

Practical Development of Information System in Business Context: Order System for Hoonghuat Plastic

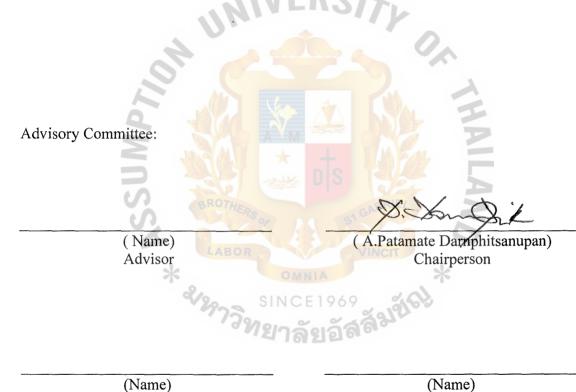
Mr. Pichai Chaichanasiri

Submitted in Partial Fulfillment of the Course BC 4500 280 Hour Training Program Bachelor's Degree of Business Administration in Business Computer Program Assumption University

December 2002

Project Name:	Practical Internship [Order system, Hoonghuat Plastic]
Intern:	Pichai Chaichanasiri
Advisor:	A.Patamate Darnphitsanupan
Academic Year:	2002

The Department of Business Computer, ABAC School of Management has approved the aforementioned student's BC 4500 280-Hour Training Project, which includes complete documentation and program as a partial fulfillment of the requirements for the Bachelor's Degree of Business Administration in Business Computer



(Name) Member (Name) Member

December 2002

LISTS OF FIGURES

Fig	ure	Page
1-1	Organization Chart	2
1-2	Department chart	2
1-3	Project Plan	4
3-1	Context Diagram of Proposed System	8
3-2	Data Flow Diagram – Level 0	9
3-3	Data Flow Diagram – Level 1 for Process 1	10
3-4	Data Flow Diagram – Level 1 for Process 2	11
3-5	Data Flow Diagram – Level 1 for Process 3	12
3-6	Data Flow Diagram – Level 1 for Process 4	13
3-7	Entity-Relationship Diagram	14
B-1	Main Menu Form	51
B-2	Customer Form	52
B-3	Customer product list Form	53
B-4	Inventory Form	54
B-5	Product Form	55
B-6	Credit Form	56
B-7	Invoice Form	57
B-8	Report Form	58
B-9	Order form	59

C-1	Customer order report (separate by customer ID)	61
C-2	Customer order report (separate by time)	62
C-3	Inventory report	63
C-4	Monthly report	64
C-5	Product (In / Out) report	65
C-6	All products In report (separate by time)	66
C-7	All products Out report (separate by time)	67
C-8	Product report (separate by product size)	68



LIST OF TABLES

Tabl	e	Page
3.1	Hardware Requirements	7
3.2	Software Requirements	7
3.3	Process Specification for Process 1.0	17
3.4	Process Specification for Process 1.1	18
3.5	Process Specification for Process 1.2	19
3.6	Process Specification for Process 1.3	20
3.7	Process Specification for Process 2.0	21
3.8	Process Specification for Process 2.1	22
3.9	Process Specification for Process 2.2	23
3.10	Process Specification for Process 2.3	24
3.11	Process Specification for Process 3.0	25
3.12	Process Specification for Process 3.1	26
3.13	Process Specification for Process 3.2	27
3.14	Process Specification for Process 3.3	28
3.15	Process Specification for Process 4.0	29
3.16	Process Specification for Process 4.1	30
3.17	Process Specification for Process 4.2	31
3.18	Process Specification for Process 4.3	32
3.19	Data Dictionary of Data Flow Diagram	33-35
A-1	Customer Table	43
A-2	Customer product list table	44
A-3	Credit table	45
A-4	Inventory table	46

A-5	Order table	47
A-6	Order detail table	48
A-7	Product table	49



I. INTRODUCTION

1.1 Background of the Organization

Hoonghuat Plastic

Profile

Hoonghuat Plastic produces and sells plastic bottle to customers by order. Hoonghuat Plastic has been opened for more than 20 years. So they have a lot of customers. The company divides its customers into 2 types. The first one is the customer that have large amount of orders. This type of customer can buy with special prices that lower than the standard prices. And for the second type of customers are those who want the special shape of bottle, they can ask to make a new mole according to their needs, and that mole will be used to fulfill their order only. The company has about 30 workers and they are operating all processes manually.

Location

1001 Soi Pattanakarn 1, Sathupradit rd. Yanawa, Bangkok 10120.

Structure

There are 3 main departments in the company. The system to be developed is under the Marketing Department. The following figures show the company's organization chart and department chart. (1) Organization Chart

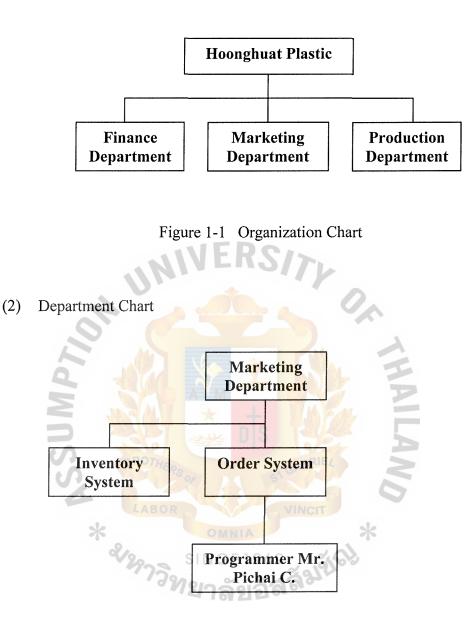


Figure 1-2 Department Chart

1.2 Objectives of the System

The objectives of this project are as follows:

- (1) To replace all manual system by computerized system
- (2) To reduce human error by using automatic system
- (3) To reduce time to search for information

1.3 Scope of the System

The followings are the scopes of the proposed systems:

Module 1: Customer Master

- To record the customer information
- To give the information of the customers to the user.

Module 2: Invoice

- To receive order from the customer and record all necessary information.
- To create invoice of each order.

Module 3: Inventory management

To give the detail of available products in the stock. And all the

necessary information such as date in, date out etc.

To manage products detail in the database.

Module 4: Create report

- To create the transaction report of the inventory.
- To create the transaction report of sale.
- To create the total sale report of each customer.

1.4 Project Plan

The tentative plan for this project: "Order System for Hoonghuat Plastic" is exhibited in Figure 1-3

ାରଥିର୍ ଗ⁶

No.		Task Name		Task Name September				October					November					December				
110.			1	2	3	4	1		2	3		4	1	2		3	4	1	2		3	4
	I.	Analysis of the Existing System																				
1.		Study the Existing System																				
2.		Identify the Existing Problems	-		E R	25	1															
3.		Existing Data Flow Diagram							•													
	II.	Preliminary Investigation			-			T).												
4.		Define the objectives and scope																				
5.		Hardware Requirements									1											
6.		Software Requirements																				
	III.	Analysis and Design of the Proposed System							EF.		-											
7.		Entity-Relationship Diagram							P II	_												
8.		Database Design									1											
9.		Data Flow Diagram					9		K		E											
10.		Process Specification	PS or																			
11.		Data Dictionary										7										
12.		Interface Design	R					TI														
13.		Report Design								*												
	IV.	Implementation of the Proposed System	S	IN	CE1	969	~	å	62	>		- 1									-	
14.		Coding	19	210	ລັຍ	เล้ส	ลิง	20														
15.		Testing		- 1	012	E O																
16.		Documentation																				

Figure 1-3 Project Plan for Order system

4

II. THE EXISTING SYSTEM

2.1 Background of Existing System

The customers order the products by phone or fax then the staff will record customer information into the paper if they are new customers and record order information into paper, too. After that the staff will check the inventory whether they have the products that customer order if they do not have the products in the inventory. The staff will send the order to the production department to produce. When the products are ready, the company will send them to customer along with the invoice. Everything is done by manual, so the company wants to develop the system to work faster and reduce errors.

