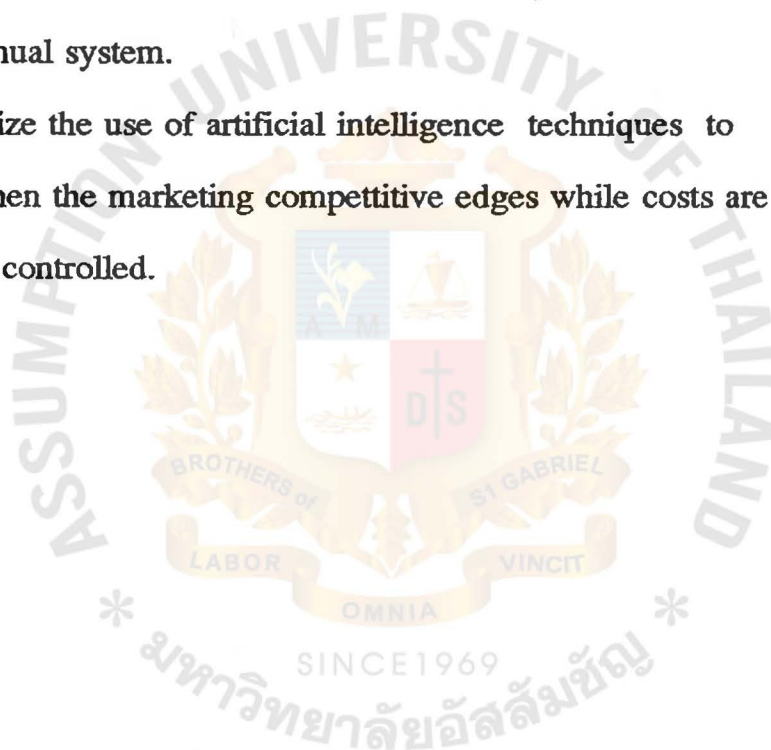
1.3 SCOPE OF THE PROJECT

1. Give many information of sale , marketing management and the sales team by providing :

   - Provide configuration assistance , vendors and pricing for the range of products and services being offerd.

   - Prepare information for marketing plan.

   - Prepare sales forecast.

   - Have a lot of requiring document in sales system.

   - Control the time consuming.

   - Can control the inventory efficiently.

2. Maintain customers information.

   - Last date of the activity.

   - Credit limit.

   - Total credit sales.

3. Maintain vendors information.

   - The update price.

   - Last price for each product.

4. Update inventory.

5. Create purchase order.

6. Create invoice.

7. Issue customer order.

8. Maintain account payable.

9. Maintain account receivable.

10. Issue report for management.

1.4 DELIVERABLES

The deliverables for the project on sales information system are as follow:

1. A software package written in Microsoft FoxPro. Developed on PC platform and User Manual for operate the system.

2. Screen Layout for User Interface.

3. Various Hard Copy Layout containing:

    3.1. Invoices.

    3.2. Purchase Orders

    3.3. Customer,Vendors and Products Details.

    3.4. Prices List.

    3.5. Status of Products.

    3.6. Credit Sale.

    3.7. Inventory Report.

    3.8. Aging of Account Receivable.

    3.9. Aging of Account Payable.

    3.10. Return Product Slip.

2. EXISTING SYSTEM

2.1 BACKGROUND OF ORGANIZATION

This company produced about computer and stationary. The system has it origin in IRA Co.; LTD (Japan) company some six year ago. A manual system was implemented with the local sale force and the two distributors namely JPP and BPP Singapore being coaxed to follow the same "Sales Reporting Procedure". Since that time the two (2) above mentioned distributors have become fully owned subsidiaries along with subsidiaries in Hong Kong and Taiwan. The "Sales Reporting Procedures" of six year ago were implemented in each of the above subsidiaries and distributors. The "Sales Reporting Procedures" never really changes. The only computerization has been use Lotus 123 for data manipulation, database management and reporting.

Over the year IRA has undergone many changes as indeed has the market place in which it operates. IRA merged with Standby Co.; ltd. which is a strong competitor. Thus IRA Standby Co.; LTD is now a much larger company with revenues well over three billion dollars US. with the change in emphasis and general growth and competitiveness, a much more sophisticated system is required one which will not only fit the in house need, but also the need of distributors network.

ORGA.CH3
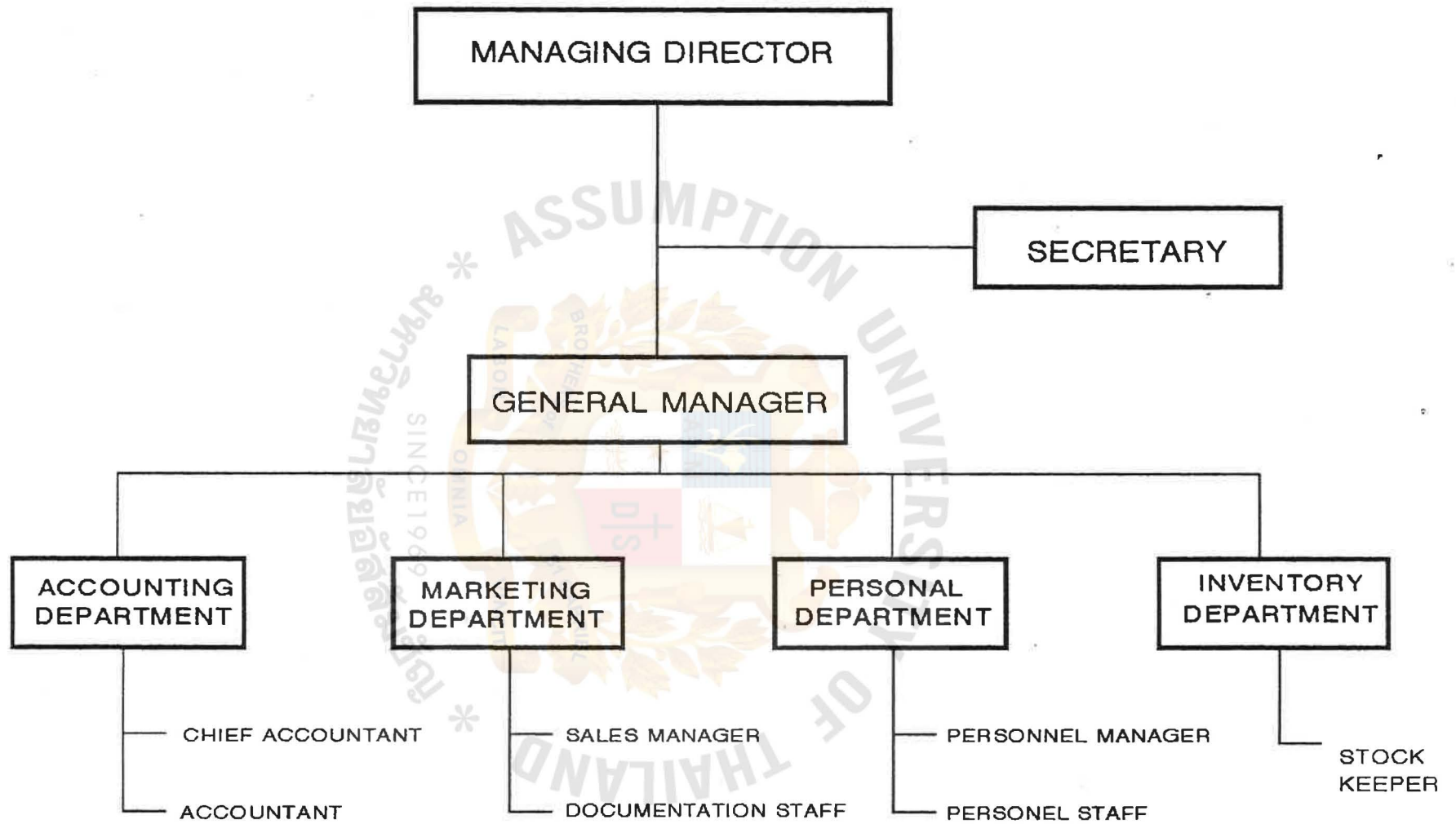
Figure 1 : Organization Chart

```
                          ┌─────────────────────────┐
                          │    MANAGING DIRECTOR     │
                          └─────────────────────────┘
                                      │
                                      │              ┌──────────────┐
                                      ├──────────────│  SECRETARY   │
                                      │              └──────────────┘
                                      │
                          ┌─────────────────────────┐
                          │     GENERAL MANAGER      │
                          └─────────────────────────┘
                                      │
     ┌────────────────┬───────────────┴───────────────┬────────────────────┐
┌──────────────┐ ┌──────────────┐            ┌──────────────┐      ┌──────────────┐
│  ACCOUNTING  │ │  MARKETING   │            │   PERSONAL   │      │  INVENTORY   │
│  DEPARTMENT  │ │  DEPARTMENT  │            │  DEPARTMENT  │      │  DEPARTMENT  │
└──────────────┘ └──────────────┘            └──────────────┘      └──────────────┘
     │                │                             │                    │
     ├─ CHIEF ACCOUNTANT   ├─ SALES MANAGER         ├─ PERSONNEL MANAGER   └─ STOCK
     │                     │                        │                        KEEPER
     └─ ACCOUNTANT         └─ DOCUMENTATION STAFF    └─ PERSONEL STAFF
```

2.2 GENERAL INFORMATION ON AREA UNDER STUDY

INPUT , PROCESS , OUTPUT

2.2.1 Input of the existing system

Since the existing system activities are managed manually, the inputs, therefore, consist of raw data, paperwork, filing forms. These inputs can be classified by each source entity and are listed below:

- Customer information

- Month-to-date of selling

- Year-to-date of selling

- Delivery order number

- Selling statistic

- Return of damaged goods

- Payment overdue

- Account balance

2.2.2 Process of the existing system

The process of the existing starts when the customer send in their orders to the company by telephone , mail , or fax and will finish when the customers has paid for the products. The following steps are provided to describe the procedure
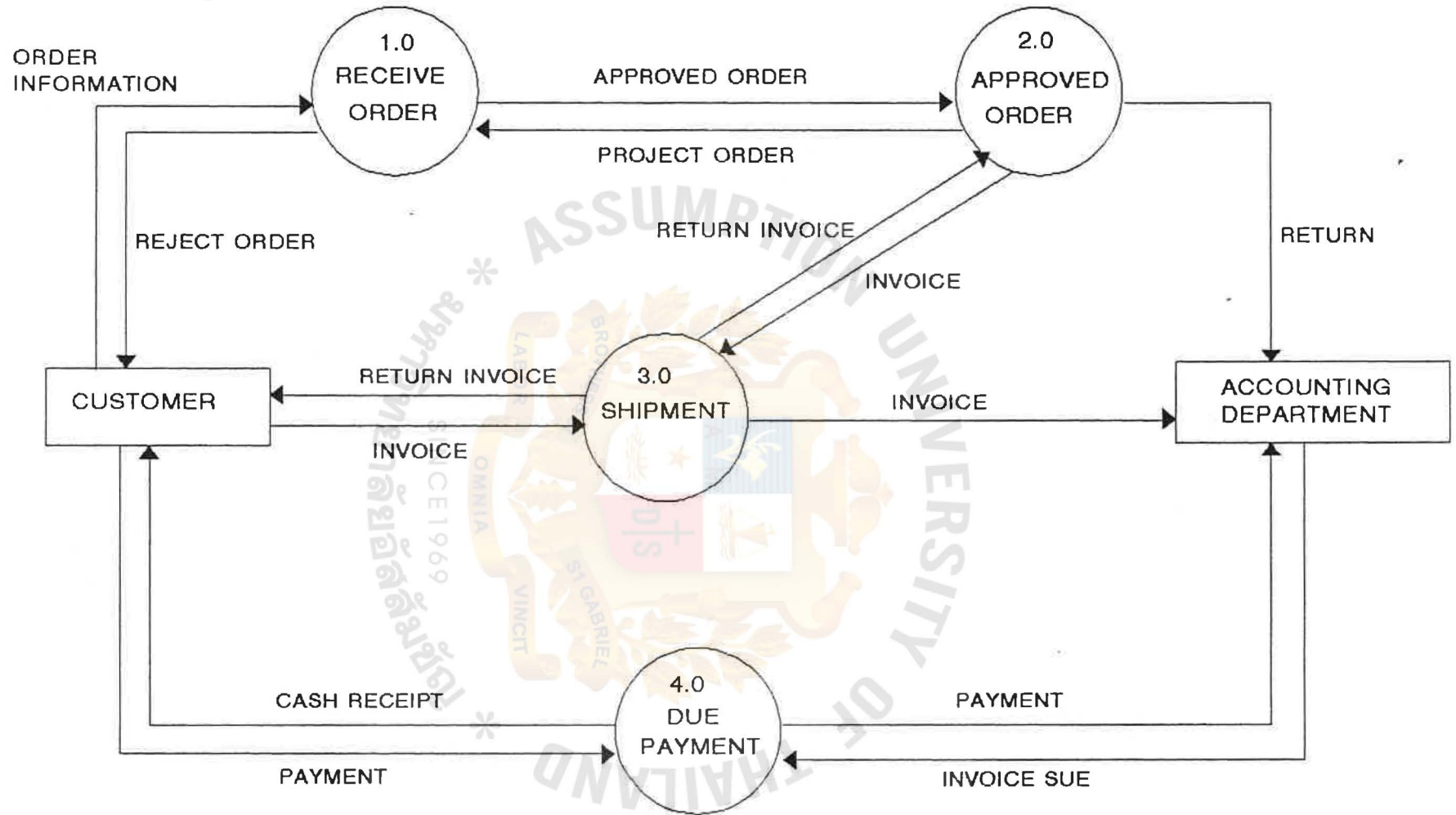
Figure 2 : Level 0 Dataflow Diagram (Existing System)

- 9 -

PROCESS 1   : RECEIVE AN ORDER

    step 1   : check customer requirement

                and condition on purchase

                order

    step 2   : check unit price

    step 3   : check credit limit

    step 4   : submit to supervisor

PROCESS 2   : APPROVE AN ORDER

    step 5   : approve an order

    step 6   : submit to stock-keeper

PROCESS 3   : SHIPMENT

    step 7   : confirm order and stock

                issued

    step 8   : ship to customer

    step 9   : submit the document to

                account department

PROCESS 4   : DUE PAYMENT

    step 10   : delivery order number for

                customer payment

DATA DICTIONARY OF EXISTING SYSTEM

1301 C.3

APPROVED ORDER	=	* the order that have improved *
CASH RECEIPT	=	* slip sent to customer after he paid the payment in cash *
INVOICE	=	invoice no + invoice date + customer no + customer name + customer address + product + product name + order quantity + unit price + amount + due date+delivery date + VAT + grand total
INVOICE DUE	=	* invoice that have due date *
ORDER INFORMATION	=	order no + order date + customer no + customer name + product no + product name + order quantity + unit price + amount + count + total
PAYMENT	=	* payment from customer *
REJECT ORDER	=	* the order that have invalid detail *
RETURN	=	* return products to vendor *
RETURN INVOICE	=	* document that show detail about return product *

2.3 BENEFIT OF THE EXISTING SYSTEM

- The manual system is easy to handle by the non computer personnel.

- Storage of data is kept by means of filing which can be carried along and can be used with departments.

2.4 WEAKNESS OF THE EXISTING SYSTEM

As mentioned before, IRA has three marketing division produce a lot of business documents which Finance and Accounting division must process each document to produce the Financial Reports, the delay and missing documents caused a lot of problems to both marketing and finance and accounting division to complete the jobs. The current problems of the company are :

The High Workload : The finance and accounting staff have to manage all the documents from the marketing divisions.

Delay : Marketing delays in submitting the documented sometimes the documents are missing, this cause the finance and accounting job to be delayed.

Accuracy of Information : The high workload can cause the

mistakes in both marketing and

finance and accounting division.

Marketing divisions may forgot to

submit the cheque collect from

customers or forgot to submit a copy

of invoice to financestaff, these cause

the wrong figures in several reports.

Time Consumption : Mistakes occurred from both marketing and

finance and accounting division, sometime

take a lot time to   checking out and do

correcting. The finance staff might have to

spend quite long time in collecting the addition

information information or re-check a bulk

of document again and again.

Stock Control   : Mistakes in stock figure also cause a lot of

problems to marketing division such as

the shortage of the items being sold and

the over-stock of the unsold items.

2.5 AREAS OF IMPROVEMENTS

1. Reduce the workload : The unnecessary jobs should be cut off, at least should be simplified. The new system should substitute the staff in doing some jobs.

2. Improve the information accuracy : There should be new method of storing and managing information for more accuracy. The improve system should make sure that the information is always updated and allow the offices to get the information they want.

3. Reduce the time in collecting information : Once the information is guaranteed for accuracy, the officers need not to spend time in double check the information. The information should be centralized to be kept in the same storage easier retrieval.

4. Improve the delayed time : Marketing and Financing and Accounting division must be cooperated more closely together and the new system must have the document tracking capability in case of financing and accounting division can be follow the document produced by marketing division.

2.6 EXISTING COMPUTER SYSTEM

Currently, there is no fully computerized system assisting the marketing and finance and accounting division. The staff use the spreadsheet application on PC to store and produce the official documents.In particular, they use the Lotus 123 or Excel to do this task and then printing out, one copy send to customer or supplier, one copy keep in the department and another copy send to finance and accounting division. Finance and accounting division receives information from marketing and post each concerned document into the G/L system. After every information is posted to G/L system, the reports about financial status such as trial balance, profit and loss, balance sheet, Ledger Card are prepared by hand.
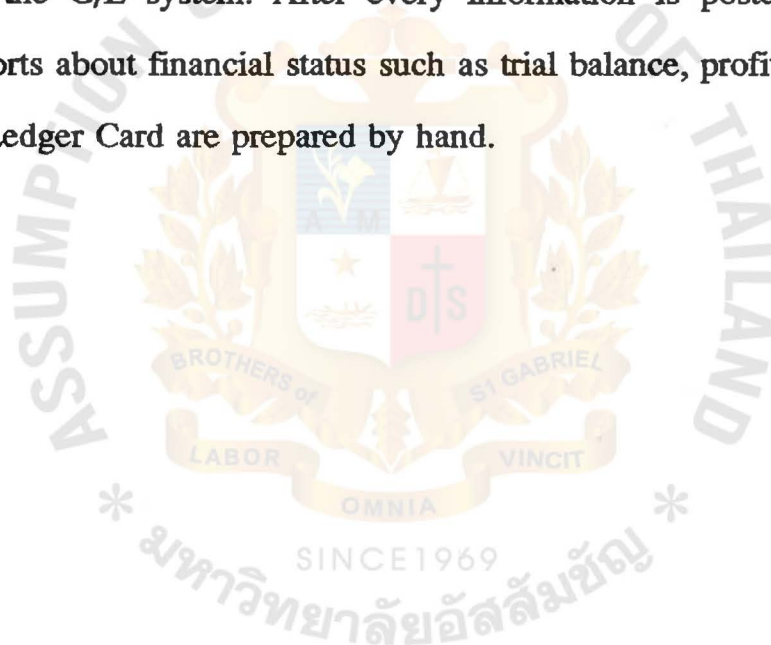
3. PROPOSED SYSTEM

3.1 USER REQUIREMENT

The user requirements are obtained from the users themselves and the existing system evaluation. Actually, the existing system can serve the user requirements to some extent. But users still need further development for more system functions as well as improvement within the existing system operating scope. The main development and improvement includes query capability and report production, database storage, security etc. The user requirements are concluded as the following items :-

- New system should be provided up-to-date and accurate information.

- On-line processing should be provide.

- Greater speed of processing for input/output and processing.

- More reliable and consistent procedure to eliminate error.

- Information can be shared among several system at the same time.

- Easy to use, the familiarity with system.

- Backup and recovery should be design to protect data.

- Improving timeliness of information retrieval.

- Security and operation control should be provided.

- Prepare various report

3.2 INFORMATION NEEDS OF THE USERS

These are the lists of the information and documents needed by the users.

3.2.1 Customer Inquiry

Contain agreement the customer needs to inquiry price of goods from the company. This inquiry includes all product description that customer needed, delivery date , term payment , unit price , count , amount , total , VAT , grand total.

3.2.2 Customer Order

Contain final agreement the customer needs to purchase goods after make inquiry. This purchase order includes all product description that customer needed , order number , delivery date term payment , due date , unit price , count , quantity , amount, total , VAT , grand total.

