

Practical Development of Information System in Business Context:
Inventory-Commission System for POWER-ORAN CO.,LTD.

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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: Inventory-Commission System, Power-Oran CO.,Ltd.


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Advisor: A.Vasa Buraphadeja


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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

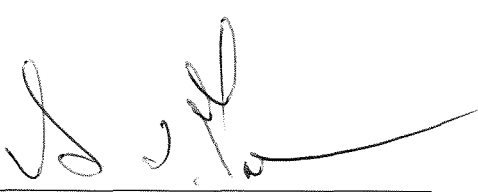
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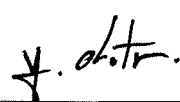
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PROJECT WRITE-UP

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I. INTRODUCTION

1.1 Background of the Organization

1.1.1 Profile

POWER ORAN CO., LTD. is the direct sale company that sell the products such as soap, toothbrush, fruit juice, pen or pencil, and etc. to the retailers. The company has salesman to sell or distribute the products to retailers by direct sale and company also provides commission and some incentives for the salesman that can sell the products to the determined amount.

The company has totally 21 persons : there are 8 salesman and 8 for van-drivers that will go with salesman to carry the stock and helping the salesman, 2 workers for accounting, 2 work in administration, and 1 for house-keeping. The company has 8 vans for using to carry the inventory that salesman use in selling to the retailers.

The company is situated at 213/8-9 M. Phai-Roch Bangna-Trad Rd. Kilometre-4 Phrakanong Bangna Bangkok 10260.

1.1.2 Structure

There are 4 main departments in the company. The inventory-commission which the system is to be developed under the Stock Department. The following figures show the company's organization chart and department chart.