2.2 **Problem Definition**

(1) Ineffectiveness in the operation

All of the files include the customer file, inventory file, product file and order file are record in the papers. When the customers call to order the products, the officer must find out that customer file that take a lot of time to see the detail that include name, address, product list that the customer order and the price of each product. Because the customers always ask for the price that they used to buy and when the customers order the product they want to know the delivery date, so the officer must look at the inventory file to see the amount of the products that the customer order in the stock. If there are the products in the stock, the products can be sent to the customer by the next day. If there is not, the delivery date is told to the customers. But the company has a lot of product lists so it is very difficult to check the inventory file that record in the paper.

(2) High cost from human error.

The existing system uses the typing machine to issue the invoice. When the officer causes a mistake in typing, all sets of that invoice cannot be deleted and reused again.

(3) Hard to maintain the data.

All the data is kept in the paper that requires a lot of space to keep it so it is very difficult to prevent it from lost and very difficult to update it too.



III. THE PROPOSED SYSTEM

3.1 System Specification

(1) Hardware Requirements

Table 3-1 Hardware Requirements

SPECIFICATION
Pentium III
128 MB
20 GB

The company does not need the newest version of hardware because its cost is very expensive and its capacity is more than their work that means it is useless and also costs the company.

(2) Software Requirements

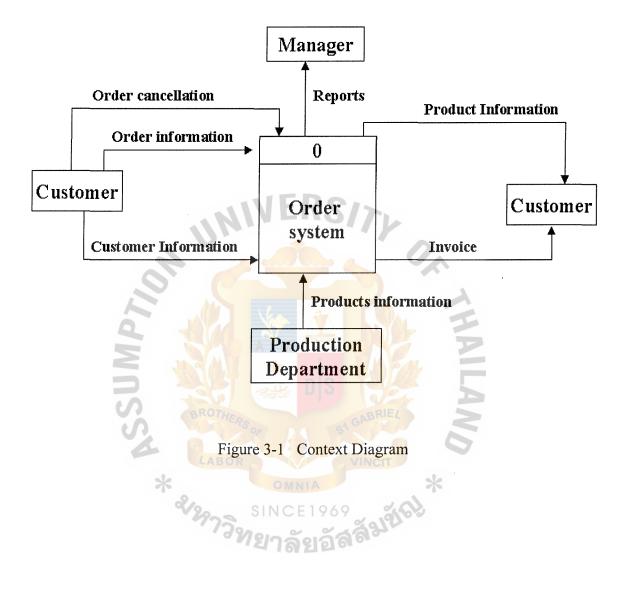
Table 3-2Software Requirements

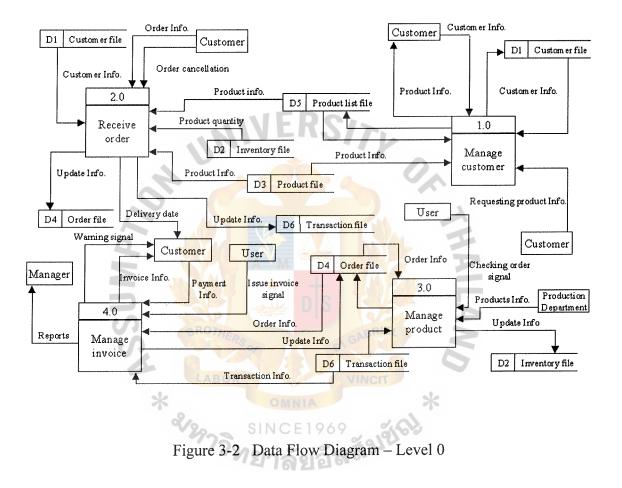
SOFTWARE ABOR	SPECIFICATION
Operating System	Microsoft Windows 98
Application	1. Microsoft Office 2000
	2. Visual Basic 6.0
	3. McAFee Anti Virus

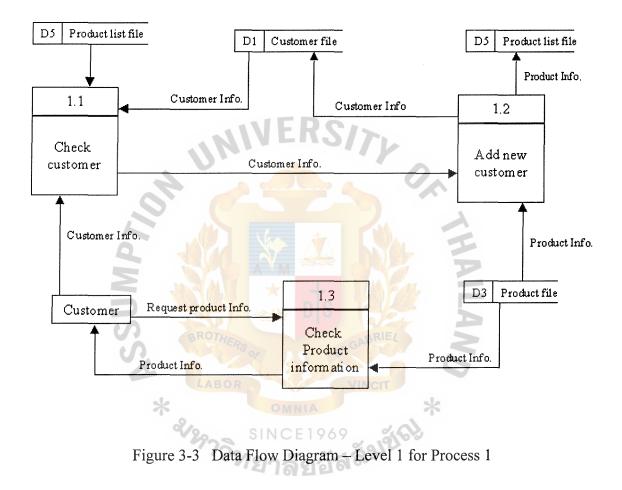
The company uses only the software that necessary and useful such as Microsoft Windows 98 because it is suitable for the company and easy to use and they use McAFee Anti Virus for protect the damage of the computer and Visual Basic 6.0 for creating and developing the program.

3.2 System Design

(1) Data Flow Diagram







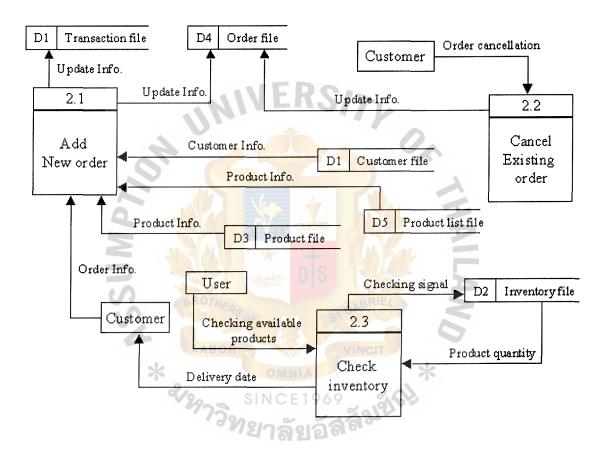
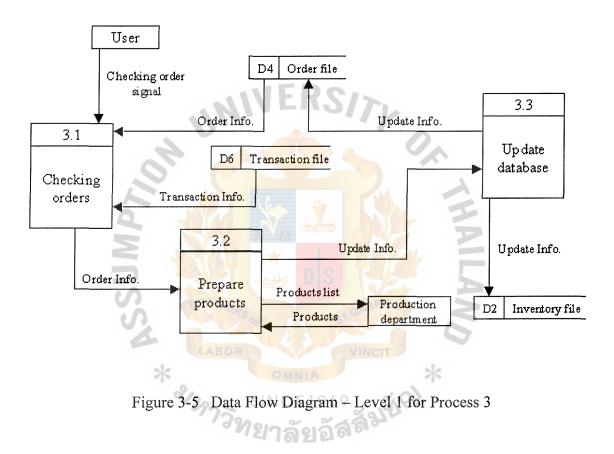