3.2.3 Sale Slip (Invoice)

Contain all information needed by VAT organization such as , company name , address , tax id. , bill number (invoice number) , bill date , customer name , address , product code , product description , count , unit price , quantity , amount , total , VAT , grand total.

3.2.4 CASH/CHEQUE Receipt

Contain all information support for financing department and accounting department such as PC NO. (Payment number) , date , customer name , type

of payment (cash/cheque) , amount , cheque no. , date of cheque , bank , bill no. , amount of each bill , total , VAT , grand total.

3.2.5 Purchase Order

Contain all information for purchase the product , it has supplier name , product code , product name , quantity to purchase , unit price , amount , vat and grand total.

3.3 AIM OF THE PROPOSED SYSTEM

The proposed system would focus on the design of sales and customer information system from the point of order by customer, generate print invoice, delivery goods to customers, settlement from customers. This sales and customer information system to achieve these :

1. Computerized the sales and customer information system from the previous manual system to improve in sales order processing process.
2. To manage bad debts customer activities and credit limit.
3. To monitor and control sales and marketing activities.
4. To establish reports to cope with forecasting planning activities.

3.4 PROPOSED SYSTEM DETAILS

The new system design divides the whole system into four processes as follow :
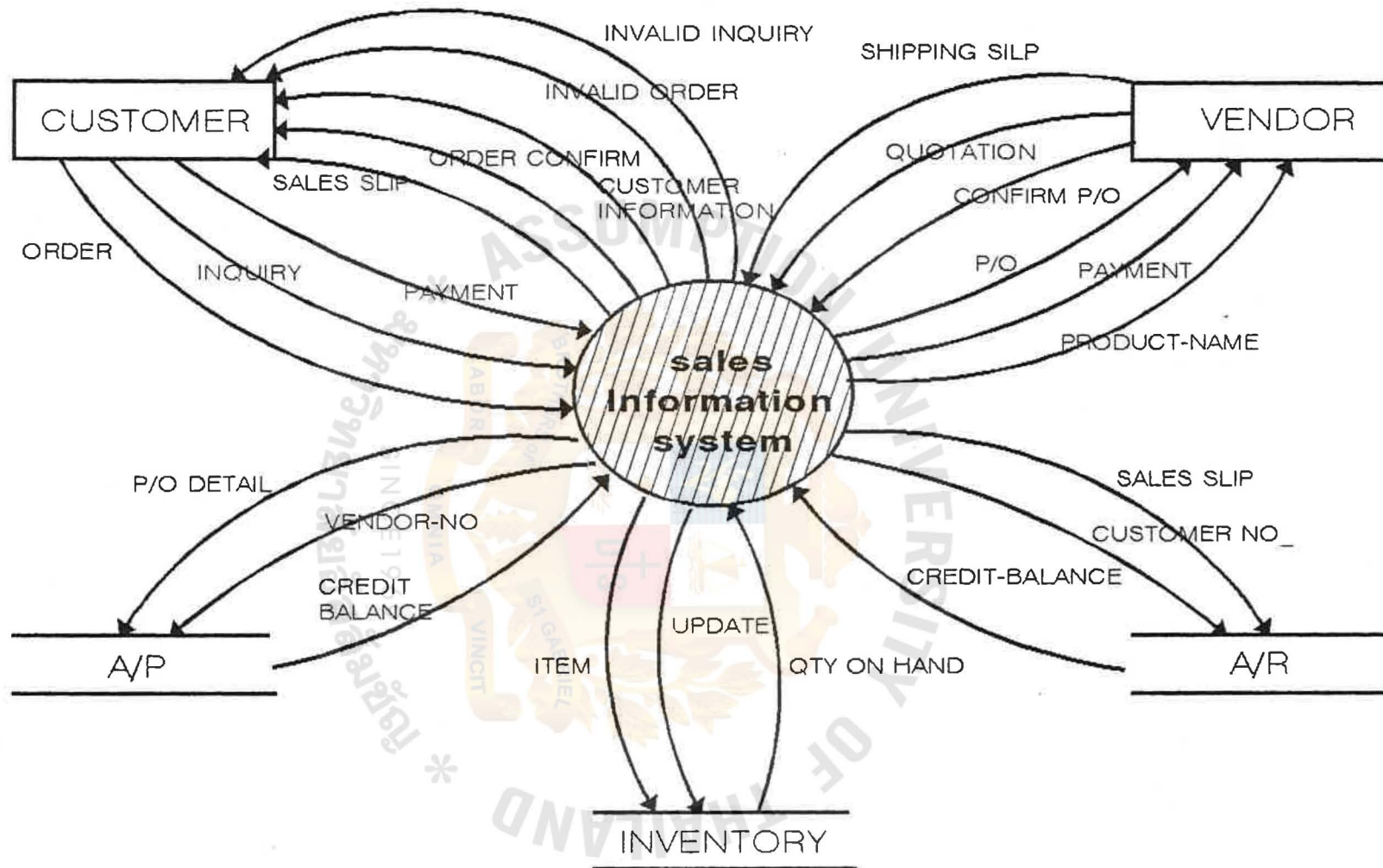
Figure 3.1 : Context Diagram

Figure 3.2 : Level 0 Dataflow Diagram

- 20 -

Figure 3.3 : Process 1 Inquiry an Order

- 21 -
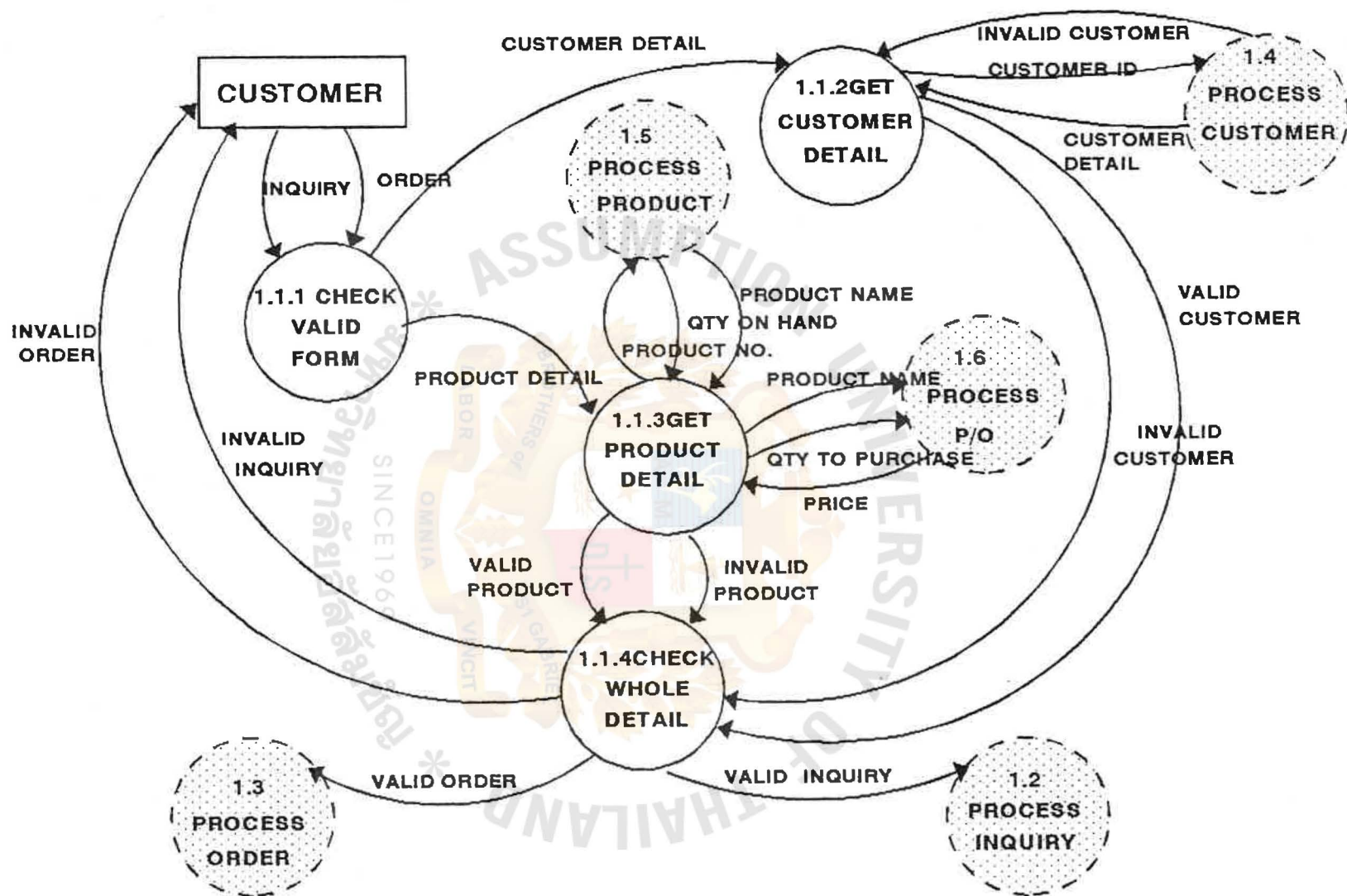
Figure 3.4 : Process 1.1 Get Order / Inquiry Form
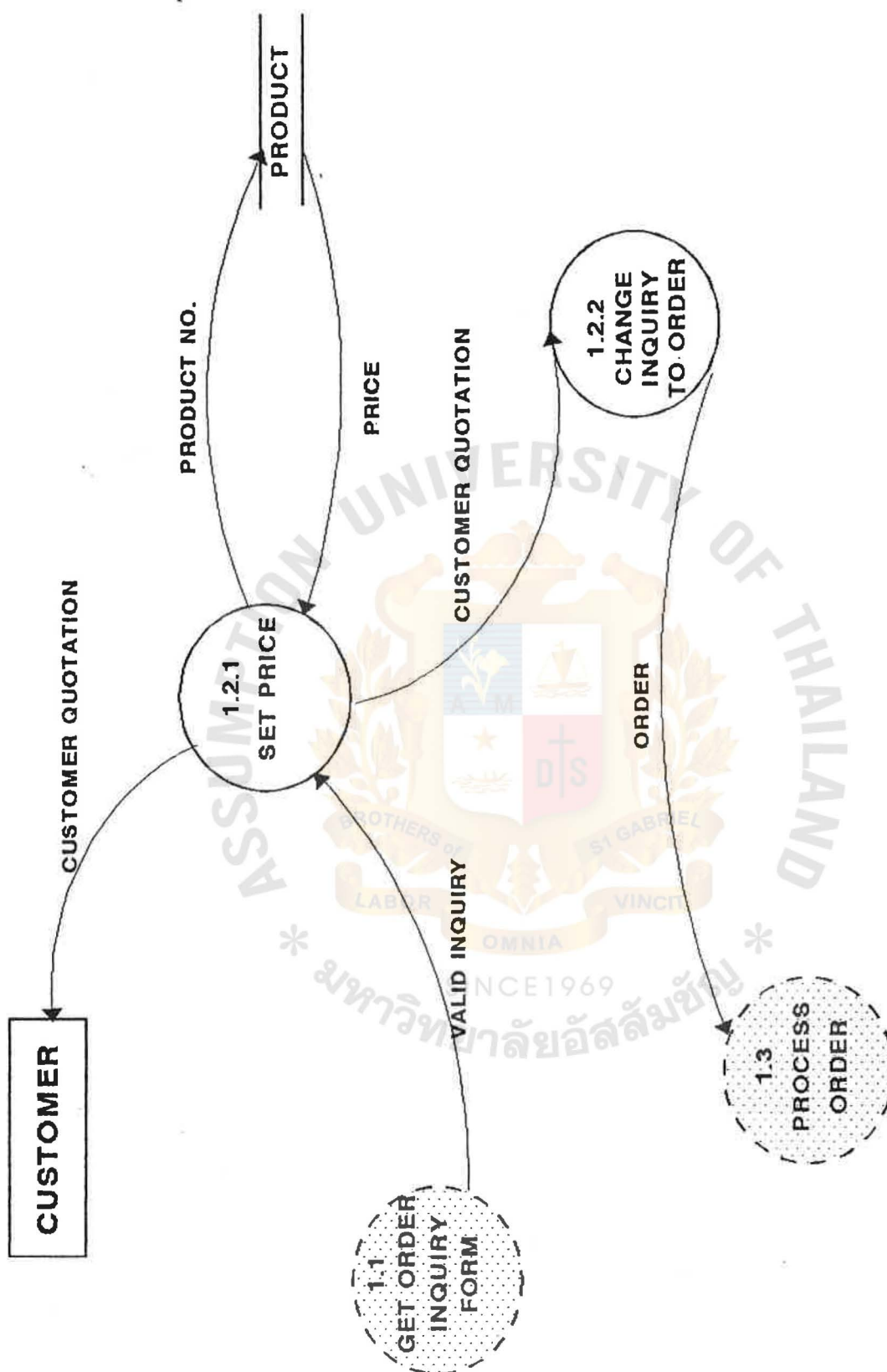
Figure 3.5 : Process 1.2 Process Inquiry
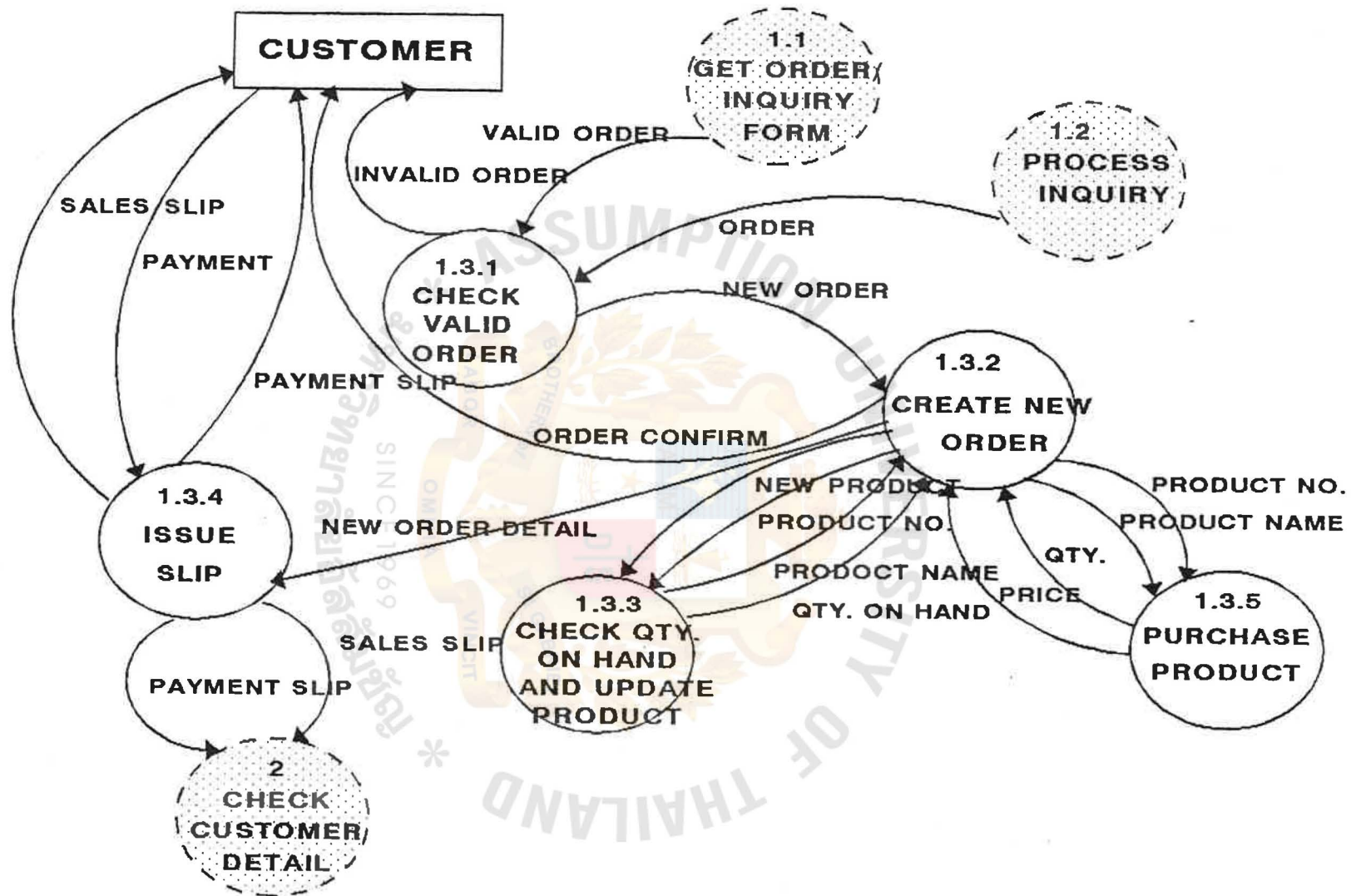
Figure 3.6 : Process 1.3 Process Order
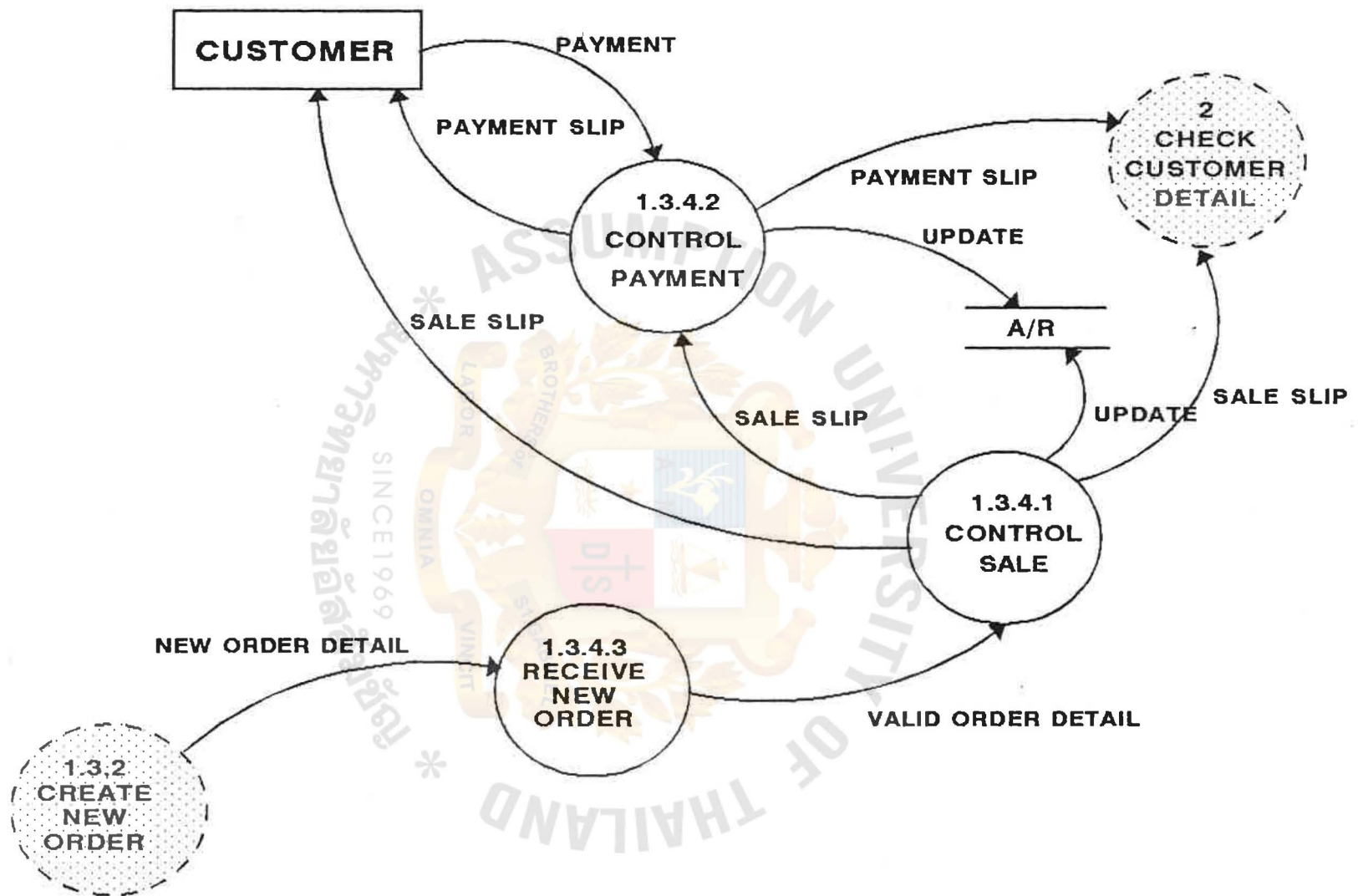
Figure 3.7 : Process 1.3.4 Issue Slip