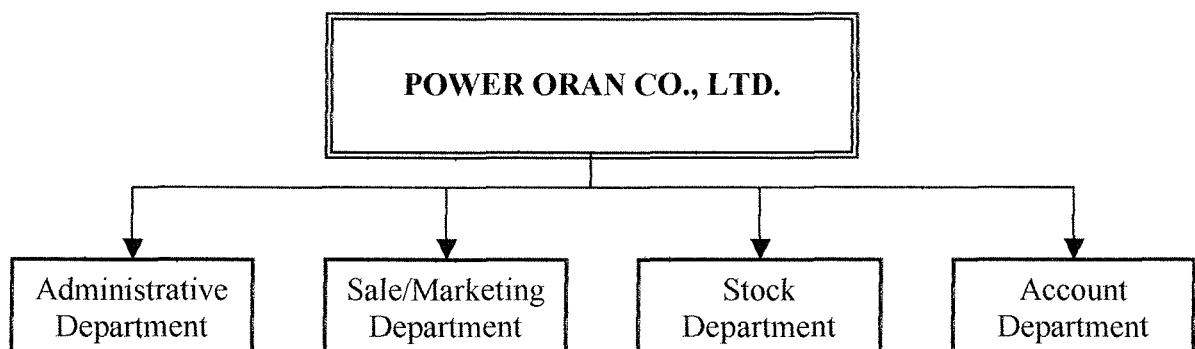


Figure 1-1 Organization Chart

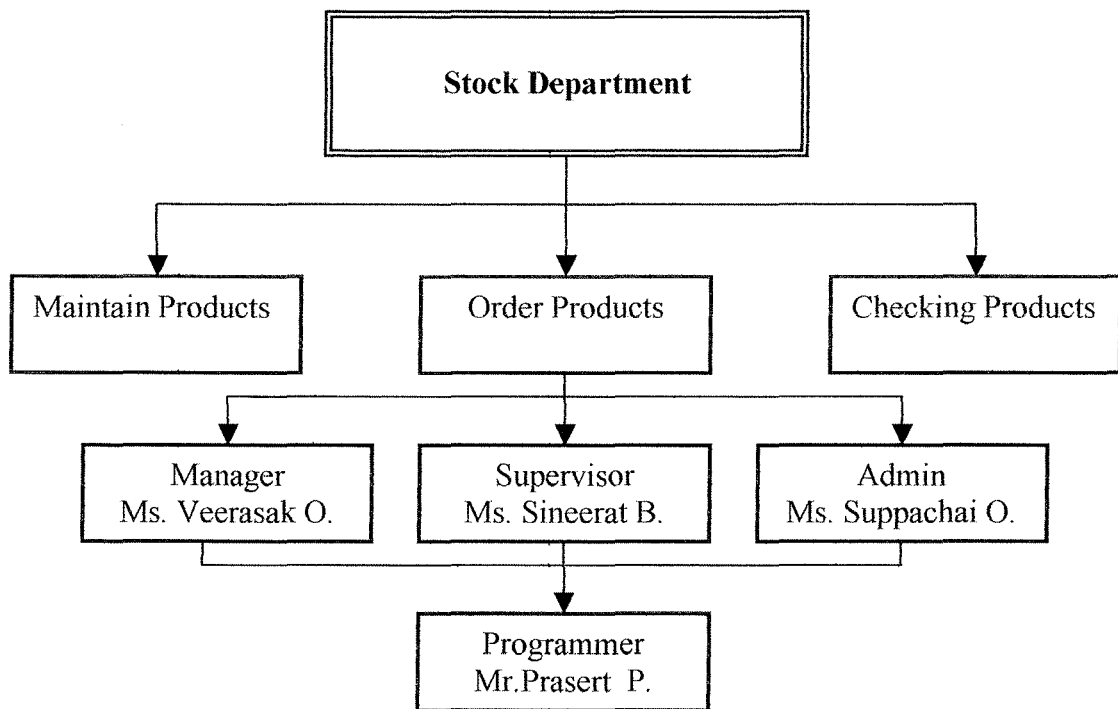


Figure 1-2 Department Chart

1.2 Objectives of The System

The objectives of this project are as follows :

- (1) To analyze the causes of problems of the existing system.
- (2) To study the existing system for the understanding on the current operation.
- (3) To define user requirements that will support and solve current problems.
- (4) To reduce errors in stock checking and errors in recording transactions
- (5) To make the effective system in retrieving information.
- (6) To implement the system in the real working context.

1.3 Scope of The System

The followings are the scopes of the proposed systems :

- (1) To collect and maintain customer, supplier, salesman and product information.
- (2) To maintain minimum inventory and reorder automatically.
- (3) To calculate commission for the salesman in monthly.
- (4) Automated calculation inventory price.
- (5) To generate necessary transactions and management reports.

1.4 Project Plan

The plan for this project : “Inventory-Commission System for POWER-ORAN CO., LTD.” is exhibited in Figure 1-3.

No.	Task Name	September				October				November				December			
		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	■	■														
3.	Existing Data Flow Diagram	■	■														
	II. Preliminary Investigation																
4.	Define the objectives and scope		■	■													
5.	Hardware Requirements		■	■													
6.	Software Requirements		■	■													
	III. Analysis and Design of the Proposed System																
7.	Data Flow Diagram			■	■												
8.	Entity-Relationship Diagram			■	■	■	■										
9.	Database Design			■	■	■	■										
10.	Process specification				■	■	■										
11.	Data Dictionary					■	■										
12.	Interface Design					■	■	■									
13.	Report Design						■	■	■								
	IV. Implementation of the Proposed System																
14.	Coding							■	■	■	■	■	■	■	■	■	■
15.	Testing												■	■	■	■	■
16.	Documentation							■	■	■	■	■	■	■	■	■	■

Figure 1-3 Project Plan for Inventory-Commission System

II. THE EXISTING SYSTEM

2.1 Background of Existing System

For the existing system, the company has almost manage based on noting into the books or some documents to keep the record such as the number of sales, commission for salesman, and stock-keeping record.

The program that company currently use is Microsoft Excel which is not efficient enough to compute the number of sales and commission for salesman and it is less flexible and limited ability to adjust some calculation. When printing for some decision-making in management so it is very difficult to read because there is a lot of information that are not useful.