Figure 3-4 Data Flow Diagram – Level 1 for Process 2



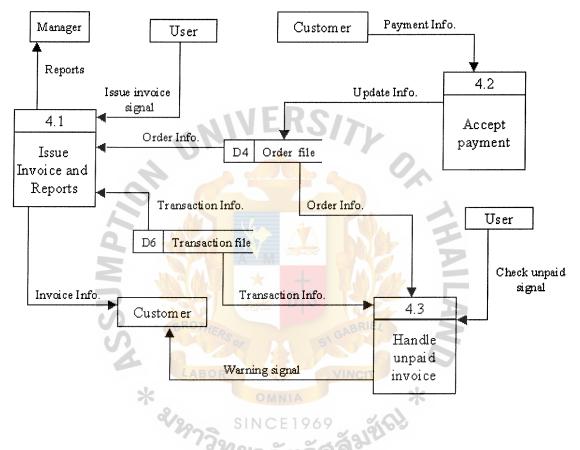
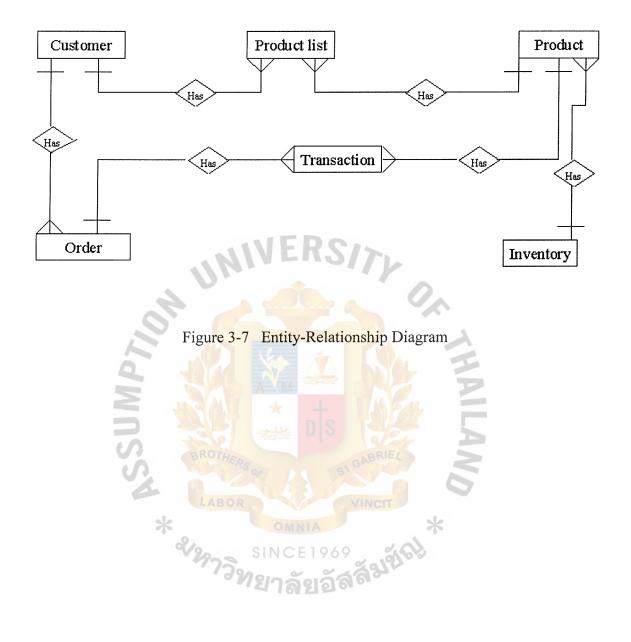


Figure 3-6 Data Flow Diagram – Level 1 for Process 4

(2) Entity-Relationship Diagram



- (3) Database Design
 - Table A-1 Customer

The customer table is used to keep the customer information such as company name, address, telephone, contact person etc. (Refered to Appendix A-1, page 43)

• Table A-2 Customer product list

The customer product list is the database that used to keep the list of products that each customer usually order. (Refered to Appendix A-2, page 44)

• Table A-3 Credit

The credit table is the table that used to keep the customer credit agreement such as term of payment etc. (Refered to Appendix A-3, page 45)

• Table A-4 Inventory

The inventory table is used to keep the information such as the date that the products in or out the stock etc. (Refered to Appendix A-4, page 46)

• Table A-5 Order

The order table is the database that used to keep the order information such as order date, customer id, order type etc. (Refered to Appendix A-5, page 47)

• Table A-6 Order detail

The order detail is the table that used to keep the detail of each order such as product name, amount, price etc. (Refered to Appendix A-6, page 48) • Table A-7 Product

The product table is the table that used to keep the product information such as product name, product price, product color etc. (Refered to Appendix A-7, page 49)



(4) Process Specification

Table 3-3	Process	Specification	for Process	1.0
-----------	---------	---------------	-------------	-----

Process Name:	Manage customer
Data In:	(1) Customer Information
	(2) Requesting product information
	(3) Product information
	(4) Product list information
Data Out:	(1) Product information
UN	(2) Customer Information
40	(3) Product list information
	(1) Check customer information.customer id
d'	(2) If that is a new customer then add new
Process:	customer to the database
S BROTHER	(3) If the customer want the product information
LABOR	Then check the product file
Attachment:	(1) Customer
«19973»	(2) Data Store D1
	(3) Data Store D3
	(4) Data Store D5

Process Name:	Check customer
Data In:	(1) Customer Information
	(2) Product list information
Data Out:	(1) Customer Information
Process :	(1) Receive customer information
	(2) Check the customer file and product list file for
	that customer
	(3) If not an existing customer then sent the
NI,	customer information to the next process
Attachment:	(1) Customer
9. 6	(2) Data Store D5
	(3) Data Store D1
N S	(4) Process 1.2
BROTHERS LABOR * 2199739	DS SINCE1969 BINGET BIN

 Table 3-4
 Process Specification for Process 1.1

Process Name:	Add new customer
Data In:	(1) Customer Information
	(2) Product information
Data Out:	(1) Customer Information
Process:	(1) Receive customer information
	(2) Receive Product file
	(3) Update Customer file
	(4) Update Product list file
Attachment:	(1) Process 1.1
Or	(2) Data Store D1
L'a	(3) Data Store D3
M	(4) Data Store D5
ROTHERS LABOR * 2129739	SINCE 1969 BIOR ABRIEL SINCE 1969 BIOR ABIEL BIOR ABRIEL VINCIT *

Table 3-5 Process Specification for Process 1.2

Process Name:	Check product information
Data In:	(1) Request product information
	(2) Product information
Data Out:	(1) Product information
Process:	(1) Receive request product information from
	customer
	(2) Check the product file.
UN	(3) Give the product information to the customer
Attachment:	(1) Customer
25	(2) Data Store D3
BROTHERS OF DIS GABRIEL BROTHERS OF DIS GABRIEL LABOR VINCT * SINCE1969 SINCE1969 SINCE1969	

Table 3-6Process Specification for Process 1.3

Process Name:	Receive order
Data In:	(1) Customer information
	(2) Order information
	(3) Order cancellation
	(4) Product list information
	(5) Product information.
	(6) Product quantity information.
Data Out:	(1) Update order information
201-	(2) Delivery date
9	(3) Update transaction information
Process:	(1) Receive order information then add new order
X SA	(2) Check inventory and set the delivery date
2	(3) Receive order cancellation then cancel that
BROTHERS	order of GABRIEL
Attachment: LABOR	(1) Customer Cr
* %	(2) Data Store D1
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	(3) Data Store D5
	(4) Data Store D2
	(5) Data Store D3
	(6) Data Store D6
	(7) Data Store D4

Table 3-7Process Specification for Process 2.0

Process Name :	Add new order
Data In:	(1) Customer information
	(2) Product information
	(3) Product list information
	(4) Order information
Data Out:	(1) Update transaction information
	(2) Update order information
Process:	(1) Receive order information.
4	(2) Read the data from Customer file,
2. 0	Product list file and Product file
P.	(3) Add new order to the Order file and
N A	Transaction file
Attachment:	(1) Customer
S	(2) Data Store D3
LABOR	(3) Data Store D5
~ &12973g	(4) Data Store D1
1.28	(5) Data Store D4
	(6) Data Store D6

 Table 3-8
 Process Specification for Process 2.1

Process Name:	Cancel existing order
Data In:	(1) Order cancellation
Data Out:	(1) Update order information.
Process:	(1) Receive order cancellation form customer
	(2) Cancel that order in the order file
Attachment:	(1) Customer
	(2) Data Store D4