- 25 -
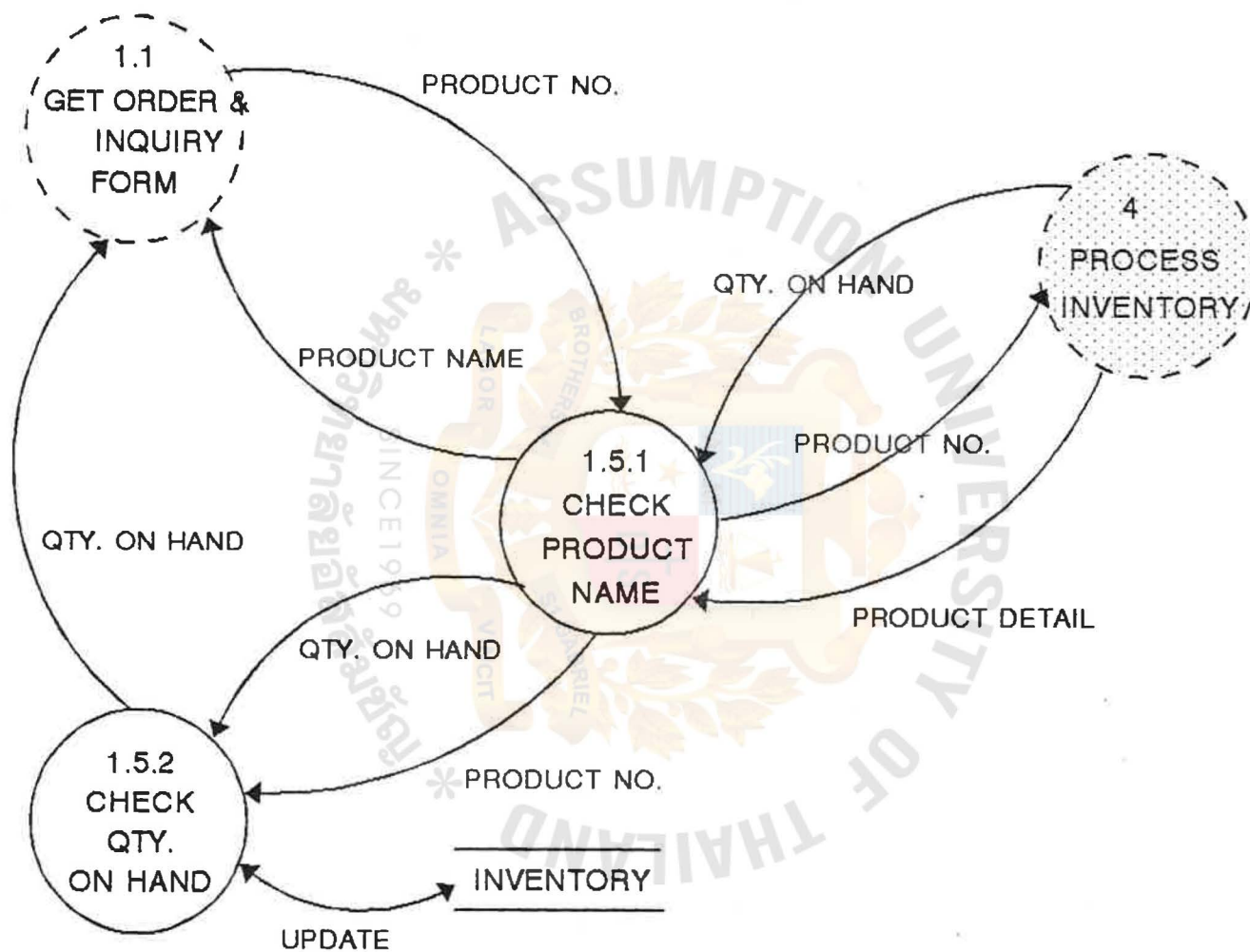
Figure 3.8 : Process 1.5 Process Product

- 26 -
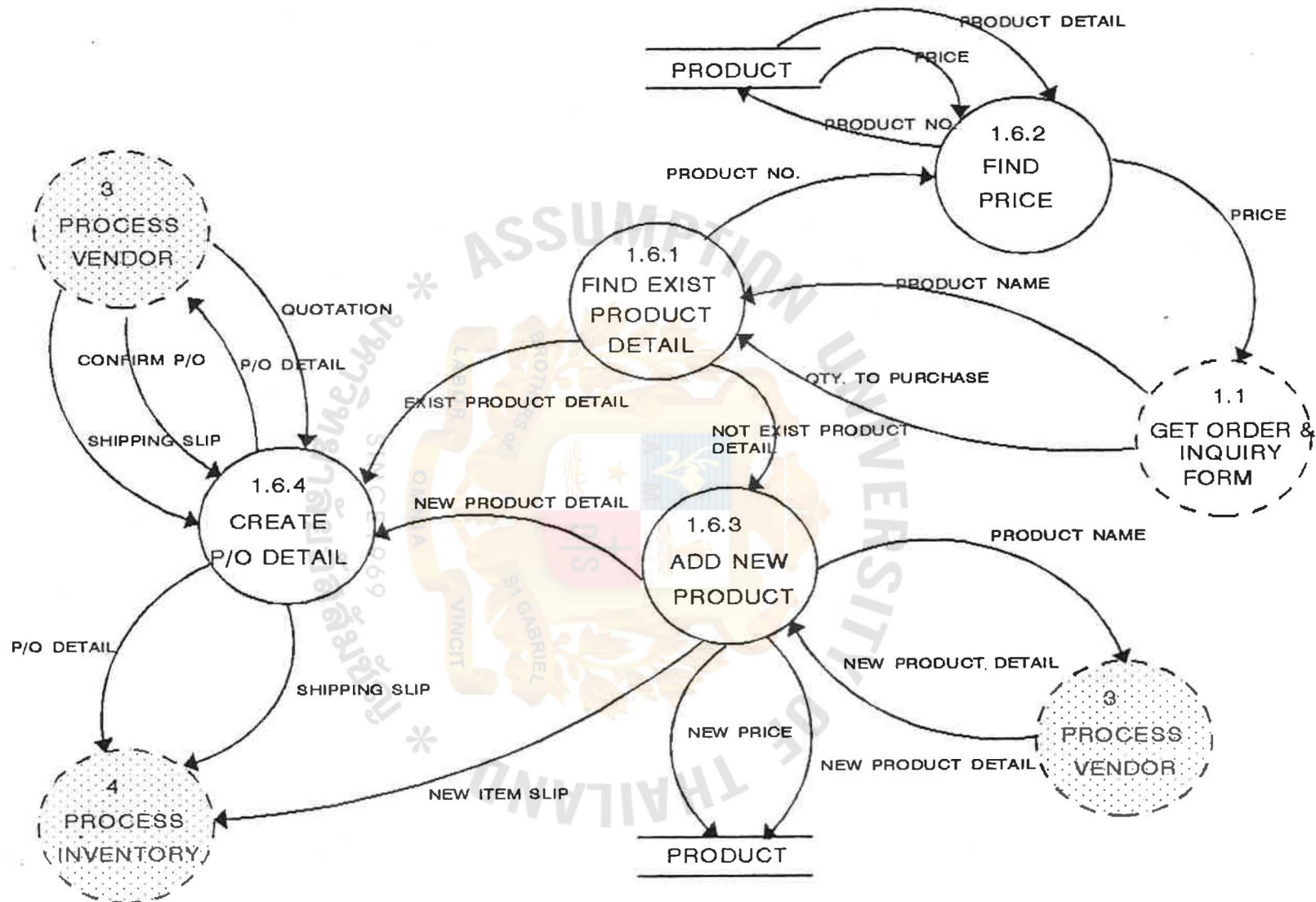
Figure 3.9 : Process 1.6 Process Purchase Order

- 27 -
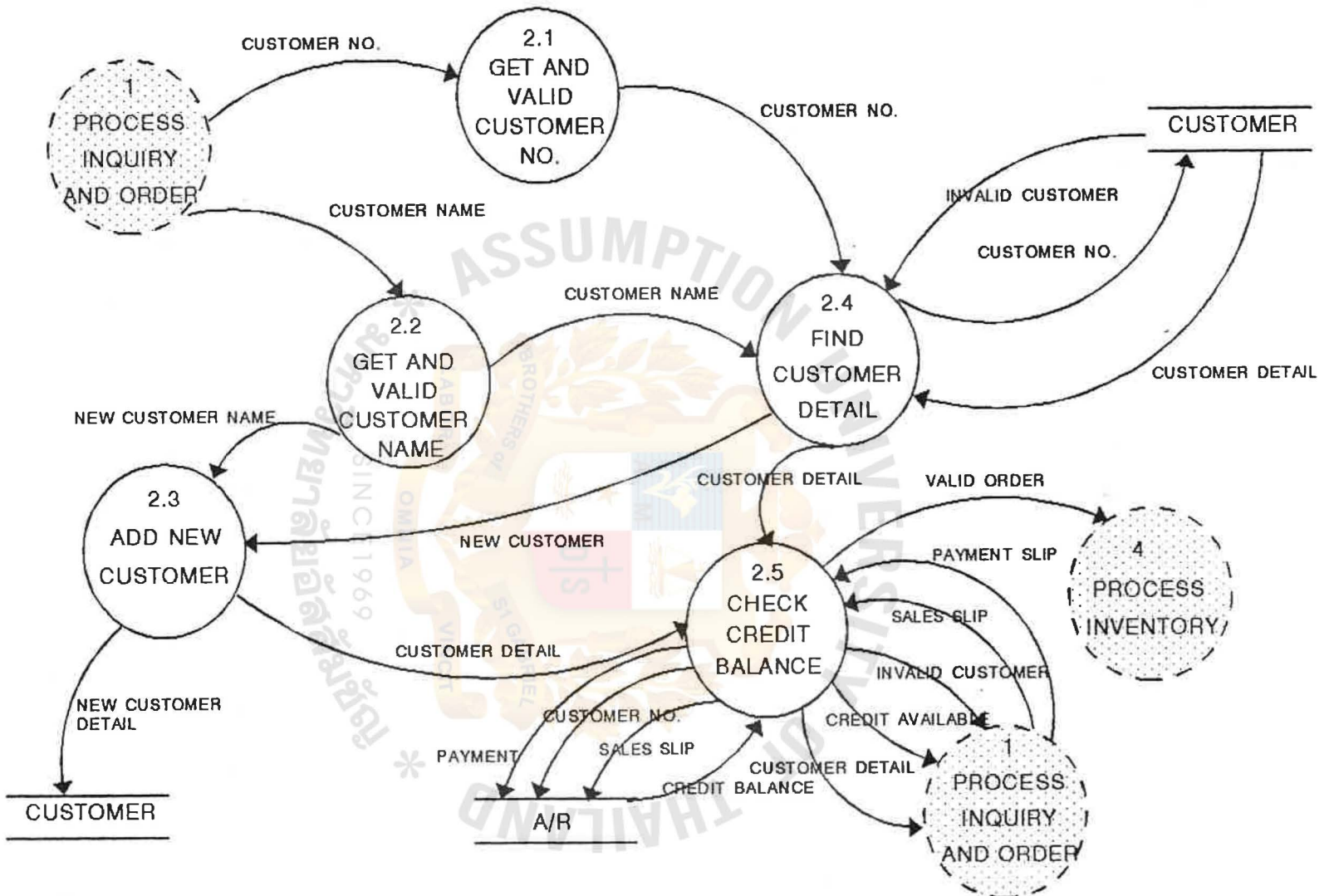
Figure 3.10 : Process 2 Check Customer Detail
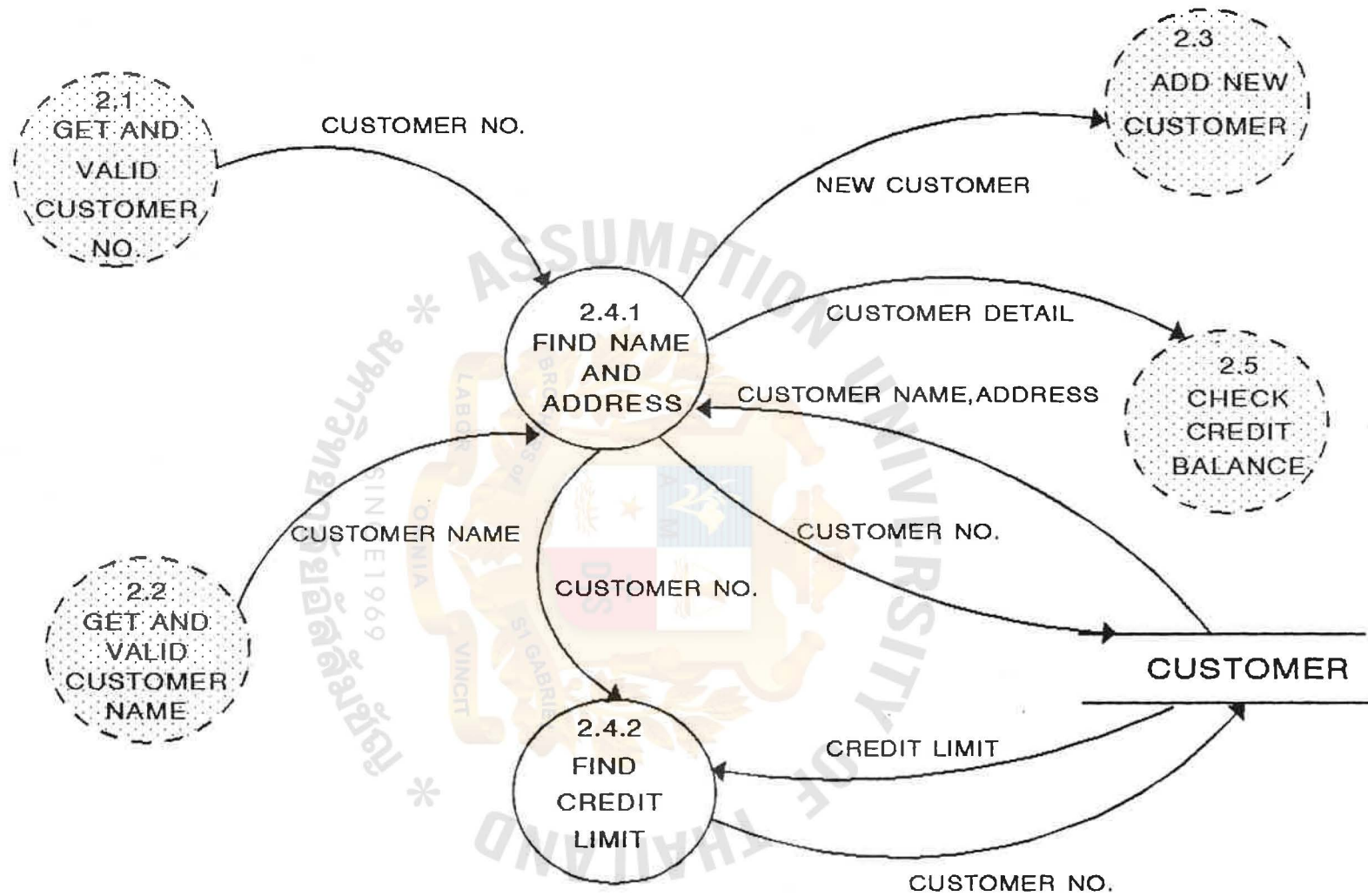
Figure 3.11 : Process 2.4 Find Customer Detail

- 29 -
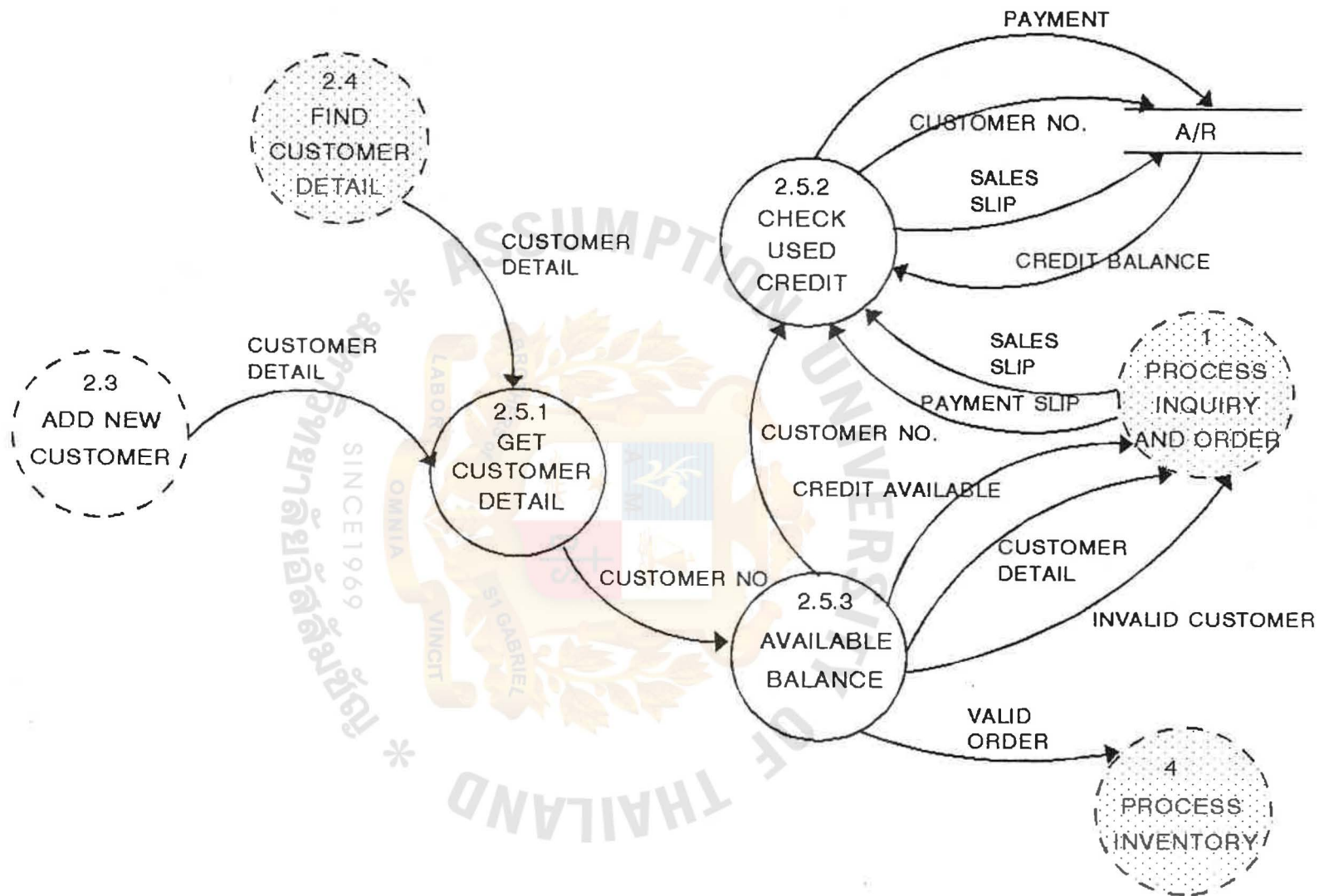
Figure 3.12 : Process 2.5 Check Credit Balance