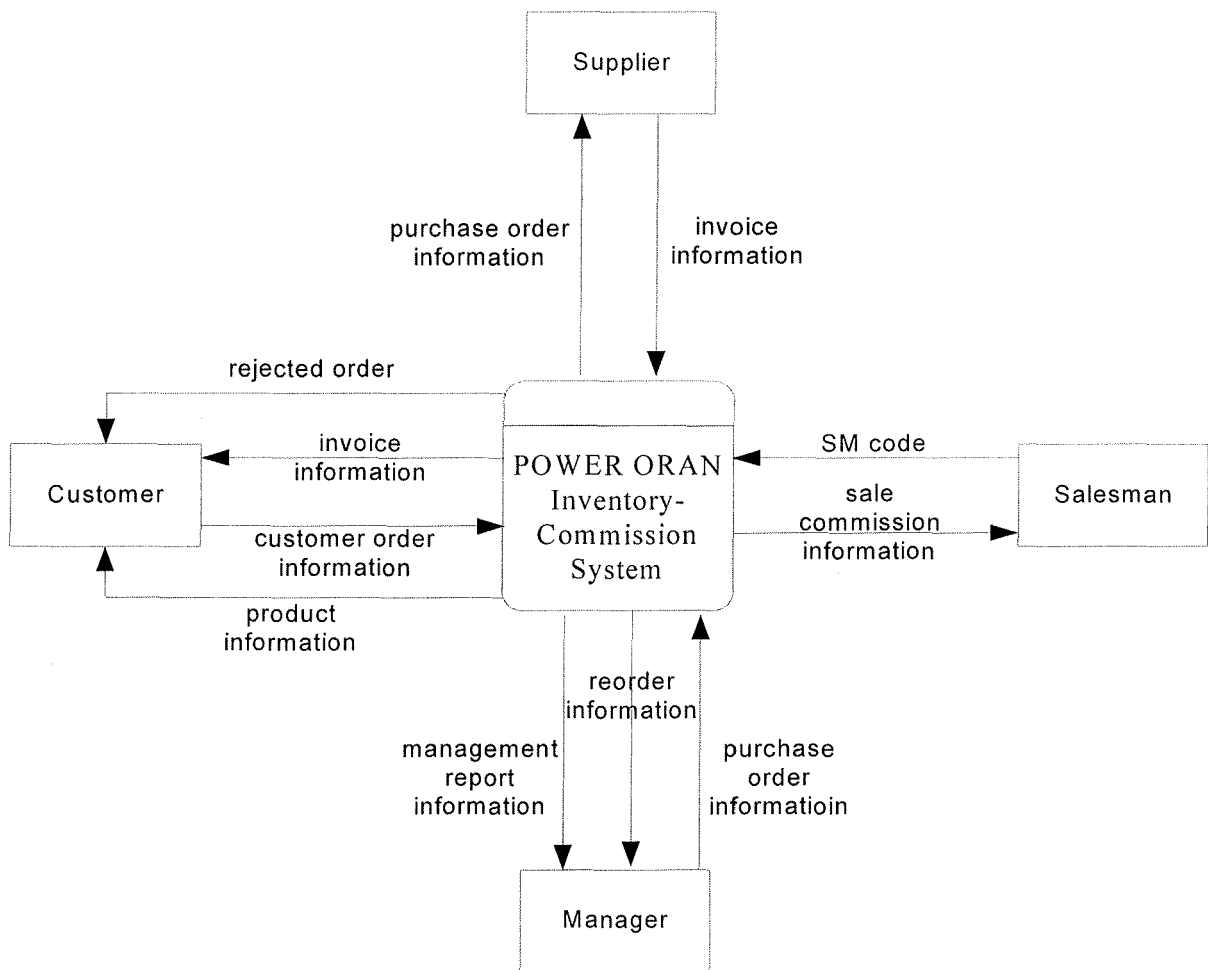


Figure 2-1 Context Diagram of Existing System

2.2 Problem Definition

(1) Ineffective of Inventory Control

The ineffective of inventory control is happened from our stock keeping that there are several stock places to keep the inventory. There are 2 places : the warehouse that is use to keep the total inventory that received from the supplier and another stock is keep it on the van that it is used for the salesman to distribute the products to the retailers.

The problems occurred when salesman request the products from the warehouse and they are error in checking stock because they just recorded in the papers.

(2) Invalid and Error Commission Input

According to the company uses direct sale method by giving the salesman to show and sell the products to retailers. The company has commission for salesman if the more they sell products, the higher commission they earned. The problems come from the commission that pay to the salesman is once per month and the amount that they sold may be put into the papers with the wrong blank space because the company has many salesman.

(3) Difficulties in Calculation of Revenue

From the calculation part, the company encountered the problem that the total balance from selling are incorrect. This is because the calculation system is not effective enough because the old system still use input amount into the papers that it has many blank space for many products so it may be put in the wrong blank and make mistake in the total sale calculation.

III. THE PROPOSED SYSTEM

3.1 System Specification

(1) Hardware Requirements

Table 3-1 Hardware Requirements

HAREWARE	SPECIFICATION
CPU	Pentium or Higher Processor
RAM	64 MB.
Hard disk	15 GB.
Display Card	32 MB.
CD-Rom	8X or Higher

For Minimum Hardware Requirements, Pentium or higher processor is enough to run for this inventory program, RAM should be 64 MB. and Harddisk should be at least 15 GB. in order to install Operating System, Visual Basic, Microsoft Office 2000, Crystal Report, and other software requirements. Display Card should be 32 MB. to display for higher resolution and CD-Rom is require for install programs.

For Recommended Hardware Requirements, Pentium II (200 Mhz.) or Other Equivalent Processor (AMD) is acceptable to run for this program. RAM should be 128 MB. for running Crystal Report and other softwares. Harddisk is recommended at 20 GB. for higher capacity to install other programs.

(2) Software Requirements

Table 3-2 Software Requirements

SOFTWARE	SPECIFICATION
Operating System	Microsoft Windows 95, 98, Me, 2000, Windows NT 4.0, or higher
Application	1. Microsoft Office 2000 2. Visual Basic 6.0 3. Service Pack Version 5 4. Crystal Report 5. McAfee Anti-Virus

For Software Requirements, the inventory program can use operating system under Microsoft Windows 95, 98, ME, 2000, Windows NT 4.0, or higher. According to the applications for this inventory program are Microsoft Office 2000 to be used as database in order to recorded all information and transactions. Visual Basic 6.0 is used to coding the inventory program and Service Pack Version 5 is used as a component of Visual Basic 6.0 in order to improve or add new tools or components. Crystal Report is a application to build for the reports. And McAfee is an optional application used to be prevent or scan the virus that can cause the system halted.