Table 3-9Process Specification for Process 2.2



Process Name:	Check inventory
Data In:	(1) Checking available product
	(2) Product quantity
Data Out:	(1) Checking signal
	(2) Delivery date
Process :	(1) Receive checking available product signal
	from the user
NI.	(2) Check the inventory file for the available
A	product
2.0	(3) Set the delivery date and inform the customer
Attachment:	(1) User
N NA	(2) Customer
DS BOTH	(3) Data Store D2
S	or stonents
LABOR	VINCIT
2/20	SINCE1969
* 2129739	¹ ยาลัยอัสสั ^{ญบา}

Table 3-10Process Specification for Process 2.3

Process Name:	Manage product
Data In:	(1) Order information
	(2) Checking order signal
	(3) Transaction information
Data Out:	(1) Update inventory information
	(2) Update order information
Process:	(1) Check the order file for the order that the
	deliver date is coming
4	(2) Prepare the products of that order
20. 0	(3) Update the database.
Attachment:	(1) User
	(2) Data Store D2
DS ST	(3) Data Store D4
S BRUTHERS	(4) Data Store D6

 Table 3-11
 Process Specification for Process 3.0

* 2877 SINCE 1969 รับเป็ง

Process Name:	Checking orders
Data In:	(1) Checking order signal
	(2) Order information
	(3) Transaction information
Data Out:	(1) Order information
Process:	(1) Receive checking order signal from the user
	(2) Check Order file and Transaction file
UN	(3) Sent Order information to the next process
Attachment:	(1) User
2°. C	(2) Data Store D4
P	(3) Data Store D6
M	(4) Process 3.2
SSA BROTHERS OF SI GABRIEL LABOR VINCT * 24973 SINCE 1969 SINCE 1969	

 Table 3-12
 Process Specification for Process 3.1

Process Name:	Prepare products
Data In:	(1) Order information
	(2) Products
Data Out:	(1) Update information
	(2) Products list
Process:	(1) Receive order information
	(2) Prepare products for that order
UN	(3) Sent the update information to the next process
Attachment:	(1) Process 3.1
12 5	(2) Process 3.3
A N	(3) Production Department

Table 3-13Process Specification for Process 3.2



Process Name:	Update database
Data In:	(1) Update information
Data Out:	(1) Update order information
	(2) Update inventory information
Process:	(1) Receive update information from process 3.2
	(2) Update the order file
	(3) Update the Inventory file
Attachment:	(1) Data Store D4
40.	(2) Data Store D2
2. 6	(3) Process 3.2
ABOR * SV29739	SINCE 1969 BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BRIEL SINCE 1969 BIOR BRIEL BIOR BIOR BRIEL BIOR BIOR BIOR BRIEL BIOR BIOR BIOR BIOR BIOR BIOR BIOR BIOR

 Table 3-14
 Process Specification for Process 3.3

Process Name:	Manage invoice
Data In:	(1) Issue invoice signal
	(2) Payment information
	(3) Order information
	(4) Transaction information
Data Out:	(1) Warning signal
	(2) Invoice information
NUN	(3) Update order information
Process:	(1) Issue invoice for the order
2º. C	(2) Receive payment information from the
a di	customer
No.	(3) Checking for unpaid invoice and sent the
DS BROTHER	warning signal to the customer
Attachment:	(1) Customer
*	(2) User
* &129739	(3) Data Store D4
. 93	(4) Data Store D6

Table 3-15Process Specification for Process 4.0

Process Name:	Issue invoice
Data In:	(1) Issue invoice signal
	(2) Order information
	(3) Transaction information
Data Out:	(1) Invoice information
	(2) Reports
Process:	(1) Receive issue invoice signal from the user
UNI	(2) Read Order file and Transaction file
A 40	(3) Sent invoice information to the customer
Attachment:	(1) User
4 4 K	(2) Data Store D4
	(3) Data Store D6
S BROTHERS	(4) Customer
	(5) Manager
*         OMNIA         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *           *         *         *	
- 175Mg	ยาลัยอัส ^{ลัญบ} ั

Table 3-16 Process Specification for Process 4.1

Process Name:	Accept payment				
Data In:	(1) Payment information				
Data Out:	(1) Update order information				
Process:	(1) Receive payment information from the				
	customer				
	(2) Update order file				
Attachment:	(1) Customer				
NI.	(2) Data Store D4				

Table 3-17	Process	Specification	for Process 4.2
14014 0 17	1100000	Speen waron	



Process Name:	Handle unpaid invoice				
Data In:	(1) Transaction information				
	(2) Order information				
	(3) Check unpaid signal				
Data Out:	) Warning signal				
Process:	(1) Receive check unpaid signal from the user				
	(2) Check Order file and Transaction file				
	(3) Sent warning signal to the customer				
Attachment:	(1) Customer				
9.6	(2) Data Store D6				
L'a	(3) Data Store D4				
W	(4) User				
SSA BROTHERS OF LABOR * 212973912	VINCIT OMNIA NCE1969				

Table 3-18Process Specification for Process 4.3

# (5) Data Dictionary

# Table 3-19 Data Dictionary of Data Flow Diagram

Field Name	Meaning
Address	Customer address
Amount	Quantity of the product that the customer order
Checking available	Checking signal for the remaining of the product
products signal	
Checking order	Checking signal for order information
signal	IERSITY
Checking signal	Signal for checking the inventory file
Check unpaid	Check for the unpaid invoice
signal	
Color	The color of the product
Contact Person	A person who the user contact with
Company name	Company name of the customer
Cust ID	Customer code
Customer	A person who buy the products
Customer info.	Cust ID + Company name + Address +
	Telephone + Contact Person
Date	The day that issue invoice
Delivery date	Date to deliver the products
Invoice info.	Cust ID + Company name + Address + telephone
	Date + term of payment + Order detail + Vat +
	Total price
Issue invoice signal	The user issue the signal to make invoice

Order detail	The detail of the products for that invoice
Order cancellation	Cancel the order
Order info.	Product name + Product price + amount + total
Payment info.	All information of the customer payment
Picture	The picture of the product
Product ID	Product code
Product info.	Product ID + Product name + Product price +
	Weigth + size + color + picture
Product name	Name of the product
Product price	Price of the product
Product quantity	Amount of the product
Requesting product	The customer request for the product information
info.	Product ID + Product name + Product price +
BROTHER	Weigth + size + color + picture
Size	The size of the product
Telephone	Customer telephone
Term of payment	The period of time for customer payment
Total	The total price without tax
Total price	Price of the invoice that include tax
Transaction info.	All information of the order detail that the
	customer want
	Product name + Product price + amount + total
Update info.	Information that used to update the database
User	The company official
VAT	7% tax payment

Warning signal	Warning the customer for the payment
Weight	Weight of the product



- (6) Interface Design
  - Figure B-1 Main Menu Form

Main menu form is the first page of the program. You can go to the other pages by click the buttons on this page. (Refered to Appendix B-1, page 51)

• Figure B-2 Customer Form

Customer form is the form that shows the customer information. You can add new customer, edit, delete and change the products list that the customer usually order by click the button on this page. (Refered to Appendix B-2, page 52)

• Figure B-3 Customer product list Form

The customer product list form is used to show the products list that each customer orders. You can go to this form by click the button name แก้ ในรายการสินค้า on the customer form. In this form you can add, edit and delete

the products list as you want. (Refered to Appendix B-3, page 53)