- 30 -
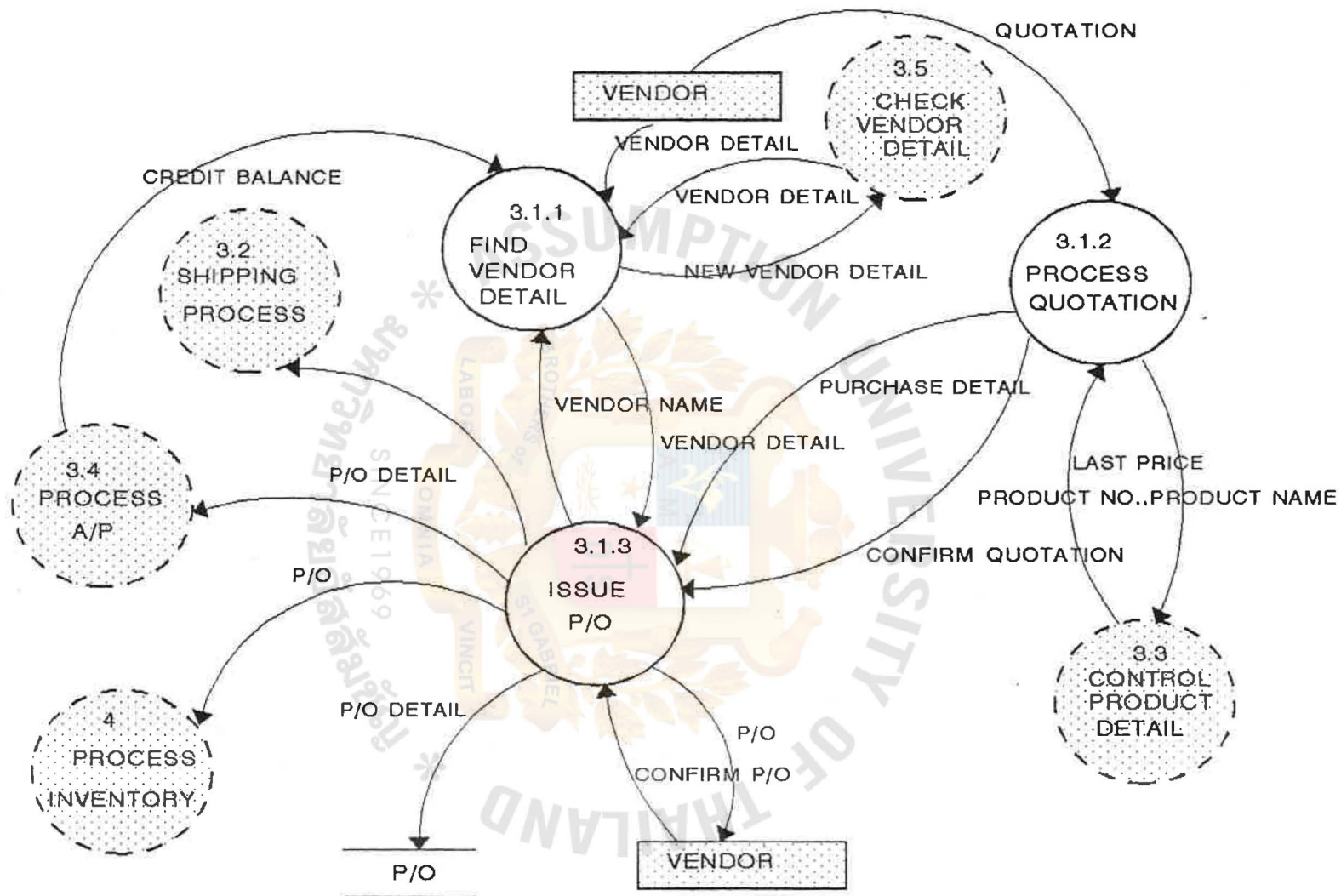
Figure 3.13 : Process 3.1 Issue Purchase Order
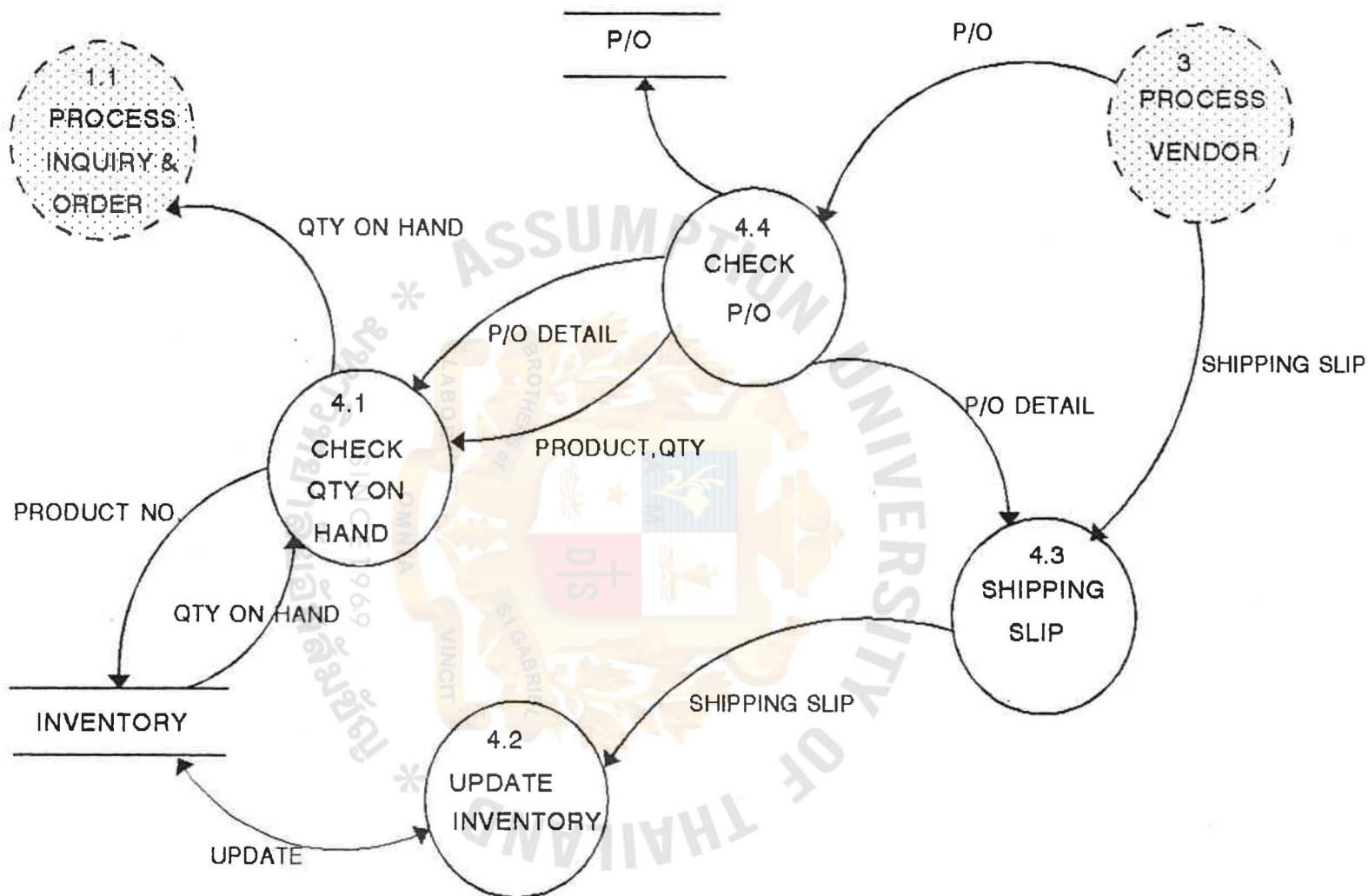
Figure 3.14 : Process 4 Process Inventory

3.5 HARDWARE AND SOFTWARE REQUIREMENT

3.5.1 Hardware requirement

The hardware requirement can be summarized as follows

A) Server

ATEC Premier Pro

- Intel Pentium Pro 200 MHz

- Intel 440FX PCIset, ATX Form Factor

- 32 MB EDO RAM (Mac 512 MB EDO RAM)

- Integrated 256 KB Level 2 Cache

- 2,500 MB 9ms. PIO 4 Harddisk

- S3 Virge 3D VGA w. 4 MB EDO RAM

- 1.44 MB Built-in Floppy Disk Drive

- 17" Flat Screen ATEC Monitor

- ATEC ATX Deluxe Case

- 200 Watts ATX SPS with Soft Start

- ATEC Stylist Mouse & Cover

- ATEC Win95 Keyboard (105 Keys)

- 8X -Speed CD-ROM Drive

- 3D Stereo CD-ROM Drive

- 3D Stereo Sound w.Wave Table

- 10 Watts Stereo Speaker Built-in

B) Workstation

ATEC Pioneer

- Intel Pentium Processor 120 MHz

- Intel 430VX PCIset M/B, ATX Form Factor

- 16 MB EDO RAM (Max 128 MB EDO RAM)

- 256 KB Pipeline Burst Cache SRAM

- 1,280 MB 9ms. PIO 4 Harddisk

- S3-Trio 64V + PCI VGA w. 1 MB EDO

- 1.44 MB Built-in Floppy Disk Drive

- 14" Digital Control ATEC Monitor

- ATEC ATX Deluxe case

- 200 Watts ATX Power Supply

- ATEC Stylish mouse & Cover

- ATEC Win95 Keyboard (105 Keys)

C) Printer

Epson LQ1170i

- 24 Pin Dot Matrix Printer

- Printer Cable

D) BackUp Battery

- Exide BackUp Battery

- UPS 1 KVA for Server

- UPS 500 VA for Workstation
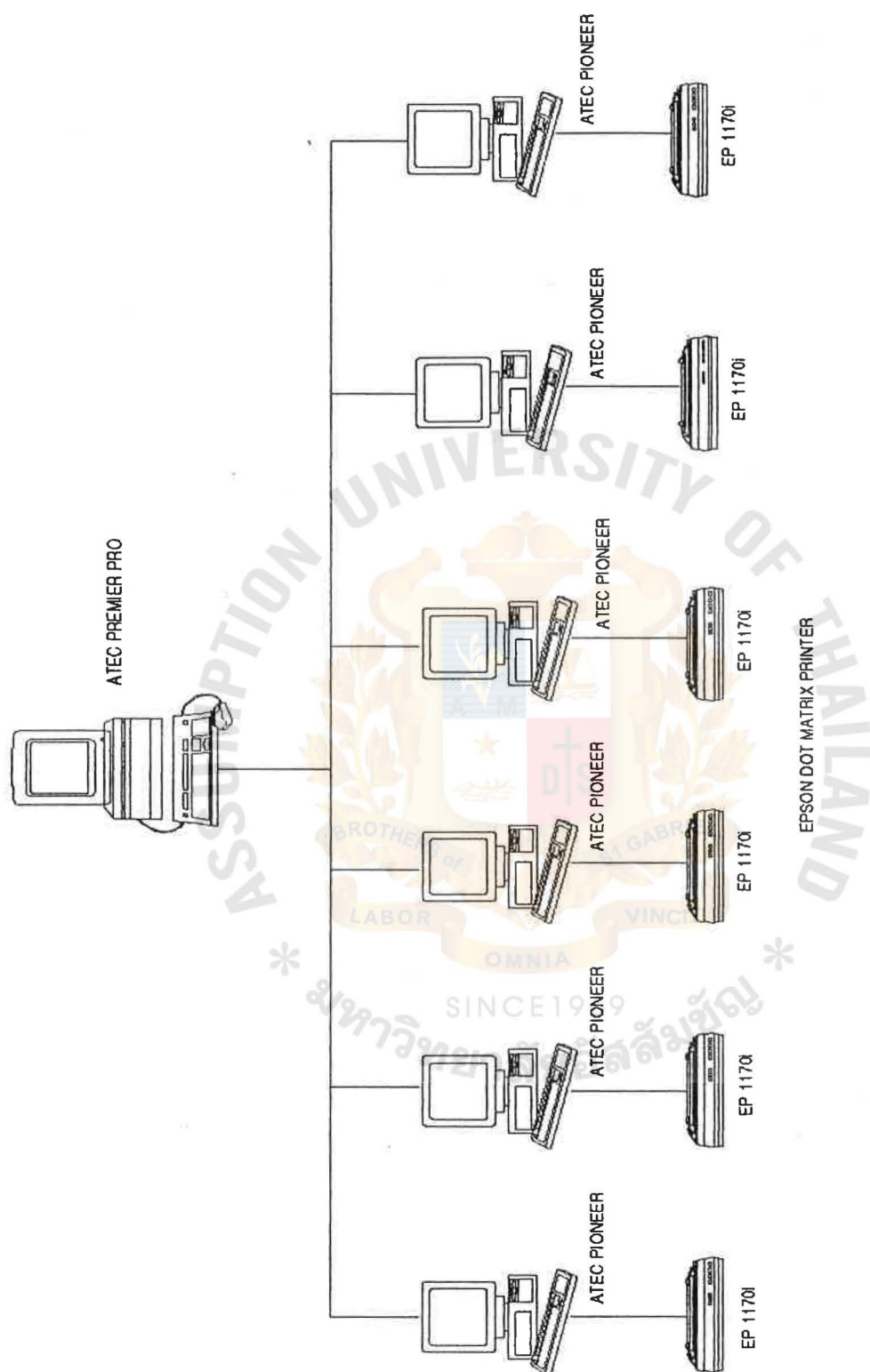
Figure 4 : Hardware Configuration

3.5.2 Software requirement

- Novell Netware for 5 Users

3.6 SECURITY AND CONTROL

The security and control of system is divided into 2 categories :

First is The Security and Control of the Local Area Network which is the first defense gate to black the unauthorized person to access the system.

Second, is the IRA System protection procedure it self, also need the module name and the password to determine the authority of each user to access each IRA System module.

According to the Computer configuration of IRA System, each PC is installed Windows NT workstation and linked into a Local Area Network. the interactive logon process is done and verified by the Server which installed Windows NT Advance Server, this is the first line of defense against unauthorized access. The process begins with a Welcome box which requested the user to press the CTRL + ALT + DEL keys simultaneously. Starting the logon process with this key combination offers a strong defense against any application running in the background that attempts to capture a users' logon information.

This logon process requests the USERNAME and PASSWORD and the server or domain the user wishes to access. If the username or the password are

entered incorrectly, the system returns the message, "User Authorization Failure." The system does not reveal if it was the username or the password which caused the failure. If the user can successfully provide their username, password, the system proceeds to the next step in the process, which is to authenticate the user. If the user has an account, the password is valid, and the user has permissions to access the system.

The IRA System itself also provide the internal security control for staff in each department. For example, the marketing division can only be accessed the Purchase System and Sales System but not the general Ledger System and the Stock System. At the same time finance division can only be accessed the general Ledger System and the Stock System but not the Purchase and Sales System.

The IRA System internal security control is started with the screen to force user to key in the module name and the password, the system will check these information against the security system to determine the access right. If the access right is not available, the system will reject and display the "Unauthorized Access To The System." if the user have right to access, the security system will continue the login process and show the menu according to the module users login.

3.7 COST/BENEFIT ANALYSIS

3.7.1 Cost Analysis

There are three majors cost categories that are taken into account. There are consist of investment cost, implementation cost and annual operating cost.

- Investment Cost

Hardware Cost Estimated	Unit	Price	Total
ATEC PREMIER PRO	1	100,000.00	100,000.00
ATEC PIONEER	6	33,000.00	198,000.00
EPSON Printer Model 1170I	6	15,000.00	90,000.00
HUB 12 PORT	1	25,000.00	25,000.00
LAN ACCESSORIES	1	10,000.00	10,000.00
MODEM	2	8,000.00	16,000.00
UPS 1 KVA for Server	1	16,000.00	16,000.00
UPS 500 VA for W/S	6	7,500.00	45,000.00
Total Hardware Cost			500,000.00

Software Cost Estimated	Unit	Price	Total
Novell Netware for 5 Users	1	25,000.00	25,000.00
Microsoft Windows NT	1	25,000.00	25,000.00
Total Software Cost			50,000.00

Hardware installation charge

- Site Survey

- Consultation Fee

- Engineer Fee

- Transportation Fee

    Total Hardware Installation Charge   10,000.00

    Total investment cost   560,000.00

- Implementation Cost

- User Training   10,000.00

- Site Preparation   10,000.00

    Total Implementation Cost   20,000.00

- Annual Operation Cost

- Continuous Paper   1,000.00

- A4 Paper   1,000.00

- 3 1/2" Diskette   1,000.00

- Ink Cartridge   1,000.00

- Facility   1,000.00

- Software Maintenance   5,000.00

- Utility and Hardware Maintenance   5,000.00

Total Annual Operating Cost   15,000.00

The formula of annual cost of the proposed system

Annual Cost = $\underline{\text{Investment Cost+Implement Cost}}$ + Annual Operating Cost

Estimated System Life Year

$= \underline{560,000 + 20,000}$ + 15,000

5

= 131,000

3.7.2 Economic Cost Comparison

There are variety of method to analysis when total cost of investment put into the proposed system will gain back or worth the cost. In this project, two methods are chosen to display the analysis. Those are payback period and break-even analysis.

3.7.2.1 Payback Period

The Payback period is defined as the number of years required to accumulate earrings sufficient to cover its cost using for the Proposed System covers as follows :

$$P = \frac{1}{(1-T)R}$$

P   =   Payback Period

I   =   Investment Cost

R   =   Average Annual Return on Investment

T   =   Corporate Tax Rate in Percentage (30%)

Redūce 9 Staff to 5 Staff

Salary per month		13,000	Baht
For 4 Staff 13,000x4	=	52,000	Baht
Salary per year 52,000x12	=	624,000	Baht
Total saving		624,000	Baht

Find Average Annual Return on Investment

$$= \text{Total Saving - Annual Operating Cost}$$

$$= 624,000 \quad - 131,000$$

$$= 493,000$$

$$\text{Payback period} = \frac{560,000}{(1\text{-}0.30) \times 493,000}$$

$$= 1.62 \text{ years}$$

Payback period (after taxed) for the Proposed System is 1.62 years

3.7.2.2 Break-Even Analysis

The concept of break-even analysis will be comparing the cost of the proposed system to the existing to determine the point at which the proposed system costs the same as the existing one.