3.2 System Design

(1) Data Flow Diagram

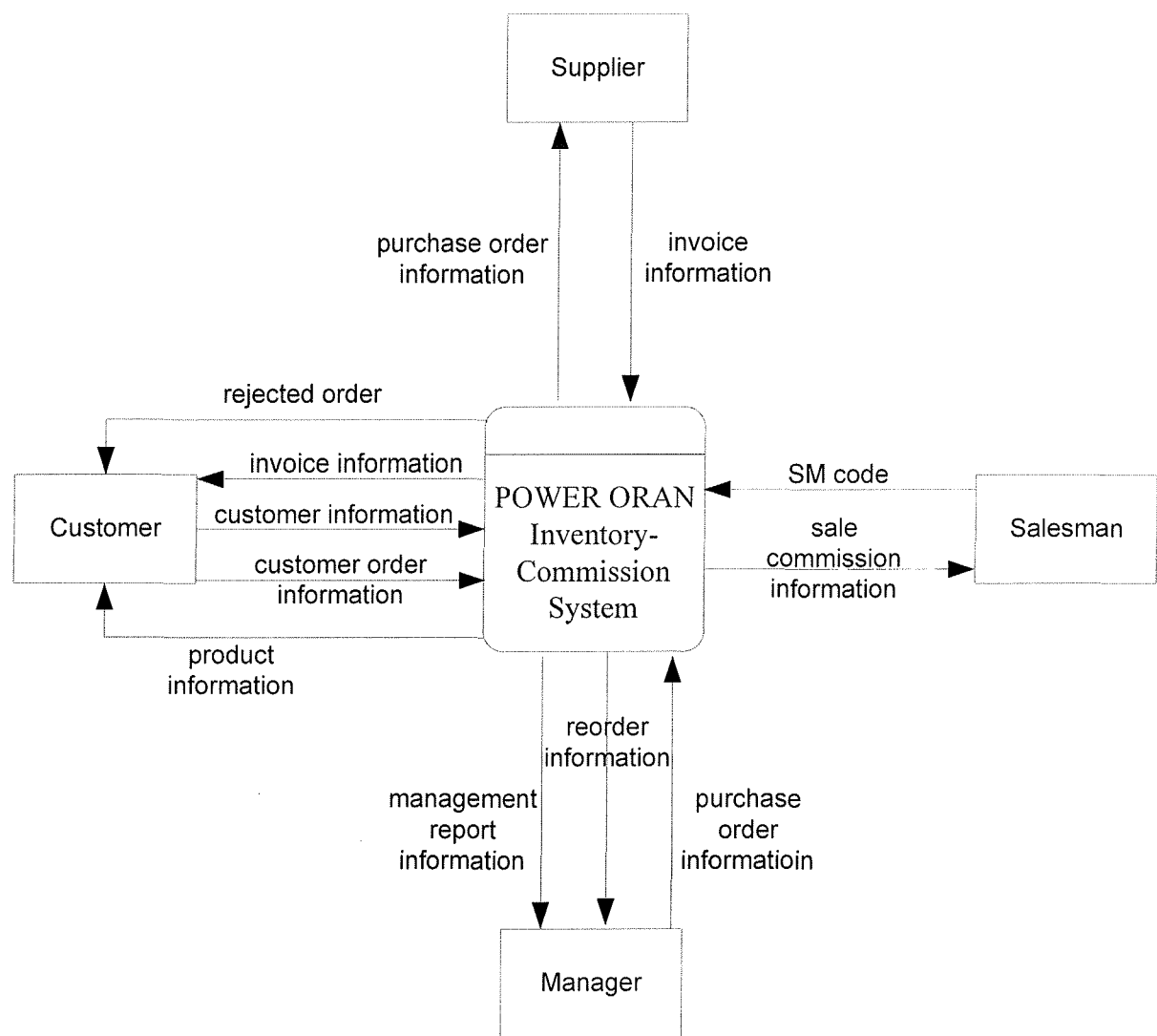


Figure 3-1 Context Diagram

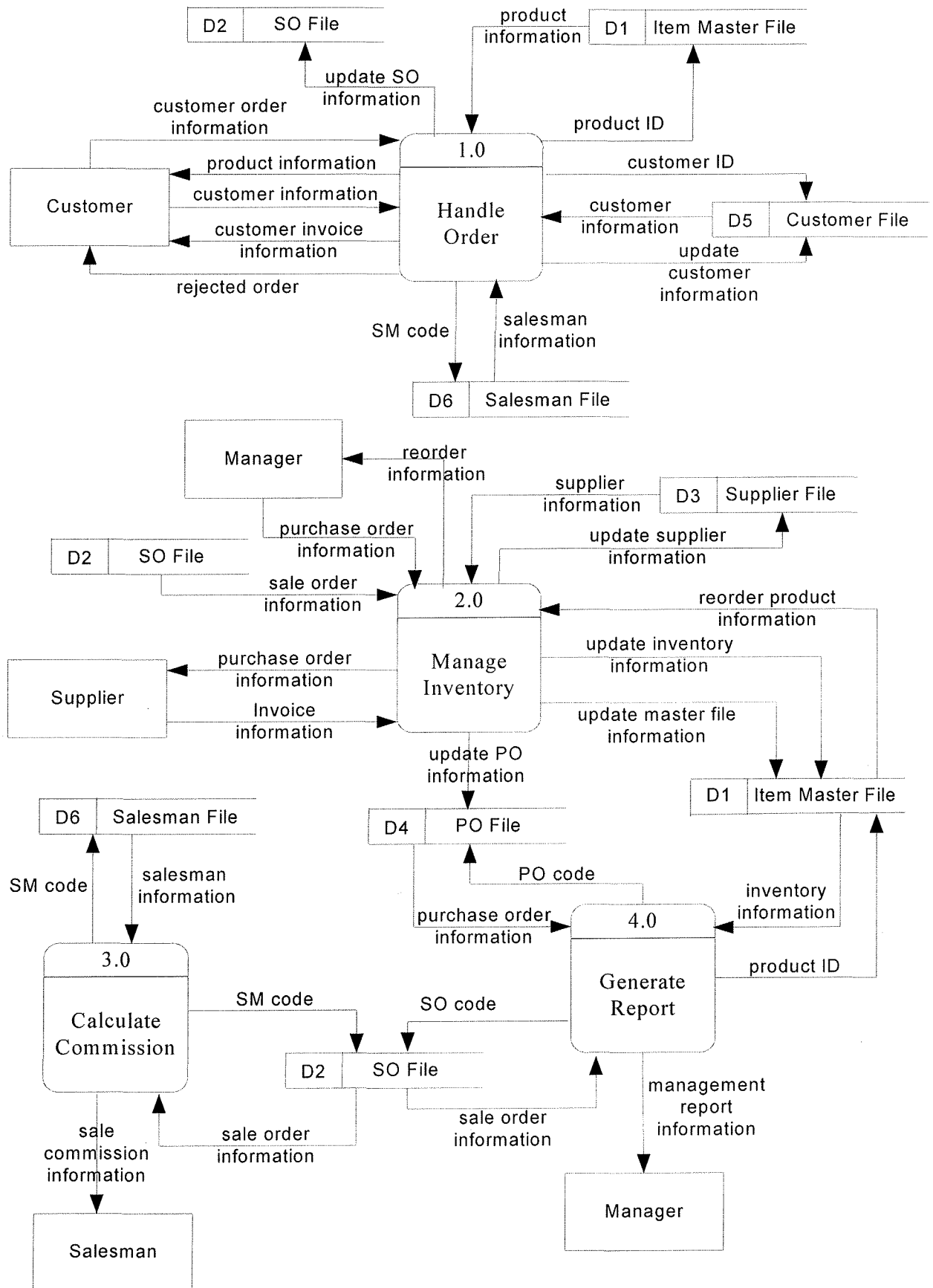


Figure 3-2 Data Flow Diagram – Level 0

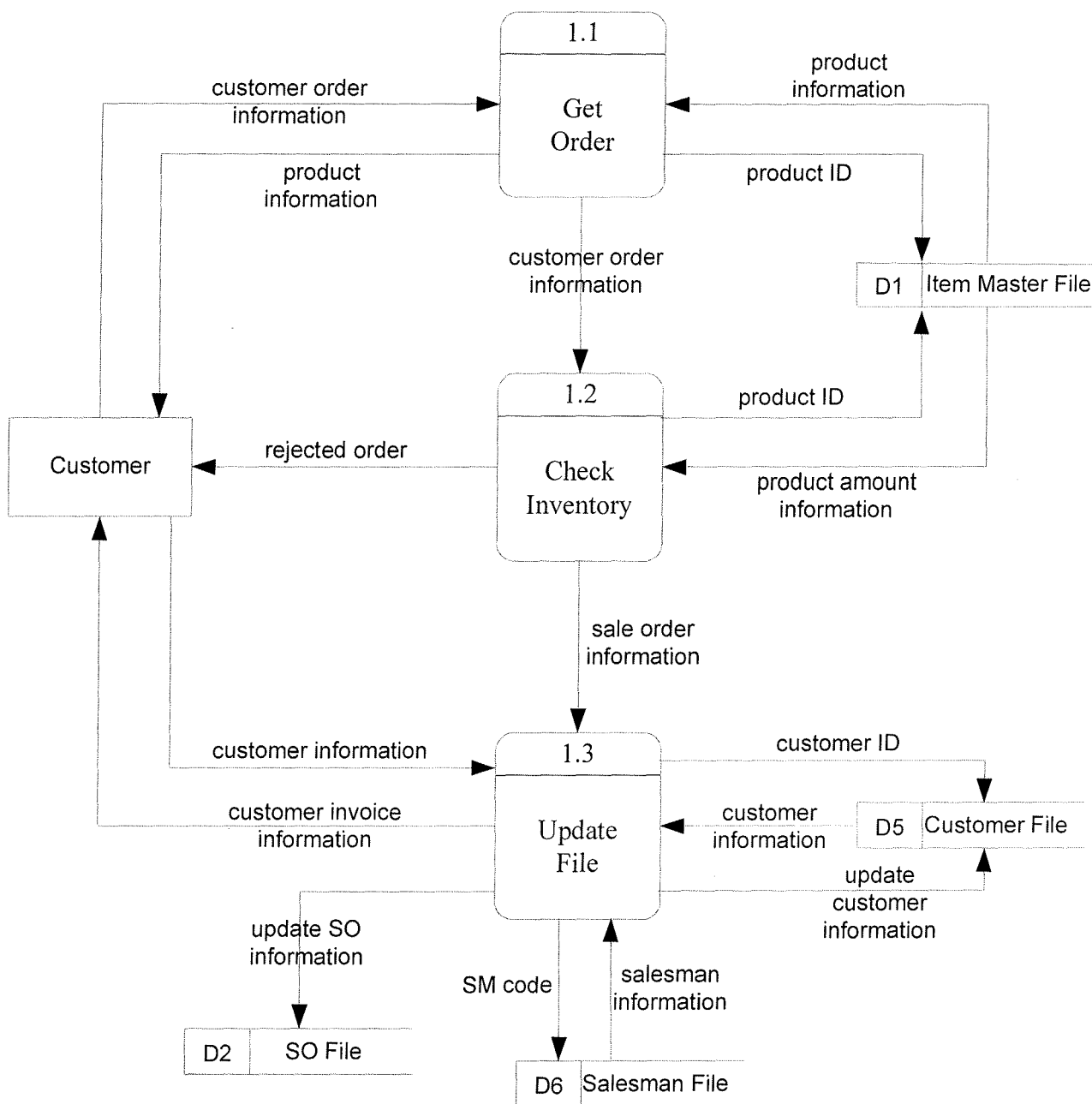