• Figure B-4 Inventory Form

Inventory form is used to update inventory. You can add or delete the quantity of the products. (Refered to Appendix B-4, page 54)

• Figure B-5 Product Form

Product form is the form that shows the product information. You can add new products, edit the existing products by click the buttons on this page. But you can't delete the existing products. (Refered to Appendix B-5, page 55) • Figure B-6 Credit Form

Credit form is the form that shows the credit agreement of each customer. (Refered to Appendix B-6, page 56)

• Figure B-7 Invoice Form

This form shows the invoice information. You can print the invoice by click the button on this page. You can't delete on this page but you can cancel its if you don't want. (Refered to Appendix B-7, page 57)

• Figure B-8 Report Form

The report form is the form that used to show all the reports in the program such as monthly report, inventory report, customer report etc. (Refered to Appendix B-8, page 58)

• Figure <mark>B-9 Order form</mark>

This form is used to create invoice by the customer orders. You just click the products that customer want and type the amount of each product then the program will automatically calculate the total price and vat. (Refered to Appendix B-9, page 59)

- (7) Report Design
  - Figure C-1 Customer order report (separate by customer ID)

This report is about the orders of the customer. The report shows all the orders that each customer had order. There are 3 fields in the report, first the order number, the second is the order date and the last is the total price of the order. Each report shows only one customer. (Refered to Appendix C-1, page 61)

• Figure C-2 Customer order report (separate by time)

This report shows all the orders within the period of time. (Refered to

Appendix C-2, page 62)

• Figure C-3 Inventory report

Inventory report shows the quantity of the products that available in the stock. (Refered to Appendix C-3, page 63)

• Figure C-4 Monthly report

Monthly report shows all the orders within a month. (Refered to Appendix C-4, page 64)

• Figure C-5 Product (In / Out) report

This report shows the movement of each product in one month.

(Refered to Appendix C-5, page 65)

• Figure C-6 All products In report (separate by time)

This report shows date and quantity of the products that move into the

stock. (Refered to Appendix C-6, page 66)

• Figure C-7 All products Out report (separate by time)

This report shows date and quantity of the products that move out from the stock. (Refered to Appendix C-7, page 67)

• Figure C-8 Product report (separate by product size)

This report shows the list of the products separate by the size of the product. (Refered to Appendix C-8, page 68)



#### **IV. SYSTEM IMPLEMENTATION**

### 4.1 Overview of the System Implementation

The customers can order the products by phone or fax. Then the staff will check that they are new customers or not. If yes, the staff will key the customer information into the customer file. After receiving orders from customers, the staff will check the inventory whether there are enough products according to customer's order or not. If not ,the staff will issue the production form to produce the products. After the products are ready, the staff will issue the customer invoice for the customer and the invoice will be delivered along with the products to the customer. The customer can pay either by cash or check.

## 4.2 Test Plan

I choose Direct Cutover method for system implementation. Even Direct Custover method will risk but my reasons to choose are First, Company using manual system for operate they write down everything on paper that make error occur if document lost, tear, wet, unclear hand writing, and etc. so I think new system should replace old system as fast as possible. Second, Other method may lower risk than Direct Cutover method but other method also spend higher cost so Direct Cutover method is cost lower than other method is one of my reason to choose this method. Last Staff who involve with this system are not much . I can train and demonstrate new system easier and faster. I train to manager, staff who have job about receive order, and staff who respond about stock. I show program and demonstrate how to use program, tell them what does it mean in program, and test them person by person in suppose situation as seem like real situation by I play customer role to make an order this training make them to be familiar and ready for real situation.

### V. CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Conclusions

Hoonghuat plastic order system help company reduce process time when customer order product they can reduce time for check product in stock. System will automatic warning message if not enough product in stock. Make company more accuracy calculation order price, this problem occur when staff calculate order prie wrong it make company lose profit and make customer dissatisfies but this new system make inaccuracy calculation problem decline and the system also can print invoice to customers. The new system help company collect information of customers and products more efficiency this reduce problem of collect information on paper.

## 5.2 Recommendations

I think in the future the company should replace the manual system in other departments such as production and finance department because now they do only in marketing department and the company should add the back up system in case they lost the information.

&12973y



Table A-1 customer Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	customer_id	varchar (50)	Y	Y		order		Primary Key
2	Company_name	varchar (80)	Y	NF	RCIS			Attribute
3	Contact_person	varchar (50)			-97			Attribute
4	Address	varchar (250)						Attribute
5	telephone	varchar (50)		D deres				Attribute
6	other	varchar (50)			Y			Attribute

\$



Table A-2	customer	product	list table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	List_code	varchar (50)	Y	Y		•		Primary Key
2	Customer_id	varchar (50)	Y	NE	RCIS			Primary Key
3	Product_code	varchar (50)	Y		1011			Attribute
4	Cap_code	varchar (50)	V					Attribute
5	Stopple_code	varchar (50)						Attribute
6	Customer_price	varchar (50)				<u> </u>		Attribute



Table A-3 credit table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	Customer_id	varchar (50)	Y	Y				Primary Key
2	Day1	varchar (50)		NF	RCIS			Attribute
3	Time1	varchar (50)						Attribute
4	Expire1	varchar (50)	V					Attribute
5	bill	varchar (50)		D Krist				Attribute
6	Day2	varchar (50)				<u>,</u>		Attribute
7	Time2	varchar (50)		16-				Attribute
8	Expire2	varchar (50)			<u>aa</u> n			Attribute
9	Credit	varchar (50)		A M				Attribute
10	comment	varchar (50)	2964	$\times$	Y	1 Call		Attribute



Table	A-4	inventory	table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	lot_code	varchar (50)	Y	Y				Primary Key
2	Product_code	varchar (50)	Y	Y	RCIS			Attribute
3	In_out	varchar (50)		1	1.011			Attribute
4	date	varchar (50)	V					Attribute
5	amount	varchar (50)		D Law				Attribute
6	Order_no	varchar (50)	Y					Attribute



Table A-5 order table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	Order_no	varchar (50)	Y	Y		Order detail		Primary Key
2	Customer_id	varchar (50)	Y	<b>NVF</b>	RS15			Attribute
3	Order_date	varchar (50)			01/			Attribute
4	Po_no	varchar (50)	V					Attribute
5	Credit	varchar (50)		D Eno				Attribute
6	Total	varchar (50)						Attribute
7	vat	varchar (50)		1 Can	34			Attribute
8	Net_total	varchar (50)						Attribute
9	Order_flag	varchar (50)		AM				Attribute
10	type	varchar (50)	2562	×				Attribute



Table A	1-6	order	detail	table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	Order_no	varchar (50)	Y					Primary Key
2	Detail_code	varchar (50)	Y	Y -	RSI			Primary Key
3	O_product_name	varchar (50)						Attribute
4	O_cap_name	varchar (50)						Attribute
5	O_stopple_name	varchar (50)						Attribute
6	price	varchar (50)				1		Attribute
7	quantity	varchar (50)		1 Cha	3 I I			Attribute
8	net	varchar (50)						Attribute