The cost using in this method include the three major categories of cost : investment costs, implement costs, and operating costs. (See Table 1 , Table 2 and Figure 5)

Table 1 Annual Cost Comparison

	YEAR					
	1	2	3	4	5	TOTAL
Existing System						
9 Staffs (13,000*9)+10% yearly	1,404,000.00	1,544,400.00	1,698,840.00	1,868,724.00	2,055,596.40	8,571,560.40
Space rental (50,000 + 10% yearly)	50,000.00	55,000.00	60,500.00	66,550.00	73,205.00	305,255.00
Utility (10,000 + 10% yearly)	10,000.00	11,000.00	12,100.00	13,310.00	14,641.00	61,051.00
Stationary (20,000 + 10% yearly)	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00	122,102.00
Other expenses (5,000 + 10% yearly)	5,000.00	5,500.00	6,050.00	6,655.00	7,320.50	30,525.50
Total	1,489,000.00	1,637,900.00	1,801,690.00	1,981,859.00	2,180,044.90	9,090,493.90
Proposed System						
5 staffs ((18,000*5) + 15% yearly)	1,080,000.00	1,242,000.00	1,428,300.00	1,642,545.00	1,888,926.75	7,281,771.75
Hardware (510,000/5 years)	102,000.00	102,000.00	102,000.00	102,000.00	102,000.00	510,000.00
Software (50,000/5 years)	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	50,000.00
Space rental (100,000 + 10% yearly)	100,000.00	110,000.00	121,000.00	133,100.00	146,410.00	610,510.00
Utility (30,000+10% yearly)	30,000.00	33,000.00	36,300.00	39,930.00	43,923.00	183,153.00
Stationary (20,000 + 10% yearly)	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00	122,102.00
Other expenses (4,000 + 10% yearly)	4,000.00	4,400.00	4,840.00	5,324.00	5,856.40	24,420.40
Total	1,346,000.00	1,523,400.00	1,726,640.00	1,959,519.00	2,226,398.15	8,781,957.15

Table 2 Break-Even Analysis

	YEAR					
	1	2	3	4	5	TOTAL
Existing System						
9 Staffs (13,000*9)+10% yearly	1,404,000.00	1,544,400.00	1,698,840.00	1,868,724.00	2,055,596.40	8,571,560.40
Space rental (50,000 + 10% yearly)	50,000.00	55,000.00	60,500.00	66,550.00	73,205.00	305,255.00
Utility (10,000 + 10% yearly)	10,000.00	11,000.00	12,100.00	13,310.00	14,641.00	61,051.00
Stationary (20,000 + 10% yearly)	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00	122,102.00
Other expenses (5,000 + 10% yearly)	5,000.00	5,500.00	6,050.00	6,655.00	7,320.50	30,525.50
Total	1,489,000.00	1,637,900.00	1,801,690.00	1,981,859.00	2,180,044.90	9,090,493.90
Proposed System						
5 staffs ((18,000*5) + 15% yearly)	1,080,000.00	1,242,000.00	1,428,300.00	1,642,545.00	1,888,926.75	7,281,771.75
Hardware (510,000/5 years)	510,000.00	-	-	-	-	510,000.00
Software (50,000/5 years)	50,000.00	-	-	-	-	50,000.00
Space rental (100,000 + 10% yearly)	100,000.00	110,000.00	121,000.00	133,100.00	146,410.00	610,510.00
Utility (30,000+10% yearly)	30,000.00	33,000.00	36,300.00	39,930.00	43,923.00	183,153.00
Stationary (20,000 + 10% yearly)	20,000.00	22,000.00	24,200.00	26,620.00	29,282.00	122,102.00
Other expenses (4,000 + 10% yearly)	4,000.00	4,400.00	4,840.00	5,324.00	5,856.40	24,420.40
Total	1,794,000.00	1,411,400.00	1,614,640.00	1,847,519.00	2,114,398.15	8,781,957.15
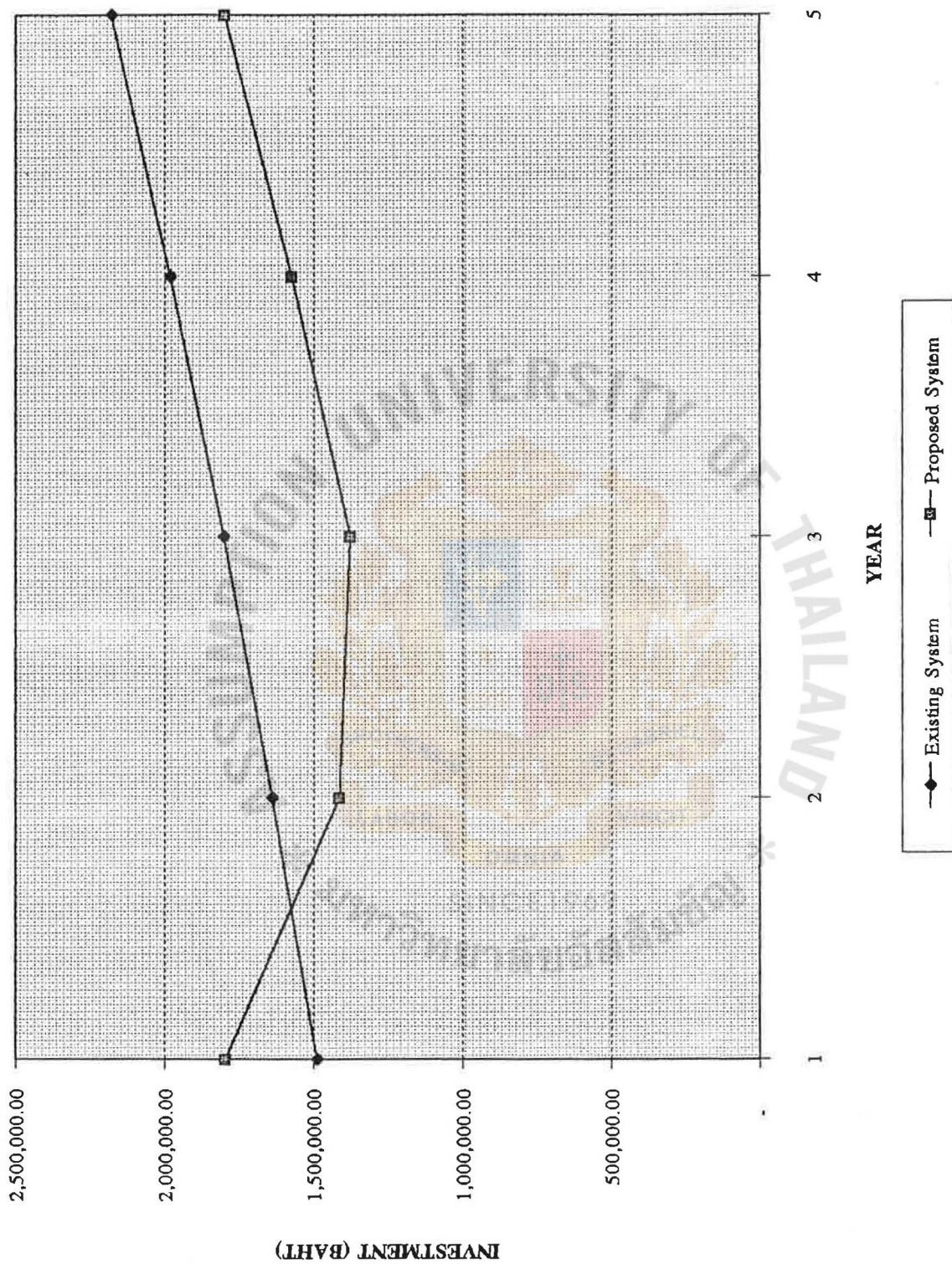
Figure 5 : Break-Even Between Existing VS Proposed System

3.7.3 Benefit Expected

3.7.1 Tangible Benefits

- Elimination for clerical personnel	170,000
- Reduce bad debt from bad forcast	100,000
- Reduce paper material	5,000
Total tangible benefits	275,000

3.7.2 Intangible Benefits

- Improved employee morale

- Expansion capability

- Higher work efficiently

- Smoothing of operational flows

- Rise in level of service quality and performance

- Future cost avoidance

4. PROJECT IMPLEMENTATION

4.1 PROJECT IMPLEMENTATION SCHEDULE / RESOURCE UTILIZED

4.1.1 Implementation Schedule

In designing the implementation schedule, the activities are defined and sequenced. All activities are grouped into phases, which are system analysis, system design and implementation. The implementation schedule is shown in the following page.

Data conversion is done by the MIS officer such as Customer Information, Supplier Information, Warehouse Information, Credit Term Information, Account Code Information, Product Information, Exchange Rate Information, Currency Information, etc. These information is supplied by the Marketing Division and Finance Division.

4.1.1.1 Overview of Project Implementation

The implementation will start after the management decide to accept the new system. It consists of the installation of the new system and the removal of the current system. It concerns with hardware (machines) , software (computer programs, procedures, forms) and peopleware (personnel). The implementation phase is often the most difficult part of this process. During the implementation, the unexpected problems often appears. Solution for these problems usually require modification to the original design.

4.1.1.2 Stages of Implementation

The implementation process consists of three stages those are the separated and distinct tasks must be performed in sequential order.

- Programming

In this stage, the application programs are written in order to perform whatever business are being computerized.

- Testing

It involves the testing of the program, a full system test, and the documentation of the programs. A complete schedule of testing involves the following :

    1. Testing individual program.

    2. Creating test data.

    3. Link / string / single-thread testing.

    4. System / multiple-thread testing.

    5. Backup and restart testing.

    6. Complete the documentation.

- Installation

At this stage, the overall , the overall system are ran the program, interface with the different files of data , utilization and telecommunication networks, and interface with the users. The following basic principles during the project implementation :

1. Avoid disrupting day-to-day business activities during the implementation process.

2. Do not require excessive overtime work during implementation.

3. Inform management of all changes in the implementation method or time schedule.

4. Do not give demanding orders, you are functioning as advisory staff, not as a line manager.

- Training

How the well-designed and technically elegant systems can succeed or fail because of the way they are operated and used. Therefore, the training provide to the personnel in various capacities helps of hinders, and may even prevent, the successful implementation of an information system. Those who will be associated with or affected be the system must know in detail what their role will be, how they can use the system, and what the system will or will not do.

Both systems operators and users need training.

- Test plan and results

The module testing method is adopted for this system development. This testing allows the system developer to test the system module be module. The programming and testing can be carried out in parallel and make the programming and testing time shorter (refer to Gantt chart). The integration testing of the whole system is needed at the end.

Test data is designed to cover all aspects of system functions to make sure that every function in the system is testing. Test data will simulate the real working environment. The data is created for 4 modules as the following units :-

- Purchase & Accounting Payable System

- Sale & Account Receivable system System

- Stock System

- 48 -

- General Ledger System

The testing was successfully completed from module testing through integration testing. The errors found during the test, all are minor ones , were fixed. The system performance should meet the stated objectives.

4.1.2 Resource Utilization

During development, resource utilization comprises both intangible and tangible resource. Intangible rework includes the effort from MIS officer, Finance Officer and Marketing Officer; These are measurable in man-hour. and computing facility for system developer. Tangible resource includes general office supplies.

Actually, the computing facility has already been available as the company has provided the staff for the basic facility.

PROJECT PLAN

The project plan is represented in Gantt Chart as follows :

ACTIVITIES	notes	JUN				JUL				AUG				SEP				OCT				NOV			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

SYSTEM ANALYSIS :

- Context diagram of an old system   N/A
- Identify the area under study | |
- Develop the Physical DFD of the   N/A
  existing system
- Identify the contents of the   N/A
  existing data stores
- Develop the Logical DFD of the   N/A
  existing system

ACTIVITIES	notes	JUN				JUL				AUG				SEP				OCT				NOV			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

DETAIL ANALYSIS AND DESIGN :

- Develop the Logical DFD of the | |
  new system
- Identify of the contents of the | |
  data stores for the new system
- Data Dictionary | |
- Structure Charts | | | |
- Develop the Physical DFD of the | |
  new system

Figure 6 : Project Plan

- 50 -

ACTIVITIES	notes	JUN				JUL				AUG				SEP				OCT				NOV			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

IMPLEMENTATION :

ACTIVITIES	notes	JUN				JUL				AUG				SEP				OCT				NOV			
– Pseudocode or Minispec											I	I													
– Programming													I	I	I	I	I								
– Screen Layout												I	I												
– Report Layout												I	I												
– Data Conversion															I	I									
– Testing																		I							
– Training	N/A																								
– Acceptance Test	N/A																								
– Production	N/A																								
– Documentation																			I	I	I	I			

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSION

After the system development is completed, it can solve the problem of uncontrollable of stock which it will be up-to-dated and the salesman can know the present situation of stock whether it is shortage or not. The computer system can help us to operate sale transaction rapidly and reduce the problems of high workload and time limitation.

The Sales System will be implemented to users group with appropriate training and system documents support. The project meets all objectives set forth quite well. The system is designed to be user-friendly as much as possible, uncomplicated both in development and operation.

The training will cover the instructions to operate the system for Finance Staff and Marketing staff. The user Manuals are provided the system guide in addition to on-screen guides provided. The program source codes and technical detail about the system are kept by the MIS Officers for future modification or system maintenance.

Although the IRA System is quite successfully developed, there are still some modification needed to keep the system work effectively and fit the organization changing needs and nature. Moreover, there are some contingent problem that need to be foreseen and solved. These modification and problems are discussed in the next part

5.2 RECOMMENDATION

Although, the training program is planned for both the Finance Staff and Marketing Staff who are supposed to use the system. But the users are not knowledgeable in Computer. There may be some problem of inefficiency like the users have to totally rely on MIS Officer in making modification the incorrect data whether little or large while MIS Officer would have to be responsible for so many systems in the organization. If possible, training on computer knowledge should be set for the users group. It will help the users not only operate the system more efficiently but also create new ideas for further modification or expansion of the system.

Another concern is future trend of the information system. IRA Co.,LTD. also has planned to implement other sub-modules into the IRA System For Example :

ON Line System

To add the automatic real time stock maintenance function to replace the traditional stock system which is run and update in batch mode.

This system is along term planning because the modification must be done to Purchase System, Sales System and Stock System.

One interesting trend is integrated corporate MIS. One day this kind of system will be apart of corporate MIS. There will be more interrelationship. influences among many other systems. The users or any staff involving this system should keep modifying the system not only to fit their needs but also to fit the changing organization needs, The organization needs long-term

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APPENDIX A : SYSTEM ANALYSIS TOOLS

This appendix shows the details of System Analysis Tools as the follow :
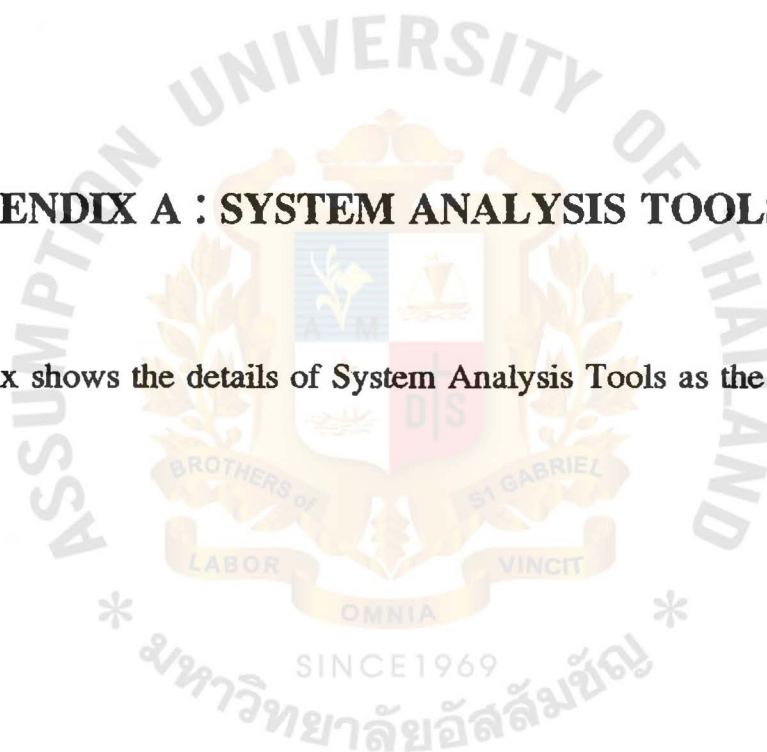
APPENDIX A-1 : DATA DICTIONARY
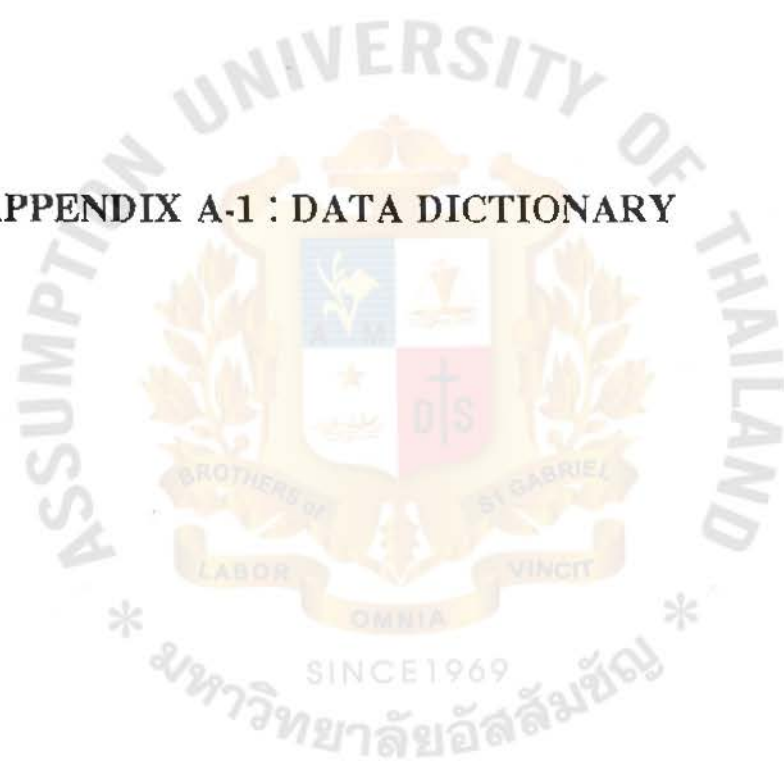
DATA DICTIONARY OF NEW SYSTEM

P/O	=	{ PURCHASE ORDER}
P/O DETAIL	=	purchase order no + purchase order date + vendor no + vendor name+term payment + delivery date + product no + product name + quantity to purchase + cost unit price + amount+amount of purchase order + VAT + grand total
PAYMENT	=	* payment from customer or payment to vendor *
PAYMENT SLIP	=	* payment slip that provided by company for any payment *
PRICE	=	* sale unit price or cost unit price *
PRODUCT DETAIL	=	* detail of products *
PRODUCT NAME	=	* name of products *
PRODUCT NO.	=	* product identification number *
PRODUCT PRICE	=	*product sale unit price or cost unit price*
PURCHASE DETAIL	=	* purchase detail for generate purchase order *
QTY	=	* quantity on order *
QTY ON HAND	=	* number of goods that is stored in warehouse *

DATA DICTIONARY OF NEW SYSTEM

ADDRESS = house no.+street+province+postel code

CONFIRM P/O = * vendor confirm that purchase order *

CONFIRM QUOTATION = * customer confirm quatation and change

status from inquiry to order *

CREDIT AVAILABLE = * amount of available credit for customer

at that time *

CREDIT BALANCE = * amount of credit for customer at that

time *

CREDIT LIMIT = * amount of credit that will be extended to

customer for orders that are not prepaid *

CUSTOMER = {CUSTOMER}

CUSTOMER DETAIL = customer no. + name + address÷telephone

number + fax number + credit limit

CUSTOMER NAME = courtesy title + first name + last name

CUSTOMER QUOTATION = * a quotation of inquiry for customer *

CUSTOMER-NO = * identification number of customer*

CUSTOMER-ID = * identification number of customer*

EXIST PRODUCT DETAIL = * that product record already in master

file *

INQUIRY = { INQUIRY OF CUSTOMER}

DATA DICTIONARY OF NEW SYSTEM

INVALID CUSTOMER	=	* invalid customer information *
INVALID CUSTOMER NO.	=	* invalid customer identification number *
INVALID INQUIRY	=	* invalid information in inquiry *
INVALID ORDER	=	* invalid information in order *
INVALID PRODUCT	=	* invalid product not in master file *
INVALID VENDOR NO.	=	* invalid vendor identification number *
ITEM	=	{ PRODUCT }
LAST PRICE	=	* last product cost unit price *
NEW CUSTOMER	=	* new customer *
NEW CUSTOMER DETAIL	=	* new customer information *
		customer no. + name + address + telephone
		number + fax number + credit limit
NEW CUSTOMER NAME	=	* new customer name *
NEW ITEM SLIP	=	* new product slip that use to store in file
		and put in master file *
NEW ORDER	=	* new order provided by customer *
		customer no + customer name + order date
		+ term payment + product no + product
		name + count + quantity + unit price
		+ order amount

DATA DICTIONARY OF NEW SYSTEM

INVALID CUSTOMER	=	* invalid customer information *
INVALID CUSTOMER NO.	=	* invalid customer identification number *
INVALID INQUIRY	=	* invalid information in inquiry *
INVALID ORDER	=	* invalid information in order *
INVALID PRODUCT	=	* invalid product not in master file *
INVALID VENDOR NO.	=	* invalid vendor identification number *
ITEM	=	{ PRODUCT }
LAST PRICE	=	* last product cost unit price *
NEW CUSTOMER	=	* new customer *
NEW CUSTOMER DETAIL	=	* new customer information *
		customer no. + name + address +telephone
		number + fax number + credit limit
NEW CUSTOMER NAME	=	* new customer name *
NEW ITEM SLIP	=	* new product slip that use to store in file
		and put in master file *
NEW ORDER	=	* new order provided by customer *
		customer no + customer name + order date
		+ term payment + product no – product
		name + count + quantity + unit price
		+ order amount

DATA DICTIONARY OF NEW SYSTEM

NEW ORDER DETAIL	=	* new order information *
		customer no + customer name + order date
		+ term payment + product no + product
		name + count + quantity + unit price
		+ order amount
NEW PRICE	=	* new product cost unit price *
NEW PRODUCT	=	product no + product name + count
		+quantity + sale unit price + cost unit price
		+ last price
NEW PRODUCT DETAIL	=	product no + product name + count
		+quantity + sale unit price+cost unit price
		+ last price
NEW VENDOR DETAIL	=	* not exist vendor detail in master file *
		vendor no + vendor name + address
		+ telephone number + fax number+contact
		name + term payment + credit balance
NOT EXIST PRODUCT DETAIL	=	* product detail that not in master file at that time *
ORDER	=	{ ORDER }
ORDER CONFIRM	=	* confirm order that provided by company to customer *

DATA DICTIONARY OF NEW SYSTEM

QTY TO PURCHASE   =   * number of goods that purchase from vendor *

QUOTATION   =   { QUOTATION }

RECEIVE SLIP   =   *slip sent to inventory department for add new quantity to quantity on hand * invoice no + invoice date + purchase order no + purchase order date+vendor no + vendor name + product no + product name + quantity + cost unit price+ amount + VAT + grand total