Figure 3-3 Data Flow Diagram – Level 1 for Process 1

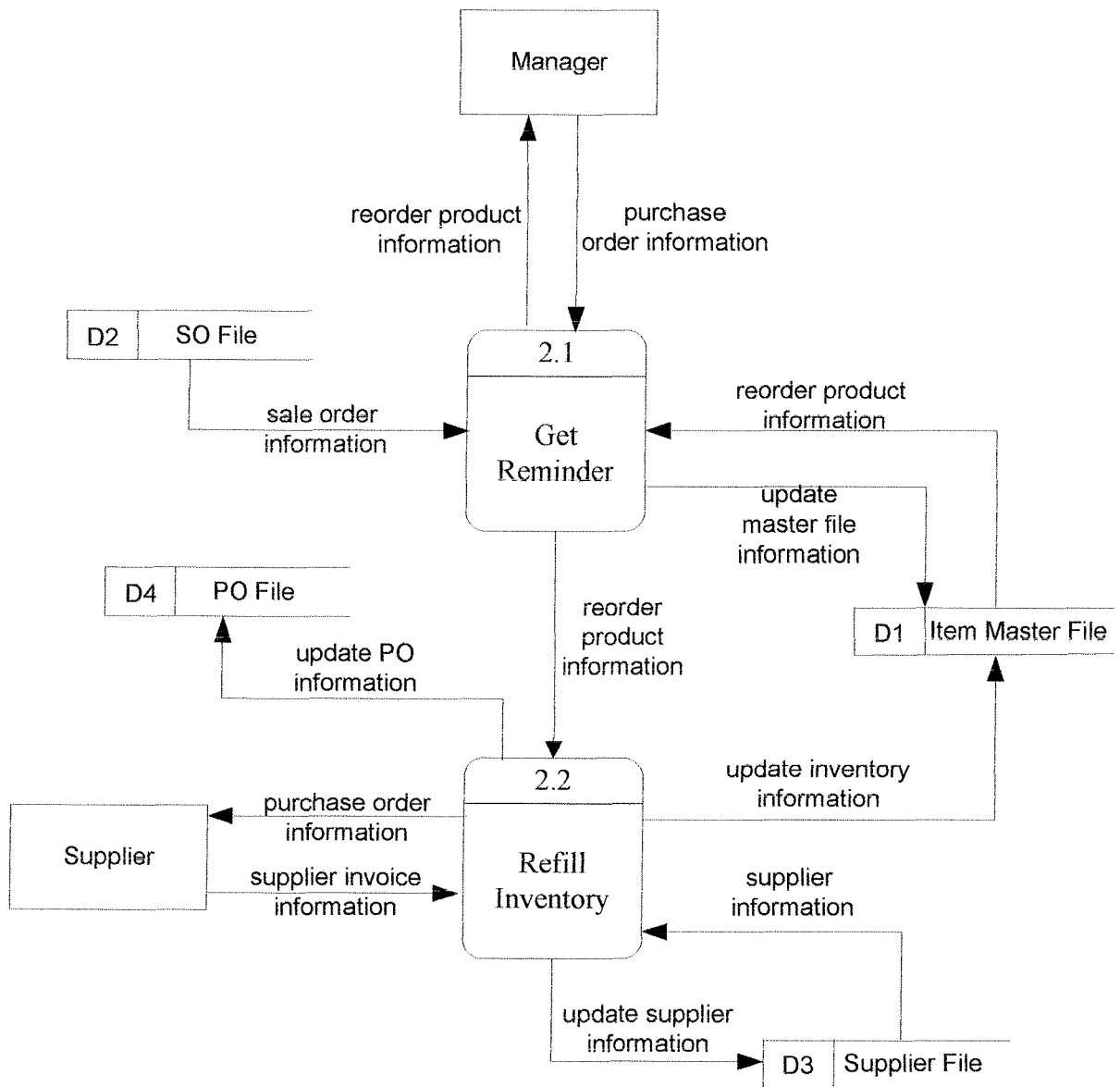


Figure 3-4 Data Flow Diagram – Level 1 for Process 2

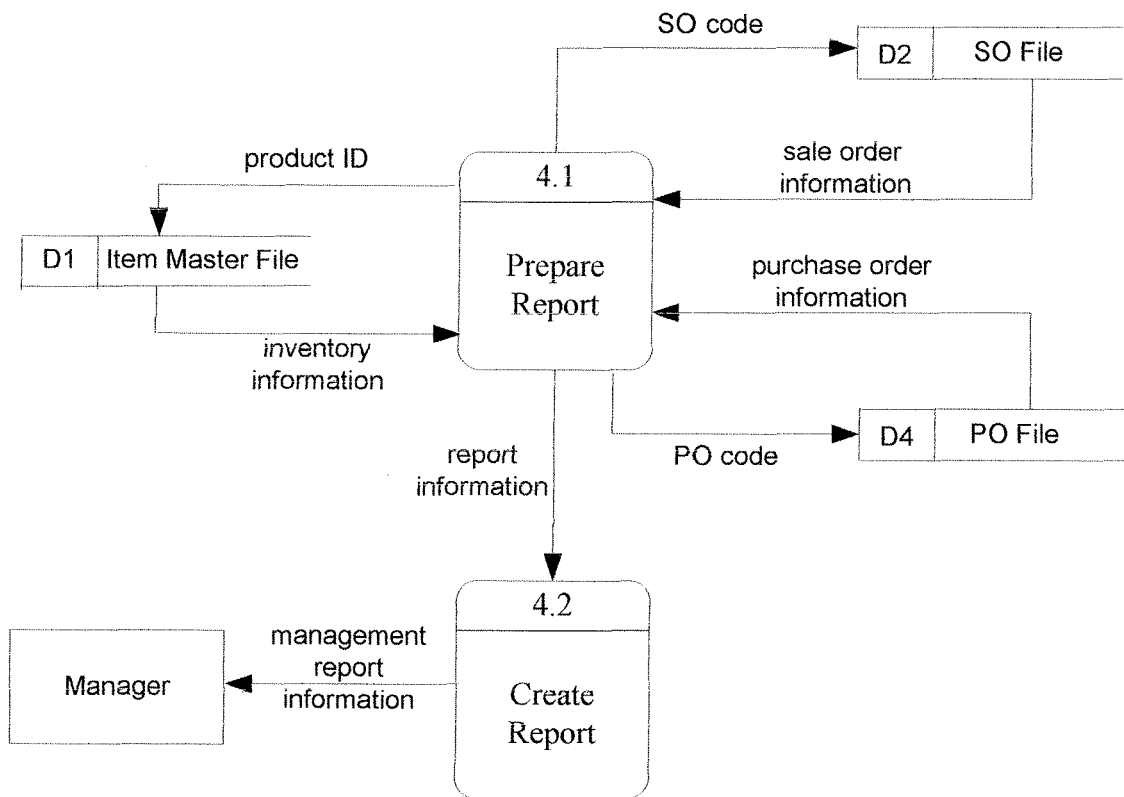


Figure 3-5 Data Flow Diagram – Level 1 for Process 4