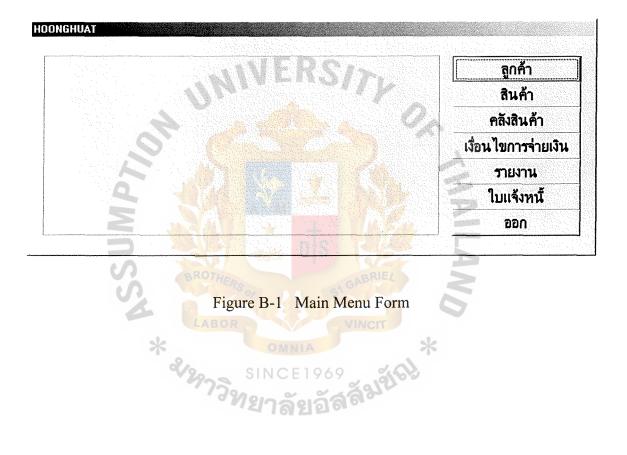


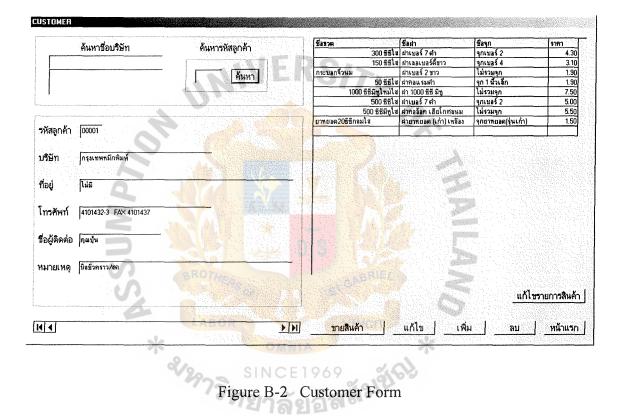
Table A-7 product table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key	Check	Кеу Туре
1	Product_code	varchar (50)	Y	Y		Product list		Primary Key
2	Product_name	varchar (50)	Y	NF	RSI		-	Attribute
3	price	varchar (50)	111					Attribute
4	Amount/pack	varchar (50)	V					Attribute
5	No_in_stock	varchar (50)		D Eno				Attribute
6	Units_in_stock	varchar (50)	C			1		Attribute
7	Size	varchar (50)		162	3			Attribute
8	weigth	varchar (50)						Attribute
9	supplier	varchar (50)						Attribute
10	telephone	varchar (50)	SS 64	*				Attribute
11	picture	varchar (50)			U Y			Attribute









ค้นหาชื่อสินค้า 		ค้เ 	เหารหัสสินค้า	
 ชื่อขวด	ชื่อฝา		ลุก	ราคา
ชื่อขวด	ชื่อฝา	ชื่อจก	ราคา	
ชื่อชวด 300 ซีซีไส	ชื่อฝา ฝาเบอร์ 7 ตำ	ชื่อจุก จุกเบอร์ 2	ราคา	4.30
<u>300 ซีซีไส</u> <mark>150 ซีซีไส</mark>	<mark>ฝาเบอร์ 7 ดำ</mark> <mark>ฝาเลอเบอร์ดีชาว</mark>		ราคา	A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O
<u>300 ซีซีใส</u> <u>150 ซีซีใส</u> กระบอกจิ้วนม	<mark>ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว</mark> ฝาเบอร์ 2 ชาว	จุกเบอร์ 2 จุกเบอร์ 4 ไม่รวมจุก	ราคา	4.30 3.10 1.90
300 ซีซีไส <mark>150 ซีซีไส</mark> กระบอกจึวนม 50 ซีซีไส	ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาคอแรมตำ	จุกเบอร์ 2 จุกเบอร์ 4 ไม่รวมจุก จุก 1 นิ้วเล็ก	SIRI	4.30 3.10 1.90 1.90
300 ซีซีใส 150 ซีซีใส กระบอกจึวนม 50 ซีซีใส 1000 ซีซีมีกูใหม่ใส	ฝาเบอร์ 7 ตำ ฝาเจอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาคอแรมตำ ฝา 1000 ชีชี มีทู	จุกเบอร์ 2 จุกเบอร์ 4 ไม่รวมจุก จุก 1 นิ้วเล็ก ไม่รวมจุก	SIRI	4.30 3.10 1.90 1.90 7.50
300 ซีซีใส 150 ซีซีใส กระบอกจิ้วนม 50 ซีซีใส 1000 ซีซีมีบูโหม่ใส 500 ซีซีใส	ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาคอแรมตำ ฝา 1000 ชีซี มีซู ฝาเบอร์ 7 ตำ	<ul> <li>จุกเบอร์ 2</li> <li>จุกเบอร์ 4</li> <li>ไม่รวมจุก</li> <li>จุก 1 นิ้วเล็ก</li> <li>ไม่รวมจุก</li> <li>จุกเบอร์ 2</li> </ul>		4.30 3.10 1.90 7.50 5.00
300 ซีซีใส 150 ซีซีใส กระบอกจึวนม 50 ซีซีไส 1000 ซีซีมีชูใหม่ใส 500 ซีซีไส 500 ซีซีมีชูใส	ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาคอแรมตำ ฝา 1000 ชีซี มีทู ฝาเบอร์ 7 ตำ ฝาคอล้อค เอียโกศลนม	จุกเบอร์ 2 จุกเบอร์ 4 ไม่รวมจุก จุก 1 นิ้วเล็ก ไม่รวมจุก จุกเบอร์ 2 ไม่รวมจุก	MAND	4.30 3.10 1.90 7.50 5.00 5.50
300 ซีซีใส 150 ซีซีใส กระบอกจึวนม 50 ซีซีไส 1000 ซีซีมีบูโหม่ใส 500 ซีซีไส 500 ซีซีมีบูโส ยาทยอด20ซีซีกลมใส	ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาทอแรมตำ ฝา 1000 ซีซี มีทู ฝาเบอร์ 7 ตำ ฝาทอล้อก เอียโกศลนม ฝายาทยอด (เก่า) เหลือง	<ul> <li>จุกเบอร์ 2</li> <li>จุกเบอร์ 4</li> <li>ไม่รวมจุก</li> <li>จุก 1 นิ้วเล็ก</li> <li>ไม่รวมจุก</li> <li>จุกเบอร์ 2</li> </ul>	MAND	4.30 3.10 1.90 7.50 5.00
300 ซีซีใส 150 ซีซีใส กระบอกจึวนม 50 ซีซีไส 1000 ซีซีมีชูใหม่ใส 500 ซีซีไส 500 ซีซีมีชูใส	ฝาเบอร์ 7 ตำ ฝาเฉอเบอร์ดีชาว ฝาเบอร์ 2 ชาว ฝาทอแรมตำ ฝา 1000 ซีซี มีทู ฝาเบอร์ 7 ตำ ฝาทอล้อก เอียโกศลนม ฝายาทยอด (เก่า) เหลือง	จุกเบอร์ 2 จุกเบอร์ 4 ไม่รวมจุก จุก 1 นิ้วเล็ก ไม่รวมจุก จุกเบอร์ 2 ไม่รวมจุก	MAND	4.30 3.10 1.90 7.50 5.00 5.50

Figure B-3 Customer product list Form

ค้นหาชื่อสินค้า	ค้นหารทัสสินค้า			
รหัสสินค้า ค0 ชื่อสินค้า 50	01 EŠUN		9. 2	
จำนวนต่อถุง มีอยู่ (ถุง	) เศษ(ใบ) รวม			
1000 1	0 1000	จำนวนหน่วย	[25 พฤศจิกายน 2545 เพิ่ม   ลด	
	<b>N</b>		เพิ่ม ลด	หน้าแรก