SALES SLIP   =   * slip that make for sale transaction after close sales *

SHIPPING SLIP   =   *slip that use to checking income product*

UPDATE   =   * update the master file *

VALID CUSTOMER   =   * valid customer detail *

VALID INQUIRY   =   * valid inquiry of customer *

VALID ORDER   =   * valid order of customer *

VALID ORDER DETAIL   =   * valid order description and other detail *

VALID PRODUCT   =   * valid product information *

DATA DICTIONARY OF NEW SYSTEM

VENDOR DETAIL   =   * vendor information *

                                   vendor no + vendor name + address

                                   + telephone number + fax number+contact

                                   name + term payment + credit balance

VENDOR NAME   =   * name of vendor *

APPENDIX A-2 : PROCESS SPECIFICATION

PROCESS SPECIFICATION

PROCESS NO. : 1.1.1

PROCESS NAME : CHECK VALID FORM

BEGIN

    ACCEPT order and inquiry form

    FIND customer record in CUSTOMERS with cust_no

        matching order in order form and matching inquiry

        in inquiry form

    IF RECORD CAN BE FOUND

        DISPLAY " VALID FORM"

    ELSE

        DISPLAY " INVALID FORM"

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.1.2

PROCESS NAME : SET CUSTOMER DETAIL

BEGIN

    ACCEPT customer detail

    FIND cust_no in CUSTOMERS

    IF RECORD CAN BE FOUND

        STORE customer record

    ELSE

        DISPLAY " INVALID CUSTOMER NUMBER"

    ENDIF

END
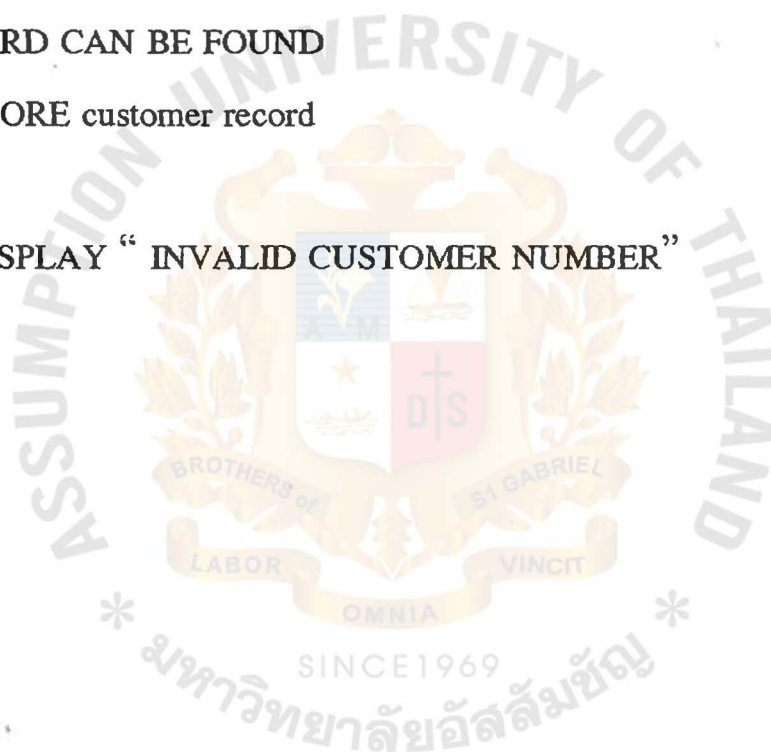
PROCESS SPECIFICATION

PROCESS NO. : 1.1.3

PROCESS NAME : GET PRODUCT DETAIL

BEGIN

    ACCEPT product detail

    FIND product_no in PRODUCTS

    IF RECORD CAN BE FOUND

        STORE qty on hand and product name

        IF qty on hand < qty on order

            store qty on hand to qty to purchase

        ENDIF

        DISPLAY " VALID PRODUCT"

    ELSE

        DISPLAY " INVALID PRODUCT"

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.1.4

PROCESS NAME : CHECK WHOLE DETAIL

BEGIN

    ACCEPT product record

    ACCEPT customer record

    IF product record and customer record CAN BE FOUND

        DISPLAY " VALID ORDER AND INQUIRY"

    ELSE

        DISPLAY " INVALID ORDER AND INQUIRY"

    ENDIF

END
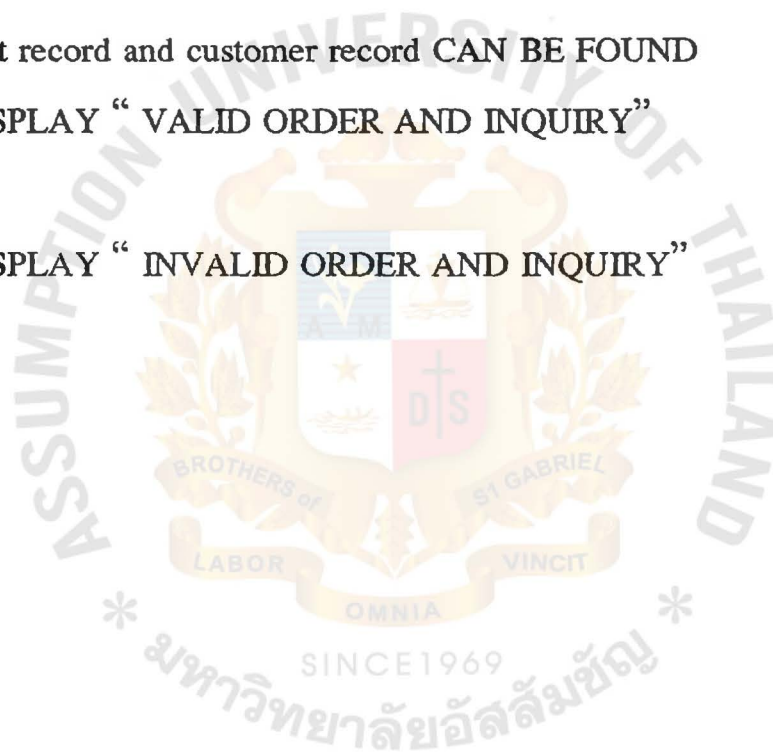
PROCESS SPECIFICATION

PROCESS NO. : 1.2.1

PROCESS NAME : SET PRICE

BEGIN

    ACCEPT valid inquiry record

    FIND product_no in PRODUCTS

    IF RECORD CAN BE FOUND

        STORE unit price

    ELSE

        DISPLAY " PRODUCT NOT FOUND"

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.2.2

PROCESS NAME : CHANGE INQUIRY TO ORDER

BEGIN

    ACCEPT customer quotation

    STORE inquiry record TO order record

END

PROCESS SPECIFICATION

PROCESS NO. : 1.3.1

PROCESS NAME : CHECK VALID ORDER

BEGIN

    ACCEPT order

    FIND order record in ORDERS with order_no

    IF RECORD CAN BE FOUND

        STORE new order record

    ELSE

        DISPLAY " INVALID ORDER"

    ENDIF

END
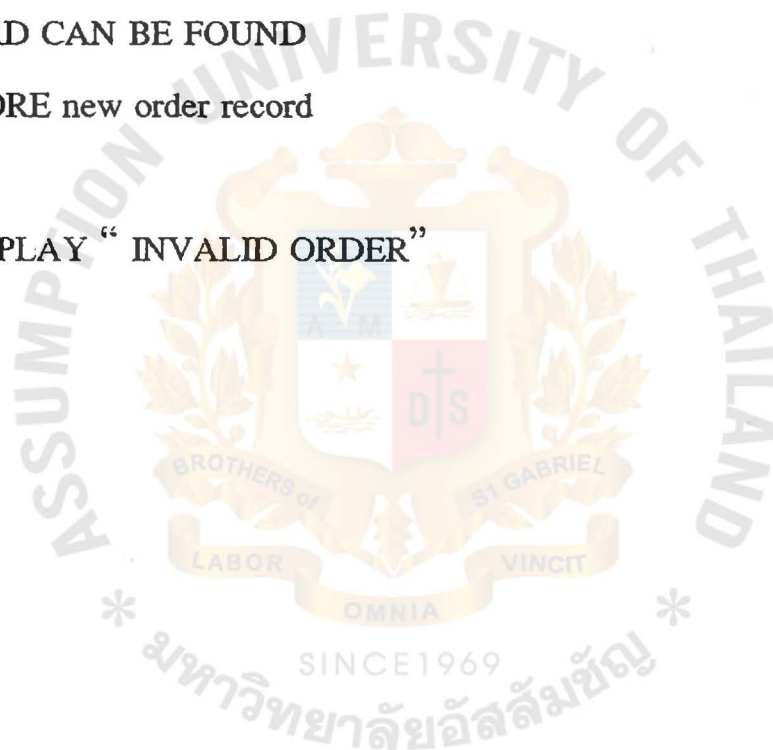
PROCESS SPECIFICATION

PROCESS NO. : 1.3.2

PROCESS NAME : CREATE NEW ORDER

BEGIN

    ACCEPT new order detail

    FIND price , qty on hand in PRODUCTS with product_no

        or product name

    IF RECORD CAN BE FOUND

        DISPLAY " CONFIRM THIS ORDER"

    ELSE

        STORE new product record

    ENDIF

    STORE order record

END

PROCESS SPECIFICATION

PROCESS NO. : 1.3.3

PROCESS NAME : CHECK QTY ON HAND AND UPDATE PRODUCT

```
BEGIN
        ACCEPT product no. , product detail
        FIND product_no in PRODUCTS
        IF RECORD CAN BE FOUND
                STORE product name
                STORE qty on hand
        ELSE
                DISPLAY " INVALID PRODUCT "
        ENDIF
END
```
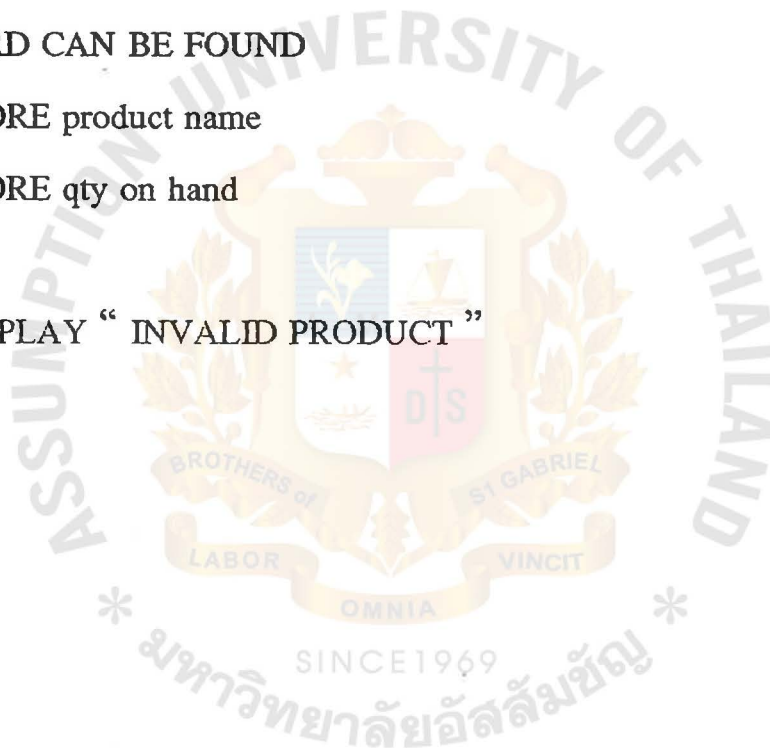
PROCESS SPECIFICATION

PROCESS NO. : 1.3.4.2

PROCESS NAME : CONTROL PAYMENT

BEGIN

    ACCEPT payment detail , sales slip detail

    FIND customer no. in A/R

    IF payment record NOT NULL

        credit balance = credit balance - grand total

        DISPLAY payment record

    ELSE

        credit balance = credit balance + grand total

        DISPLAY sale slip record

    ENDIF

    STORE credit balance

END

PROCESS SPECIFICATION

PROCESS NO. : 1.3.4.1

PROCESS NAME : CONTROL SALE

BEGIN

    ACCEPT order detail

    FIND customer no in A/R

    IF RECORD CAN BE FOUND

        grand total = 0

        amount = qty on order * sale unit price

        vat = (amount * 0.07) + amount

        grand total = amount + vat

        STORE order record

        DISPLAY sale slip record

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.3.4.3

PROCESS NAME : RECEIVE NEW ORDER

BEGIN

    ACCEPT new order detail

    FIND order no in ORDERS

    IF RECORD CAN BE FOUND

        STORE order record

        DISPLAY " VALID ORDER DETAIL "

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.3.5

PROCESS NAME : PURCHASE PRODUCT

BEGIN

    ACCEPT product no. , product name

    FIND product_no in PRODUCTS

    IF RECORD CAN BE FOUND

        DISPLAY qty , unit price

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.5.1

PROCESS NAME : CHECK PRODUCT NAME

BEGIN

    ACCEPT product no , qty on hand , product detail

    FIND product_no in PRODUCTS

    DISPLAY product no , product name , qty on hand

END

PROCESS SPECIFICATION

PROCESS NO. : 1.5.2

PROCESS NAME : CHECK QTY ON HAND

BEGIN

    ACCEPT product no , qty on hand

    FIND product_no in INVENTORY

    IF RECORD CAN BE FOUND

        qty in hand = qty on hand - qty on order

        STORE qty on hand

        DISPLAY qty on hand

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.6.1

PROCESS NAME : FIND EXIST PRODUCT DETAIL

BEGIN

    ACCEPT product name , wty to purchase

    FIND product_no in PRODUCTS

    IF RECORD CAN BE FOUND

        DISPLAY product record

        DISPLAY " EXIST PRODUCT DETAIL "

    ELSE

        DISPLAY " NOT EXIST PRODUCT DETAIL "

    ENDIF

END
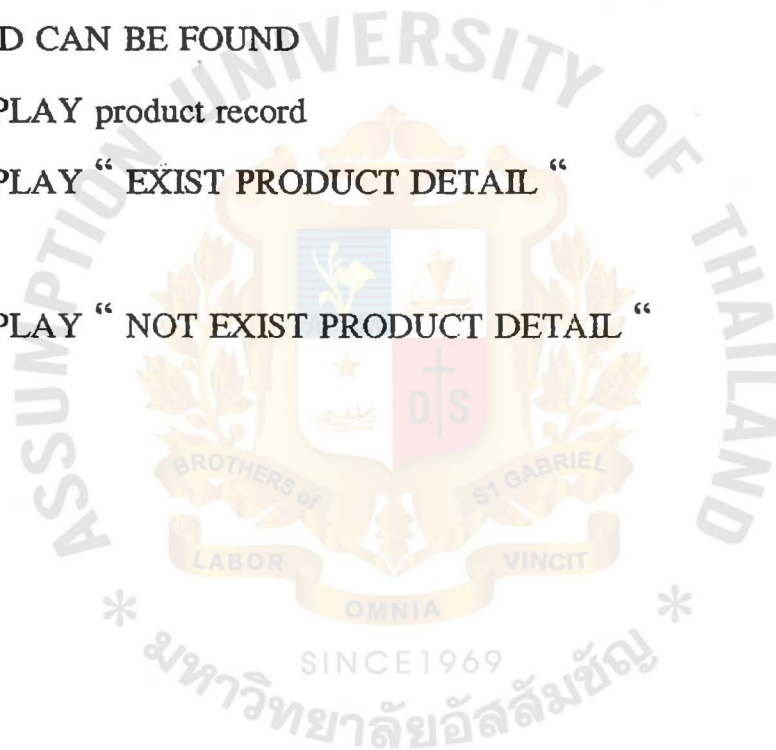
PROCESS SPECIFICATION

PROCESS NO. : 1.6.2

PROCESS NAME : FIND PRICE

BEGIN

    ACCEPT product no

    FIND product_no in PRODUCTS

    IF RECORD CAN BE FOUND

        STORE price , product record

        DISPLAY unit price

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 1.6.3

PROCESS NAME : ADD NEW PRODUCT

BEGIN

    ACCEPT new product record

    GET product no

    STORE product no , product name , count , qty on hand , cost unit

price

    TO PRODUCTS

    DISPLAY product name

END

PROCESS SPECIFICATION

PROCESS NO. : 1.6.4

PROCESS NAME : CREATE P/O DETAIL

BEGIN

    ACCEPT quotation , product detail , shipping detail

    ADD 1 to po no

    total amount = 0

    REPEAT UNTIL There are no more product in purchase order

        amount = qty to purchase * cost unit price

        total amount = total amount + amount

    END REPERT

    vat = total + (total * 0.07)

    gtotal = total + vat

    STORE purchase order record

END

PROCESS SPECIFICATION

PROCESS NO. : 2.1

PROCESS NAME : GET AND VALID CUSTOMER NO.

BEGIN

    ACCEPT customer no

    IF customer no NOT NULL

        DISPLAY " VALID CUSTOMER NO "

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.2

PROCESS NAME : GET AND VALID CUSTOMER NAME

BEGIN

    ACCEPT customer name

    FIND customer record in CUSTOMERS

    IF customer record CAN BE FOUND

        DISPLAY customer name

    ELSE

        DISPLAY " NEW CUSTOMER "

        DISPLAY customer name

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.3

PROCESS NAME : ADD NEW CUSTOMER

BEGIN

    ACCEPT new customer name

    STORE customer record to CUSTOMERS

    DISPLAY customer record

END

PROCESS SPECIFICATION ·

PROCESS NO. : 2.4.1

PROCESS NAME : FIND NAME AND ADDRESS

BEGIN

    ACCEPT customer no , customer name

    FIND customer name , address in CUSTOMERS

    IF RECORD CAN BE FOUND

        DISPLAY customer name , addredd

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.4.2

PROCESS NAME : FIND CREDIT LIMIT

BEGIN

    ACCEPT   customer no

    FIND credit limit in CUSTOMER

    IF RECORD CAN BE FOUND

        DISPLAY credit limit

    ELSE

        DISPLAY " INVENLID CUSTOMER NO "

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.5.1

PROCESS NAME : GET CUSTOMER DETAIL

BEGIN

    ACCEPT customer detail

    IF customer no and customer name NOT NULL

        DISPLAY customer no

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.5.2

PROCESS NAME : CHECK USED CREDIT

BEGIN

> ACCEPT customer no , payment slip , sale slips

> FIND customer record in A/R

> IF RECORD IS FOUND

>> credit balance = credit balance - payment amount

>> credit balance = credit balance + sale amount

>> REPLACE credit balance

>> REPLACE payment amount

>> REPLACE sale amount

> ELSE

>> DISPLAY " INVALID CUSTOMER "

> ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 2.5.3

PROCESS NAME : AVAILABLE BALANCE

BEGIN

    ACCEPT customer no

    FIND customer name in CUSTOMER

    IF NOT FOUND

        DISPLAY " INVALID CUSTOMER "

    ELSE

        FIND credit balance and credit limit in A/R

        credit available = credit limit - credit balance

        DISPLAY customer record

        DISPLAY credit available

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 3.1.1

PROCESS NAME : FIND VENDOR DETAIL

BEGIN

    ACCEPT vendor name , credit balance

    FIND vendor record in VENDORS

    IF NOT FOUND

        DISPLAY " NEW VENDOR "

    ELSE

        STORE credit balance

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 3.1.2

PROCESS NAME : PROCESS QUOTATION

BEGIN

    ACCEPT quotation

    FIND last price in VENDORS with product no or product name

    STORE purchase order record

    DISPLAY purchase order record

    DISPLAY " THIS QUOTATION IS CONFIRM "