Figure B-4 Inventory Form

ค้นหาชื่อ	สินค้า	ค้นหารหัสสินค้	<u>)</u>					-
รหัสสินค้า ชื่อลินค้า ราคากลาง จำนวนต่อถุง	A001 50 55 1111 2.00 1000	บรรจุ (ซีซี) 50 นำหนัก (กรัม)			r q.			
มือยู่ (กุง)   ▲ Data1	5 (ян	(ໂມ)		แก้ไข	E2 เพิ่ม		<u> หน้าแร</u> ะ	<u> </u>
	*	Figure B	-5 Proc	luct Fo	rm			

ค้นหาชื่อบริษัท	ค้นหารหัสลูกค้า	วางบิล	เก็บเช็ค
	ค้นหา	<b>3</b> u [	514 Jaa
		เวลา	1781  20
รหัสลูกค้า 00001	เงื่อ <mark>นไขการชำระเงิน [30</mark>	ใบวางบิล	
ชื่อบริษัท กรุงเทพหมึกพิมพ์		กรณีเลย	กรณีลย 🗛
ที่อยู่ โม่มี		หมายเหตุ ออ	
โทรศัพท์ (4101432-3 FAX 4101437			
			E minus
โทรทัพท์  4101432-3 FAX 4101437  4   Data1			<u>нйлия</u>
	CROTHERS OF		<u>мйлия</u>
	BROTHERS OF	SI GABRIE!	<u>мйлиз</u>
	LABO Eiguro P. 6	Cradit Form	UND
	BROTHERS OF	Cradit Form	UND

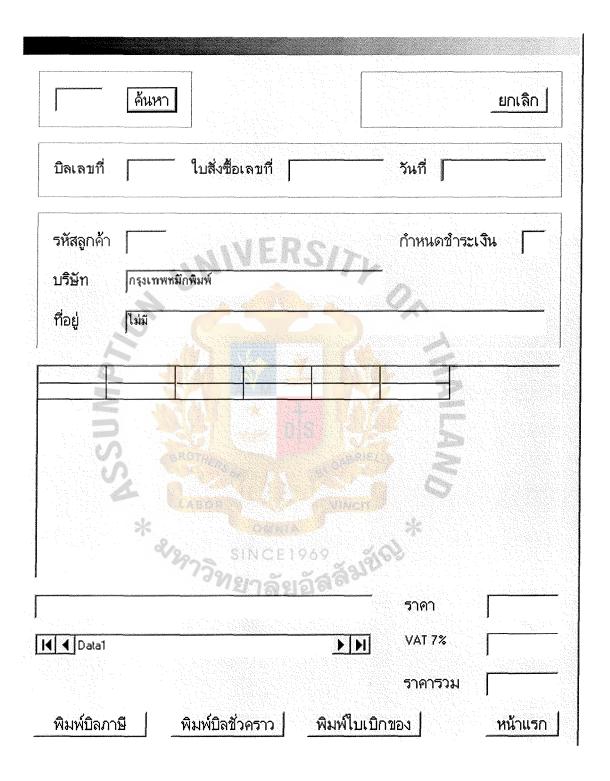


Figure B-7 Invoice Form

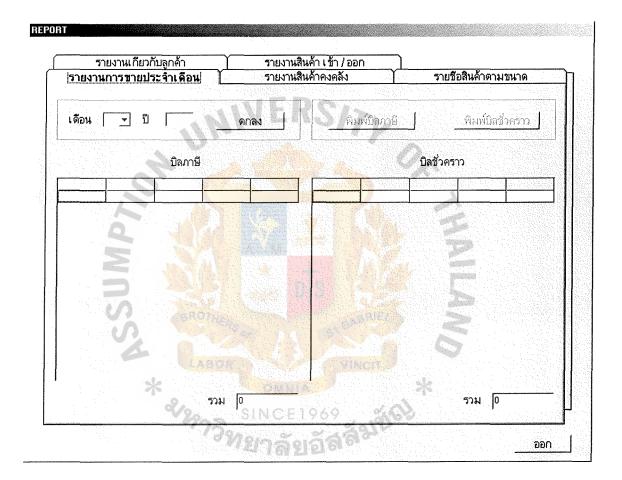


Figure B-8 Report Form

บิลเลขที่  0000004 ใบสังชื่อเลขที่ ไม่มี วันที่ 04 มีหวาทม 2545 300 ธิธิไข่ ผ่าเบอร์ 7 กำ จุกเบอร์ 2 4, 150 ธิธิใช่ ผ่าเออเบอร์ดีชาว จุกเบอร์ 4 33, กระบอกรีวหม ผ่าเบอร์ 2 ชาว ไม่ง่วยจุก 1, 50 ธิธิใช่ ผ่าตอเรษต่ำ จุก 1 จังเล็ก 1.							ชื่อขวด	ซื้อผ่า	ซื้อจุก	รากา
150 ธีรีใช่ ผ่าเลยงบลร์ดีทว จุกเบอร์ 4 33 กระบอกรีวเม มรีสลูกค้า 10001 กรุงเทพทมักพิมพ์ บรีษัท กรุงเทพทมักพิมพ์ ที่อยู่ โม่มี ชื่อชวด ชื่อผ่า ชื่อจุก ราคา จำนวน รวม	บิลเลขที	0000004	ใบสั่งชื่อเลขที่	ไม่มี	วันที่ [	04 รัพวาคม 2545	300 ##1a			4.
รหัสลูกค้า [00001 วหัสลูกค้า [00001 บริษัท [กรมถพทมักพิมพ์ ที่อยู่ [โม่มี ชื่อชวด ชื่อฝา ชื่อจุก ราคา รำนวน รวม		ſ.		1						3.
รหัสลูกค้า 00001 กำหนดข้าระเงิน 30 บริษัท กรุงเทพหมักพิมพ์ ที่อยู่ โม่ส ชื่อชวด ชื่อฝา ชื่อจุก ราคา จำนวน รวม	1. 1 									1.
รหัสลูกค้า 00001 บริษัท กรุงเทพหมักพิมพ์ ที่อยู่ โม่มี ชื่อชวด ชื่อฝา ชื่อจุก ราคา รำนวน รวม								( ฝากอน รมต่ำ		1.
บริษัท (กรุงเทพพามักพิมพ์ 19ชีม) (กรุงเทพพามักพิมพ์ ชื่อชวด ชื่อฝา ชื่อจุก ราคา ร้านวน รวม เพิ่ม	รหัสลกค้า	00001			กำหนดช่	กระเ <b>งิน</b> 30	1000 ธีธีมีชูใหม่ใช	I ฝา 1000 ซีซี มีชู	ไม่รวมจุก	7.
มายมา (กรุงเทพทพงพมพ)       ที่อยู่     โม่มี       ชื่อชวด     ชื่อผ่า       ชื่อชวด     ชื่อผ่า       ชื่อชวด     ชื่อผ่า       เพิ่ม		1								
ที่อยู่ โม่มี	1. <b>2</b> . 1	f	articul.		<del></del> , (j. li					5.
พี่งการการการการการการการการการการการการการก	1131911	10130LUMUN	11764174				ยาทยอด20ชีชีกรมใช	ผ่ายาทยลด (เก่า) เหลือง	จุกยาทยอด(รุ่นเก่า)	1.
	ชื่อช 	)A 	ชื่อฝา	ชื่อจุก	ราคา จำนวเ	les si				
			S S S S S S S S S S S S S S S S S S S	GRO			หมายเหตุ บิจรังกราว/สด ราคา	คำนวนบิลภาษี		
VAT 7% คำนวนปิลชั่วคราว			Minssa	BRO	Thinks of				 n	
VAT 7% คำนวนปิลชั่วคราว ABOR ราคารวม [ CTT บันทัก ] ออ			WINSSA W	BRO	Diana dian		5181 6 VAT 72	คำนวนปิลชั่วครา	<u></u>	<u></u>



	ala and strong the strong			
Zoom 75%	<b>_</b>			
ยุ่งยวด พลาลข์ ราชงานการขา	ริก ขแขกตามสูกค้า			
รพัสสูถก้า 0000	01 ชื่อบริษัท กรุงเทศ	เหมึกพิมพ์		
นิลเลขที่	วันที่	สรงสาย		
0000001	4/11/2545 4/11/2545	9,400.00 18,800.00	17)	
	4			
i	2			
9				
N				
5				
U				
	1.1		VINCE	
<b>▲</b> 1 <b>→</b> M	* 。			
	×20	SINCE1969		

Figure C-1 Customer order report (separate by customer ID)



Figure C-2 Customer order report (separate by time)

ฮู่งฮวด พ	ลาฮติก					
รายงานสิ่	นล้าคงคลัง			4/1 2/2545		
รหัสสินค้า	ชื่อสินค้ำ	ราคา	จำนวนต่อถุง	มือปู่ (ใบ)		
A001	50 ซีซีนม	2.00	1000	0		
A002	50 ซีซีไส	2.00	1000	0		
A003	100 ซีซีนม	2.60	500	0		
A004	100 ซีซีใส	2.60	500	0		
A005	135 ซีซีนม	2.80	350	0		
A006	135 ซีซีใส	2.80	350	0		
A007	150 ซีซีน <mark>ม</mark>	3.00	300	0	25	
A008	150 ซีซี <mark>ใส</mark>	3.00	300	0	5-2	
A009	210 ซีซีนม	3.30	250	0		
A010	210 ซีซีใส	3.30	250	0		
A011	240 ซีซ <mark>ีนม</mark>	3.60	216	0		
A012	240 ซีซีใส ^{Ro} The	3.60	216 GA	BRIE		
A013	300 ซีซีนม	4.00	192	0		
A014	300 ซีซีใ <mark>ส</mark>	4.00	192	0	$\sim$	
A015	400 ซีซีนม	4.80	150	0		

Figure C-3 Inventory report

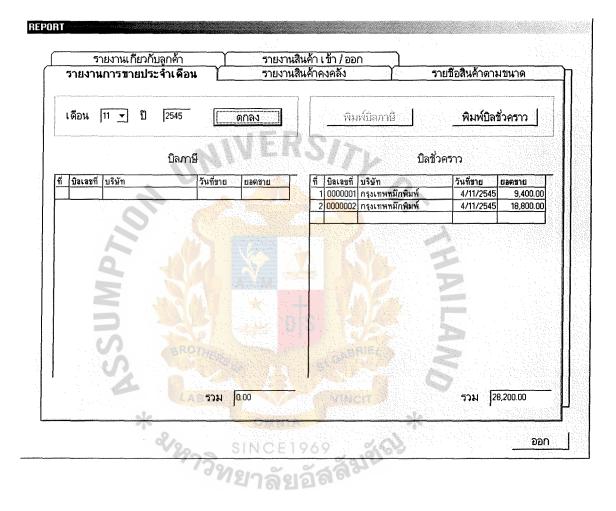


Figure C-4 Monthly report

	รายงานการขายประจำเดือน รายงานเกียวกับลูกค้า	รายง รายงานสิ	านสินค้า <mark>นค้า เข้</mark>			รายชื่อสินค้าตามขนาด ไ		
	ค้นหาชื่อสินค้า กระบลกจึวนม กระบลกจึวนม	^ĕ umshat	auði RS	Ē		ิ (กระบอกจึวหม (หน่วย)		
	รายการสินค้าเ ข้า				5	ยการสินค้าออก		
(← )	i žuři (těn) dhuou 1 4/11/2545 50		fi 1 2		11/2545	411234 1,000 2,000	<u>มิลเลขที่</u> 0000001 0000002	

Figure C-5 Product (In / Out) report

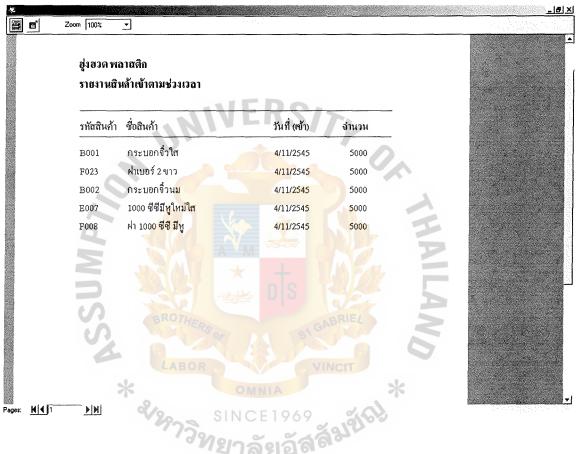


Figure C-6 All products In report (separate by time)

ฮู่งฮวด พล รายงานสิ่า	ลาสติก แล้าออกตามช่วงเวลา				
รทัสสินค้า	ชื่อสินค้า	วันที่ (ออก)	งำนวน	บิลเลขที่	
B002	กระบอกจิ๋วนม	4/11/2545	1,000	0000001	
F023	ฝ่าเบอร์ 2 ขาว	4/11/2545	1,000	0000001	
E007	1000 ซีซีมีหูใหม่ใส	4/11/2545	1,000	0000001	
F008	ฝา 1000 ซีซี มีห <b>ู</b>	4/11/2545	1,000	0000001	
B002	กระบอกจิ๋วนม	4/11/2545	2,000	0000002	
F023	ฝาเบอร์ 2 ข <mark>าว</mark>	4/11/2545	2,000	0000002	
E007	1000 ซีซีมีหูใหม่ใส	4/11/2545	2,000	0000002	
F008	ฝา 100 <mark>0 ซีซี มีหู</mark>	4/11/2545	2,000	0000002	
<b>NUSSA</b>	GROTHER			ABRIEL NCIT	

Figure C-7 All products Out report (separate by time)

### BIBLIOGRAPHY

Kendall, Kenneth E. and Julie E. Kendall. System Analysis and Design, Fourth Edition. NJ: Prentice-Hall, 1999.

O'Brien J. A. Management Information Systems: Managing Information Technology in the Internetworked Enterprise, Fourth Edition. USA: McGraw Hill, 1999.

ศุภษัย สมพานิช. Database Programming ด้วย Visual Basic ฉบับมืออาชีพ, พิมพ์ครั้งที่ 1. กรุงเทพฯ: สำนัก พิมพ์ อินโฟเพรส, 2543.

กิตดี ภักดีวัฒนะกุล, Visual Basic 6, พิมพ์ครั้งที่ 7. กรุงเทพฯ: สำนักพิมพ์ อินโฟเพรส, 2542.

พิมล ชัยชนะสิริ. ผู้จัดการฝ่ายการ<mark>ตลาดบริษัทฮุ่งฮว</mark>ดพลาสติก. <mark>สัมภาษณ์, 5 กันยายน 25</mark>45

* &