END
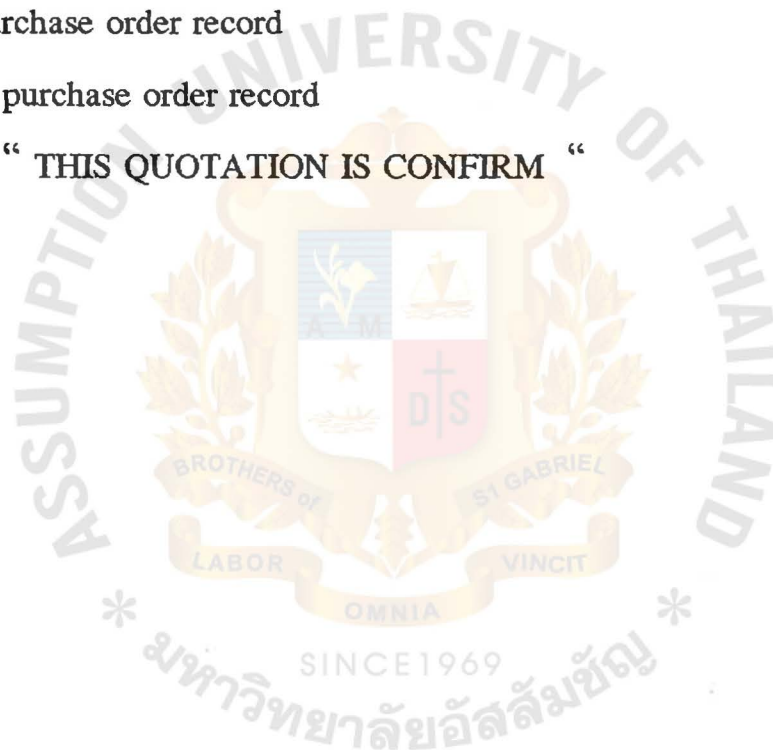
PROCESS SPECIFICATION

PROCESS NO. : 3.13

PROCESS NAME : ISSUE PURCHASE ORDER

BEGIN

    ACCEPT vendor name , purchase order record

    FIND vandor record in VENDORS

    DISPLAY purchase order detail

    WRITE purchase order record to purchase order form

    PRINT purchase order detail

END

PROCESS SPECIFICATION

PROCESS NO. : 3.2

PROCESS NAME : PROCESS SHIPPING

BEGIN

    ACCEPT purchase order record , shipping detail

    FIND po no in A/P

    STORE shipping record

    WRITE shipping record to shipping slip

    DISPLAY " APPROVED SHIPPING "

END

PROCESS SPECIFICATION

PROCESS NO. : 3.3

PROCESS NAME : CONTROL PRODUCT DETAIL

BEGIN

    ACCEPT product no , product name

    FIND last price and product detail from PRODUCTS

    IF NOT FOUND

        FIND product detail from VENDORS

        STORE new price to products.last price

        STORE new product to PRODUCTS

    ELSE

        DISPLAY " INVALID PRODUCT NAME "

    ENDIF

    WRITE last price

END

PROCESS SPECIFICATION

PROCESS NO. : 3.4

PROCESS NAME : PROCESS ACCOUNT PAYABLE

BEGIN

    ACCEPT shipping detail , purchase order detail , payment detail

    FIND credit balance from A/P

    IF payment = '1'

        credit balance = credit balance - payment amount

    ELSE

        IF shipping = '1'

            STORE shipping record and purchase order record

                to receive record

            WRITE receive record to receive form

            STORE receive record to A/P

        ENDIF

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 3.5

PROCESS NAME : CHECK VENDOR DETAIL

BEGIN

    ACCEPT new vendor detail , vendor no

    FIND vendor no from VENDORS

    IF RECORD NOT FOUND

        REPLACE new vendor record to vendor record

        APPEND vendor record to VENDORS

    ELSE

        READ vendor record

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 3.6

PROCESS NAME : PAYMENT PROCESS

BEGIN

      ACCEPT receive detail , payment from VENDOR

      FIND receive no from A/P

      WRITE payment record to payment form

END

PROCESS SPECIFICATION

PROCESS NO. : 4.1

PROCESS NAME : CHECK QUANTITY ON HAND

BEGIN

    ACCEPT valid order detail

    FIND product no from INVENTORY

    IF RECORD FOUND

        READ qty on hand

    ELSE

        DISPLAY ' INVALID PRODUCT NO '

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 4.2

PROCESS NAME : UPDATE INVENTORY

BEGIN

    ACCEPT product no , quantity on order , quantity on purchase ,

        shipping detail

    FIND product no from INVENTORY

    IF RECORD IS FOUND

        READ product record

        IF status on order = '1'

            nqty = qty - qty on order

            REPLACE qty with nqty

            WRITE product record

        ELSE

            IF status on purchase = '1' and status on shipping = '1'

                nqty = qty + qty on purchase

                REPLACE qty qith nqty

                WRITE product record

            ENDIF

        ENDIF

    ELSE

        DISPLAY " INVALID PRODUCT "

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 4.3

PROCESS NAME : MATCH SHIPPING SLIP

BEGIN

    ACCEPT purchase order detail , shipping detail

    IF status on purchase = '1'

        WRITE shipping detail to shipping form

    ELSE

        STORE shipping record

    ENDIF

END

PROCESS SPECIFICATION

PROCESS NO. : 4.4

PROCESS NAME : CHECK PURCHASE ORDER

BEGIN

    ACCEPT purchase order no

    FIND purchase order record from P/O

    IF RECORD NOT FOUND

        DISPLAY " INVALID PURCHASE ORDER NO "

    ELSE

        READ purchase order record

        WRITE purchase order record

    ENDIF

END
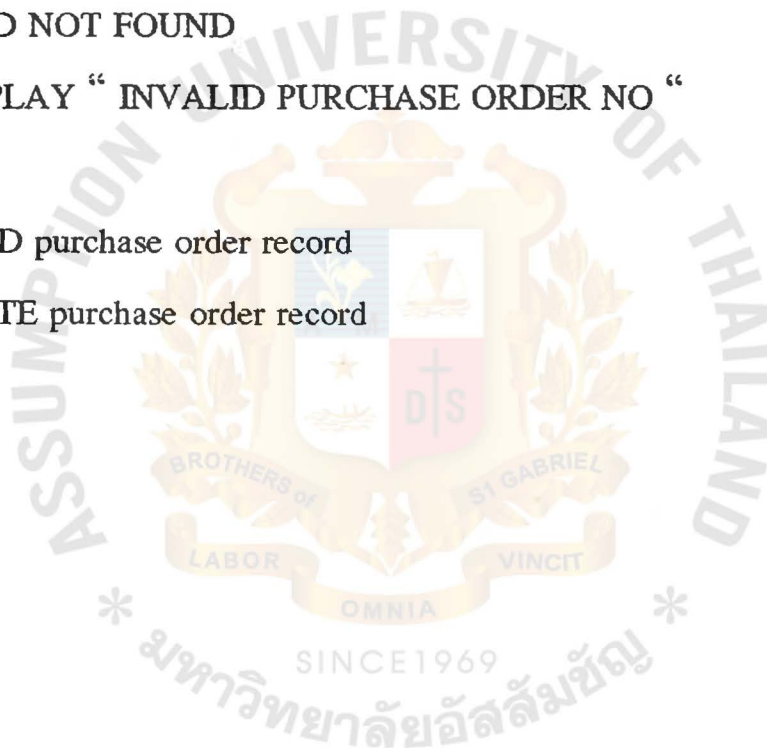
APPENDIX A-3 : MENU SCREEN

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─ 📋 🗐                    Microsoft FoxPro                    🗗 🔼

INFORMATION          A/R  A/P  INVENTORY  P/O  MAINTENANCE  Text
┌──────────────────────┐
│ ISSUE BILL           │
│ RECIEVE ORDER        │
│ RETURN PRODUCT       │
├──────────────────────┤ ┌────────────────────────────┐
                         │ CASH BILL REPORT           │
                         │ CREDIT BILL REPORT         │
                         │ ORDER REPORT               │
                         │ RETURN PRODUCT REPORT      │
                       ├─┴────────────────────────────┤
   ┌──────────────────────┐
   │ QUARTER SALE REPORT  │
   │ YEARLY SALE REPORT   │
   │ FORCAST SALE REPORT  │
   └──────────────────────┘
```

Menu Screen-Issue bill

```
███▌█ ▐                        Microsoft FoxPro                        ▐█ █
INFORMATION   ISSUE BILL        A/P  INVENTORY   P/O  MAINTENANCE   Text
                              CUSTOMER DETAIL
                              PAYMENT
                              ─────────────────────────────────
                                                   A/R ENGING
                                                   PAYMENT
```

Menu Screen- Account Receivable

- 102 -

```
 ─ W ▤                    Microsoft FoxPro                    ◰ ◳
INFORMATION  ISSUE BILL  A/R  [   ]  INVENTORY  P/O  MAINTENANCE  Text
                              VENDOR INFORMATION
                              PAYMENT
                              ────────────────────────────
                                                      A/P AGING
                                                      PAYMENT
```

Menu Screen- Account Payable

- 103 -

```
┌─────────────────────────────────────────────────────────────────────────┐
│ ─ ▣    │                    Microsoft FoxPro                    │ ▣ ▣ │
├─────────────────────────────────────────────────────────────────────────┤
│ INFORMATION   ISSUE BILL   A/R   A/P          P/O   MAINTENANCE   Text     │
├───────────────────────────────────┬───────────────────────────────────────┤
│                                    │ PRODUCT DETAIL                         │
│                                    │ UPDATE PRODUCT QUANTITY                │
│                                    │ RECIEVE PRODUCT [P/O]                  │
│                                    │ RETURN [TO VENDOR]                     │
│        ┌───────────────────────────┴──────────┐                           │
│        │ UPDATE PRODUCT QUANTITY               │                           │
│        │ RECIVE PRODUCT [P/O]                  │                           │
│        │ RETURN [TO VENDOR]                    │                           │
│        │ QUANTITY ON HAND                      │                           │
│        │ LOWER QUANTITY                        │                           │
│        │ OVER QUANTITY                         │                           │
│        │ NO SALE PRODUCT                       │                           │
│        └───────────────────────────────────────┘                          │
│                                                                             │
└─────────────────────────────────────────────────────────────────────────┘
```

Menu Screen- Inventory

| INFORMATION | ISSUE BILL | A/R | A/P | INVENTORY | | MAINTENANCE | Text |

ISSUE P/O

P/O LIST RECIEVD
P/O NOT RECIEVE

Menu Screen- Purchase Order

INFORMATION | ISSUE BILL | A/R | A/P | INVENTORY | P/O | Text

Microsoft FoxPro

USER MAINTENANCE

RESTORE
DELETE TRANSACTION
DELETE MASTER FILE

Menu Screen- Maintenance
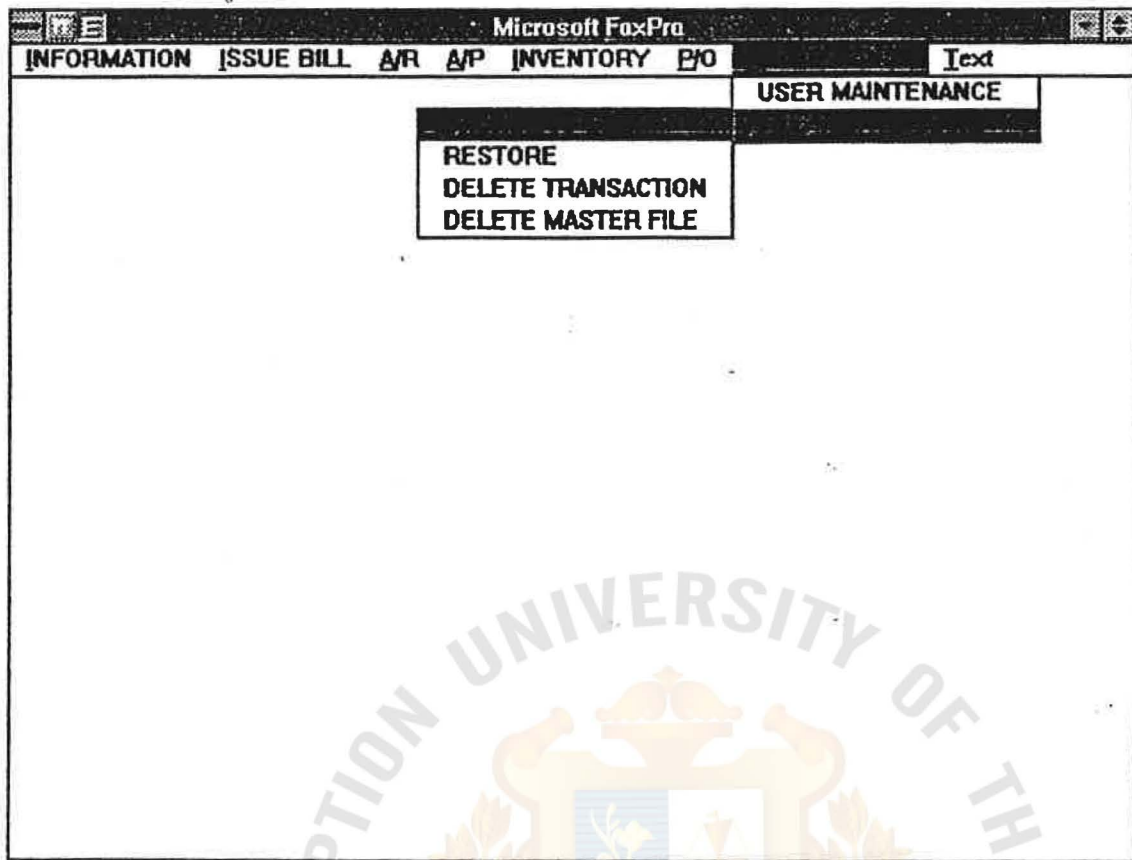
APPENDIX A-4 : SCREEN LAYOUT

Microsoft FoxPro

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

RECIEVE ORDER

DATE: 15/11/1996   ORDER NO. : ROA9002

CUSTOMER NO : CUS001

CUSTOMER NAME : ABC COM LTD   TEL : 854-7420 851-5

ADDRESS : 1st 10. TOWER RAMA. BANGKOK   TERM PAYMENT : 30 DAYS

DELIVERY DATE : 06/12/1996

			UNIT	5.0000	125.00	625.00
1	003	Ball Pen				
2	004	Som	Set	7.0000	280.00	1960.00
3						
4						
5						

TOTAL AMT	2585.00
VAT 7%	180.95
GRAND TOTAL	2765.95

EDIT   NEW   LOCATE   DELETE   PRINT   EXIT

Microsoft FoxPro

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

RETURN PRODUCT (FROM CUSTOMER)

DATE :	15/11/1996	BILL NO. : BL/010050
CUSTOMER NO :	CUS002	R/T NO : RT002
CUSTOMER NAME :	APEC	
ADDRESS :	HEAD ASIA	
TEL :	13-5545456	
REMARK :		

1	003	Red Pen	UNIT	30.000	115.00	2300.00
2	004	Sam	SET	10.000	275.00	1100.00
3						
4						
5						

TOTAL AMT	3300.00
VAT 7%	93.10
GRAND TOTAL	3423.10

| |← | ← | → | →| | | EDIT | NEW | LOCATE | DELETE | PRINT | EXIT |

- 109 -

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

PAYMENT (A/R)

DATE: [15/11/1998]   ◇ CASH   ● CHEQUE

PC NO. : [PC001]   CHEQUE NO. : [025-54545]

AMOUNT : [8249.35]   DATE OF CHEQUE : [16/12/1998]

CUSTOMER NO. : [CUS001]   BANK : [BBL BKK]

CUSTOMER NAME : [ABC CON LTD.]

1	BL/11	15/08/1998	1280.00	80.30	1380.30
2	BL/12	05/12/1998	1065.00	120.55	1185.55
3	BL/13	08/11/1998	1750.00	122.50	1872.50
4					
5					

TOTAL   [4905.00]   [343.05]   [8248.35]

|◀ ◀ ▶ ▶| EDIT   NEW   LOCATE   DELETE   PRINT   EXIT

- 111 -

```
━ M E                        Microsoft FoxPro                        ▣ ◆

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE
```

```
┌─────────────────────── IRA COMPANY ───────────────────────┐

                         PAYMENT (A/P)

  DATE :          15/17/998            ○ CASH    ● CHEQUE

  PV NO :         PV/002               CHEQUE NO. :     125.558848

  AMOUNT :        2575.00              DATE OF CHEQUE :  09/12/998

  VENDOR NO :     CUS001               BANK :            TMB

  VENDOR NAME :   ABC COM. LTD.

  ┌──┬────────┬──────────┬──────────┬──────────┬──────────┐
  │ 1│ PO/002 │ 09/11/998│  2500.00 │    75.00 │  2505.00 │
  │ 2│        │          │          │          │          │
  │ 3│        │          │          │          │          │
  │ 4│        │          │          │          │          │
  │ 5│        │          │          │          │          │
  ├──┴────────┴──────────┼──────────┼──────────┼──────────┤
  │      T O T A L        │  2500.00 │   175.00 │  2575.00 │
  └───────────────────────┴──────────┴──────────┴──────────┘

  |◄   ◄   ►   ►|    [EDIT] [NEW] [LOCATE] [DELETE] [PRINT] [EXIT]
```

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

PRODUCT DETAIL

PRODUCT NO :   001

PRODUCT NAME :   Note pad

COUNT :   PACK

LOWER QTY :   60.0000

HIGHER QTY :   120.0000

QUANTITY ON HAND :   90.0000

AVG. COST PRICE :   142.51   LAST BUY PRICE :   135.00

SALE PRICE :   160.00   LAST SALE PRICE :   08/11/1996

[|<] [<] [>] [>|]   [EDIT] [NEW] [LOCATE] [DELETE] [PRINT] [EXIT]

INFORMATION ISSUE BILL A/R A/P INVENTORY P/O MAINTENANCE

IRA COMPANY

UPDATE PRODUCT QUANTITY

DATE: 15/11/1998   EDIT NO. : UP001

TYPE OF UPDATE CODE :

REMARK :

1	001	Note pad	PACK	5.0000	135.00	675.00
2	002	Book	Set	6.0000	100.00	600.00
3						
4						
5						

TOTAL AMT.   1,275.00

|◄ ◄ ► ►| EDIT NEW LOCATE DELETE PRINT EXIT

- 114 -

Microsoft FoxPro

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

RECEIVE PRODUCT (P/O)

DATE : 15/11/1996	P/O NO : PO002
VENDOR NO : CUS001	RECEIVE NO : RC002
VENDOR NAME : ABC COAL LTD	TERM : 30 DAYS
DUE DATE : 08/12/1996	DELIVERY DATE : 05/11/1996

1	003	Red Pen	UNIT	5.0000	115.00	575.00
2	004	Pen	UNIT	7.0000	275.00	1925.00
3						
4						
5						

TOTAL AMT	2500.00
VAT 7%	175.00
GRAND TOTAL	2675.00

| ⏮ | ◀ | ▶ | ⏭ | EDIT | NEW | LOCATE | DELETE | PRINT | EXIT |

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

RETURN PRODUCT (TO VENDOR)

DATE :   R/C NO. :   RC001

CUSTOMER NO :   R/V NO. :   RV001

CUSTOMER NAME :   ABC COM.LTD.

ADDRESS :

TEL :

REMARK :

1	001	Note pad	PACK	1.0000	650.00	640.00
2	002	book	Set	5.0000	100.00	500.00
3						
4						
5						

TOTAL AMT	1040.00
VAT 7%	72.00
GRAND TOTAL	1112.00

|◄ ◄ ► ►| EDIT NEW LOCATE DELETE PRINT EXIT

INFORMATION   ISSUE BILL   A/R   A/P   INVENTORY   P/O   MAINTENANCE

IRA COMPANY

ISSUE PURCHASE ORDER

DATE :   16/11/1996   P/O NO :   96-002

VENDOR NO :   CUS001

VENDOR NAME : ABC COM. LTD   TEL :   054-220/651-8

ADDRESS :   181 S/O TONBR 10300 BANGKOK   TERM PAYMENT : 30   DAYS

                                            DELIVERY DATE : 06/12/1996

1	003	Part no	1.00	5.0000	115.00	575.00
2	004	Cart	5.00	7.0000	275.00	1925.00
3						
4						
5						

TOTAL AMT   2500.00
VAT 7%   175.00
GRAND TOTAL   2675.00

[EDIT] [NEW] [LOCATE] [DELETE] [PRINT] [EXIT]

APPENDIX A-5 : SAMPLES OF REPORT

IRA COMPANY

CASH BILL REPORT

BILL NO. :   BL/11   CUSTOMER NO. :   CUS001

DATE :   05/09/1996   CUSTOMER NAME :   TAI WAY

ORDER NO. :   RO/0001   DELIVERY DATE :   / /

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	3.0000	150.00	450.00
2	002	Book	Set	7.0000	120.00	840.00
				TOTAL		1290.00
				VAT		90.30
				GRAND TOTAL		1380.30

BILL NO. :   BL/12   CUSTOMER NO. :   CUS002

DATE :   05/12/1996   CUSTOMER NAME :   TAI WAY

ORDER NO. :   RO/0005   DELIVERY DATE :   / /

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	3.0000	150.00	450.00
2	002	Book	Set	7.0000	120.00	840.00
3	003	Red Pen	Unit	5.0000	115.00	575.00
				TOTAL		1865.00
				VAT		130.55
				GRAND TOTAL		1995.55

BILL NO. :   BL/14   CUSTOMER NO. :   CUS001

DATE :   05/11/1996   CUSTOMER NAME :   TAI WAY

ORDER NO. :   RO/0001   DELIVERY DATE :   / /

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	3.0000	150.00	450.00
2	002	Book	Set	7.0000	120.00	840.00
				TOTAL		1290.00
				VAT		90.30
				GRAND TOTAL		1380.30

SUM TOTAL :   4445.00 VAT :   311.15 GRAND TOTAL :   4756.15

IRA COMPANY

CREDIT BILL REPORT

BILL NO. :	BL/117		CUSTOMER NO. :	CUS001	
DATE :	08/11/1996		CUSTOMER NAME :	ABC COM.,LTD.	
ORDER NO. :	RO/001		DELIVERY DATE :	08/11/1996	

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	5.0000	135.00	675.00
2	002	Book	Set	12.0000	100.00	1200.00
				TOTAL		1875.00
				VAT		131.25
				GRAND TOTAL		2006.25

BILL NO. :	BL/13		CUSTOMER NO. :	CUS001	
DATE :	05/11/1996		CUSTOMER NAME :	TAI WAY	
ORDER NO. :	RO/0001		DELIVERY DATE :	/ /	

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	3.0000	150.00	450.00
2	002	Book	Set	7.0000	120.00	840.00
3	003	Red Pen	Unit	4.0000	115.00	460.00
				TOTAL		1750.00
				VAT		122.50
				GRAND TOTAL		1872.50

BILL NO. :	BL/15		CUSTOMER NO. :	CUS001	
DATE :	08/11/1996		CUSTOMER NAME :	ABC COM.,LTD.	
ORDER NO. :	RO/0002		DELIVERY DATE :	/ /	

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	5.0000	125.00	625.00
2	004	com	Set	7.0000	280.00	1960.00
				TOTAL		2585.00
				VAT		180.95
				GRAND TOTAL		2765.95

SUM TOTAL :   6210.00 VAT :   434.70 GRAND TOTAL :   6644.70

IRA COMPANY

ORDER REPORT

ORDER NO. : RO/0001	CUSTOMER NO. : CUS001
DATE : 30/10/1996	CUSTOMER NAME : TAI WAY
TERM PAYMENT: 30 DAYS	DELIVERY DATE : 29/11/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	3.0000	150.00	450.00
2	002	Book	Set	7.0000	120.00	840.00
				TOTAL		1290.00
				VAT		90.30
				GRAND TOTAL		1380.30

ORDER NO. : RO/0002	CUSTOMER NO. : CUS001
DATE : 08/11/1996	CUSTOMER NAME : ABC COM.,LTD.
TERM PAYMENT: 30 DAYS	DELIVERY DATE : 08/12/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	5.0000	125.00	625.00
2	004	com	Set	7.0000	280.00	1960.00
				TOTAL		2585.00
				VAT		180.95
				GRAND TOTAL		2765.95

SUM	TOTAL : 3875.00	VAT : 271.25	GRAND TOTAL : 4146.25

IRA COMPANY

RETURN PRODUCT REPORT (CUSTOMER)   PAGE   1

RT/C NO. : RT/001   CUSTOMER NO. :   CUS002

DATE :   31/10/1996   CUSTOMER NAME :   APEC

BILL NO. : BL/010050

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	2.0000	115.00	230.00
2	004	com	Set	4.0000	275.00	1100.00
				TOTAL		1330.00
				VAT		93.10
				GRAND TOTAL		1423.10

SUM   TOTAL :   1330.00   VAT :   93.10   GRAND TOTAL :   1423.10

- 121 -

IRA COMPANY

15/11/1996

YEAR/MONTH	CASH SALE	CREDIT SALE	TOTAL SALE
1996/08	0.000000	4460.000000	4460.000000
1996/05	4445.000000	1750.000000	6195.000000

IRA COMPANY

15/11/1996

QUARTER	CASH SALE	CREDIT SALE	TOTAL SALE
1996/Q3	1290.000000	0.000000	1290.000000
1996/Q4	3155.000000	6210.000000	9365.000000

YEARLY SALE REPORT

YEARLY	CASH SALE	CREDIT SALE	TOTAL SALE
1996	4445.000000	6210.000000	10655.000000

IRA COMPANY

15/11/1996

FORCAST SALE REPORT

Page   1

QUARTER	CASH SALE	CREDIT SALE	TOTAL SALE
1996/Q1	1000000.000000	200000.000000	1200000.000000
1996/Q2	1300000.000000	300000.000000	1600000.000000
1996/Q3	1200000.000000	250000.000000	1450000.000000
1996/Q4	1500000.000000	350000.000000	1850000.000000
1997/Q1	1150000.000000	210000.000000	1360000.000000
1997/Q2	1495000.000000	315000.000000	1810000.000000
1997/Q3	1380000.000000	262500.000000	1642500.000000
1997/Q4	1725000.000000	367500.000000	2092500.000000

IRA COMPANY

VENDOR / CUSTOMER DETAIL REPORT　　PAGE　1

VENDOR NO.	VENDOR NAME	TERM PAY	CREDIT LINE
CUS001	ABC COM.,LTD.	30	200000
ADDRESS :	161 S.G. TOWER RAJDA BANGKOK		
TEL :	854-7420,651-8	FAX : 254-7434	
CONTACT :	Mr.ALIAN		
CUS002	APEC	45	1000000
ADDRESS :	AFAFASFA		
TEL :	02-554546	FAX : 02-4646565	
CONTACT :	Mr.B		
CUS003	APEC	45	1000000
ADDRESS :	AFAFASFA		
TEL :	02-554546	FAX : 02-4646565	
CONTACT :	Mr.B		

BILL DATE	CUSTOMER	DUEDATE	DAYS
05/11/1996	TAI WAY	05/12/1996	20
08/11/1996	ABC COM.,LTD.	08/12/1996	23
08/11/1996	ABC COM.,LTD.	08/12/1996	23

IRA COMPANY

PAYMENT REPORT (A/R)

P/C NO. : PC001		CUSTOMER NO. :	CUS001
DATE : 08/11/1996		CUSTOMER NAME :	ABC COM.,LTD.
	CHEQUE	CHEQUE NO :	325-54545-
AMOUNT :	5248.35	DATE OF CHEQUE :	16/12/1996
		BANK :	BBL/BKK

NO.	BILL NO.#	BILL DATE	BILL AMOUNT	VAT	GRAND TOTAL
1	BL/11	09/05/1996	1290.00	90.30	1380.30
2	BL/12	12/05/1996	1865.00	130.55	1995.55
3	BL/13	11/05/1996	1750.00	122.50	1872.50
	TOTAL		4905.00	343.35	5248.35

	TOTAL	4905.00	343.35	5248.35

RECIEVE DATE	CUSTOMER	DUEDATE	DAYS
08/11/1996	ABC COM.,LTD.	23/12/1996	38
08/11/1996	ABC COM.,LTD.	08/12/1996	23

IRA COMPANY

P/V NO. :	PV/001		VENDOR NO. :	CUS001
DATE :	08/11/1996		VENDOR NAME :	ABC COM.,LTD.
		CHEQUE	CHEQUE NO :	325-56566-
AMOUNT :		2080.00	DATE OF CHEQUE :	16/11/1996
			BANK :	SCB/BKK

NO.	BILL NO.#	BILL DATE	BILL AMOUNT	VAT	GRAND TOTAL
1	RC/001	11/02/1996	2080.00	145.60	2225.60
		TOTAL	2080.00	145.60	2225.60

P/V NO. :	PV/002		VENDOR NO. :	CUS001
DATE :	08/11/1996		VENDOR NAME :	ABC COM.,LTD.
		CHEQUE	CHEQUE NO :	125-658848
AMOUNT :		2500.00	DATE OF CHEQUE :	09/12/1996
			BANK :	TMB

NO.	BILL NO.#	BILL DATE	BILL AMOUNT	VAT	GRAND TOTAL
1	RC/002	11/08/1996	2500.00	175.00	2675.00
		TOTAL	2500.00	175.00	2675.00

| **TOTAL** | | | 4580.00 | 320.60 | 4900.60 |

IRA COMPANY

15/11/1996 **PRODUCT DETAIL REPORT** **Page** **1**

Product NO #	Product Name		Count		Product On Hand	
Lower QTY	High QTY	Cost AVG.	Sale Price	Lt Buy Price	Lt Sale Date	
001	Note pad		Pack			80.0000
60.0000	120.0000	142.51	150.00	135.00	11/08/1996	
002	Book		Set			35.0000
25.0000	50.0000	111.91	120.00	100.00	11/08/1996	
003	Red Pen		Unit			35.0000
40.0000	80.0000	115.60	125.00	115.00	11/08/1996	
004	com		Set			230.0000
60.0000	200.0000	275.42	280.00	275.00	11/08/1996	
005	PAPER SIZE A4		BOX			5.0000
10.0000	20.0000	120.00	190.00	0.00	/ /	
006	CLIP		BOX			30.0000
30.0000	70.0000	45.00	65.00	0.00	/ /	

TOTAL PRODUCT 6

IRA COMPANY

UPDATE PRODUCT QTY REPORT

PAGE   1

EDIT NO. : UP/001   DATE : 03/11/1996   UPD CODE :

REMARK :

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	5.0000	135.00	675.00
2	002	Book	Set	6.0000	100.00	600.00
				TOTAL		1275.00

TOTAL   1275.00

IRA COMPANY

RECIEVE PRODUCT (P/O) REPORT   PAGE   1

R/C NO. : RC/002   VENDOR NO. :   CUS001

DATE :   08/11/1996   VENDOR NAME : ABC COM.,LTD.

P/O NO. : PO/002

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	5.0000	115.00	575.00
2	004	com	Set	7.0000	275.00	1925.00
				TOTAL		2500.00
				VAT		175.00
				GRAND TOTAL		2675.00

R/C NO. : RC/001   VENDOR NO. :   CUS001

DATE :   08/11/1996   VENDOR NAME : ABC COM.,LTD.

P/O NO. : PO/001

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	8.0000	135.00	1080.00
2	002	Book	Set	10.0000	100.00	1000.00
				TOTAL		2080.00
				VAT		145.60
				GRAND TOTAL		2225.60

SUM TOTAL :   4580.00   **VAT** :   320.60 **GRAND TOTAL** :   4900.60

- 133 -

IRA COMPANY

RETURN PRODUCT REPORT (TO VENDOR)

PAGE   1

RT/V NO. :   RV/001   VENDOR NO. :   CUS001

DATE :   08/11/1996   VENDOR NAME :   ABC COM.,LTD.

RCEIVE NO. :   RC/001

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	4.0000	135.00	540.00
2	002	Book	Set	5.0000	100.00	500.00
					TOTAL	1040.00
					VAT	72.80
					GRAND TOTAL	1112.80

SUM   TOTAL :   1040.00   VAT :   72.80   GRAND TOTAL :   1112.80

IRA COMPANY

PRODUCT NO.	PRODUCT NAME	COUNT	QTY ON HAND
001	Note pad	Pack	80.0000
002	Book	Set	35.0000
003	Red Pen	Unit	35.0000
004	com	Set	230.0000
005	PAPER SIZE A4	BOX	5.0000
006	CLIP	BOX	30.0000

IRA COMPANY

LOWER QUANTITY PRODUCT

PAGE   1

15/11/1996

PRODUCT NO.	PRODUCT NAME	COUNT	LOWER	QTY ON HAND
003	Red Pen	Unit	40.0000	35.0000
005	PAPER SIZE A4	BOX	10.0000	5.0000
006	CLIP	BOX	30.0000	30.0000

IRA COMPANY

OVER QUANTITY PRODUCT

15/11/1996

PRODUCT NO.	PRODUCT NAME	COUNT	OVER	QTY ON HAND
004	com	Set	60.0000	230.0000

IRA COMPANY

PRODUCT NO.	PRODUCT NAME	COUNT	QTY ON HAND
005	PAPER SIZE A4	BOX	5.0000
006	CLIP	BOX	30.0000

IRA COMPANY

PURCHASE ORDER LIST

PAGE   1

P/O NO. :	PO/001	VENDOR NO. :	CUS001
DATE :	31/10/1996	VENDOR NAME :	TAI WAY
TERM PAYMENT:	30 DAYS	DELIVERY DATE :	30/11/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	8.0000	135.00	1080.00
2	002	Book	Set	10.0000	100.00	1000.00
					TOTAL	2080.00
					VAT	145.60
					GRAND TOTAL	2225.60

P/O NO. :	PO/002	VENDOR NO. :	CUS001
DATE :	08/11/1996	VENDOR NAME :	ABC COM.,LTD.
TERM PAYMENT:	30 DAYS	DELIVERY DATE :	08/12/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	5.0000	115.00	575.00
2	004	com	Set	7.0000	275.00	1925.00
					TOTAL	2500.00
					VAT	175.00
					GRAND TOTAL	2675.00

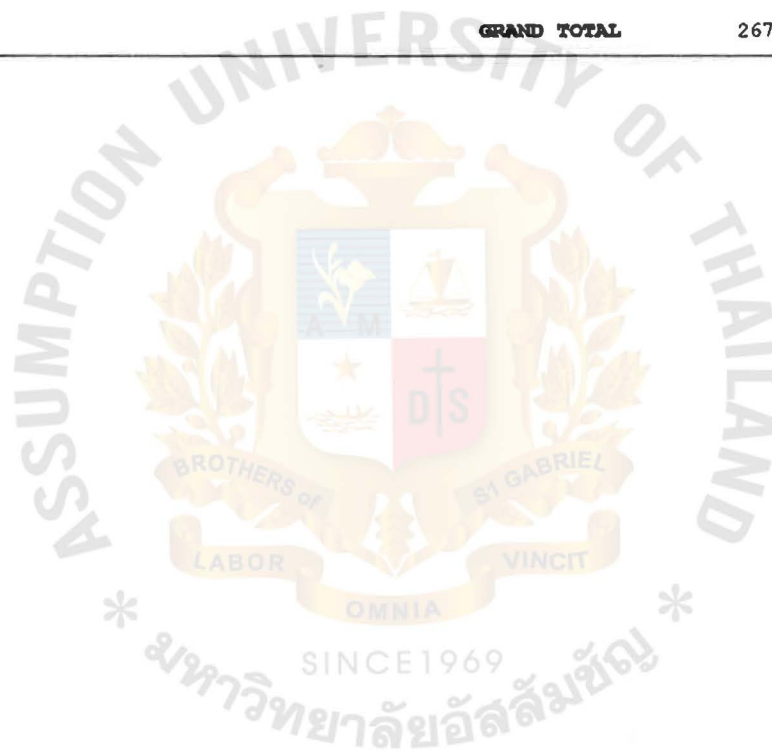| SUM	TOTAL :	4580.00	VAT :	320.60	GRAND TOTAL :	4900.60

- 139 -

IRA COMPANY

RECIEVED PRODUCT REPORT

PAGE   1

P/O NO. :   PO/002   VENDOR NO. :   CUS001

DATE :   08/11/1996   VENDOR NAME :   ABC COM.,LTD.

TERM PAYMENT: 30   DAYS   DELIVERY DATE :   08/12/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	003	Red Pen	Unit	5.0000	115.00	575.00
2	004	com	Set	7.0000	275.00	1925.00
					TOTAL	2500.00
					VAT	175.00
					GRAND TOTAL	2675.00

SUM   TOTAL :   2500.00   VAT :   175.00   GRAND TOTAL :   2675.00

- 140 -

IRA COMPANY

RECIEVING ORDER REPORT

PAGE   1
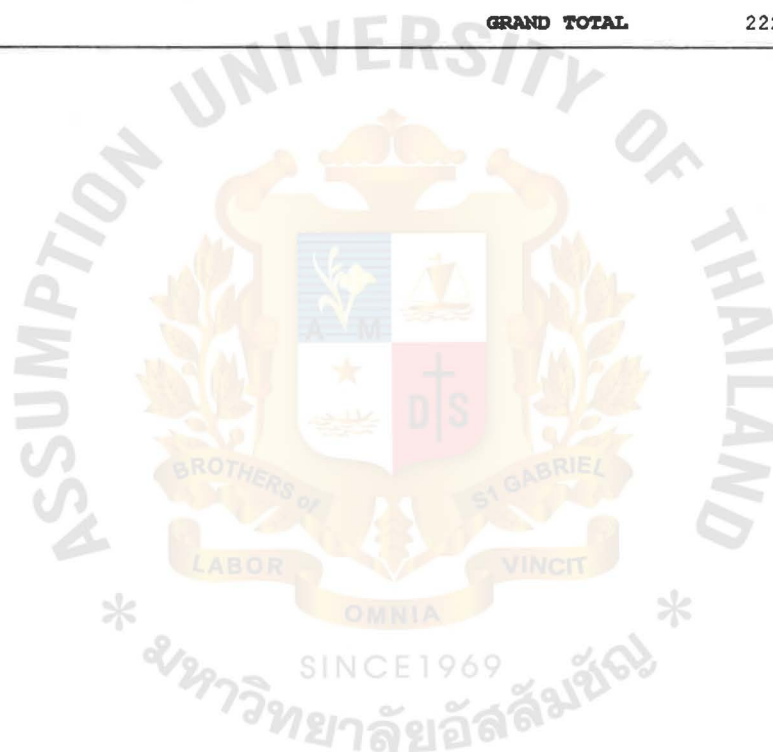
P/O NO. :   PO/001   VENDOR NO. :   CUS001

DATE :   31/10/1996   VENDOR NAME :   TAI WAY
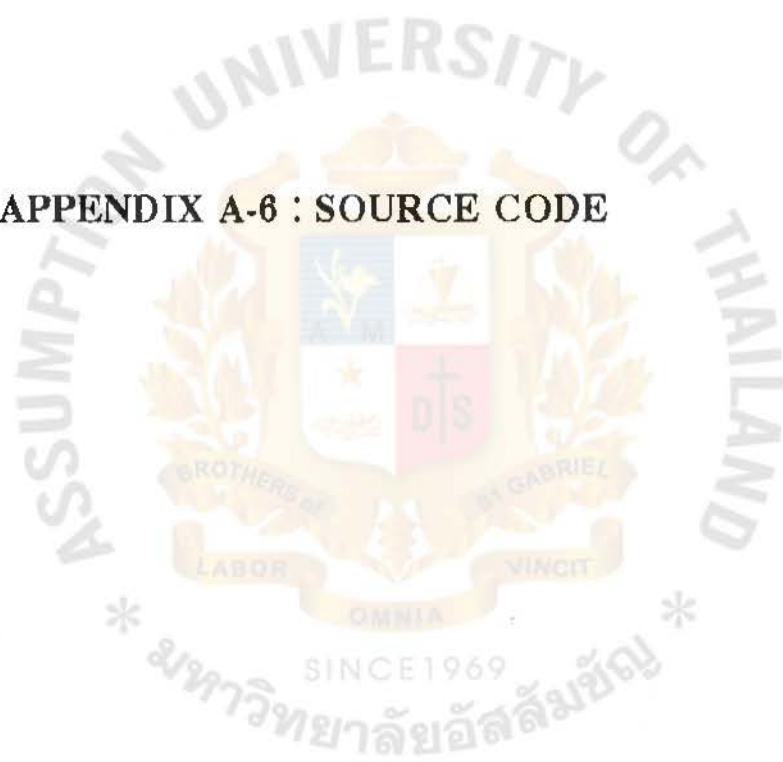
TERM PAYMENT: 30   DAYS   DELIVERY DATE : 30/11/1996

NO.	PRODUCT #	PRODUCT NAME	COUNT	QTY	PRICE	AMOUNT
1	001	Note pad	Pack	8.0000	135.00	1080.00
2	002	Book	Set	10.0000	100.00	1000.00
				TOTAL		2080.00
				VAT		145.60
				GRAND TOTAL		2225.60

APPENDIX A-6 : SOURCE CODE

Source Code of Sales Information System

Program Files

- bl_form.spr

- rc_form.spr

- rtc_form.spr

- cus_vend.spr

- pay_ar.spr

- pay_ap.spr

- prd_deta.spr

- rtv_form.spr

- po_form.spr

- up_form.spr

- ro_form.spr