(2) Entity-Relationship Diagram

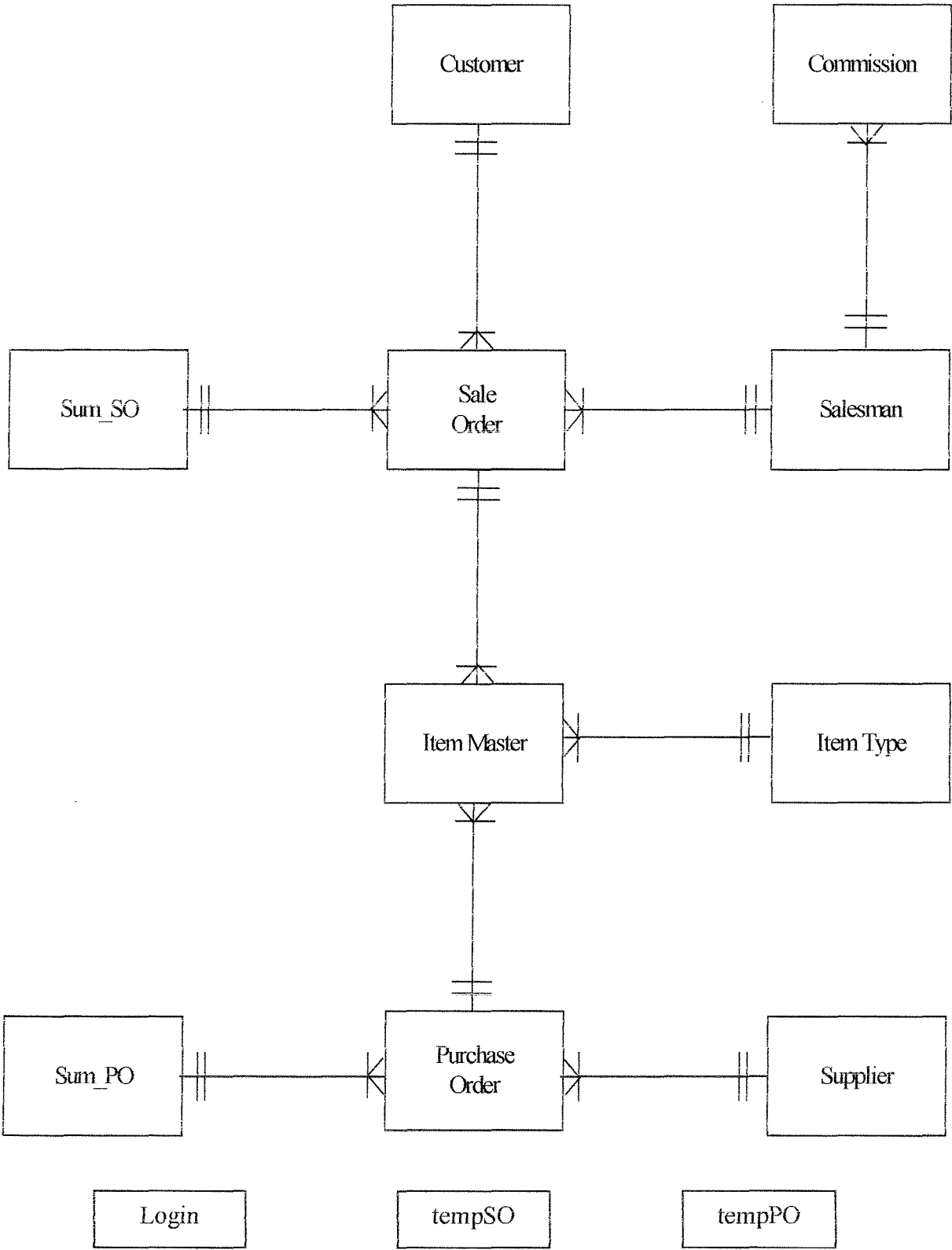


Figure 3-6 Entity-Relationship Diagram

(3) Database Design

In this inventory system, database design has 13 tables :

1) Item Master is the table that shows Product ID as Primary Key, Item Code and Supplier Code as Foreign Key, and all information of each product. They also include Cost, Sell Price, Quantity, and Low Limit. (Refer to Appendix A : Table A-1)

2) Item Type is the table that link with Item Master Table by having Item Code as Primary Key. This table show only Item Code and Item Name of each product such as Food or Non-Food. (Refer to Appendix A : Table A-2)

3) Purchase Order (PO) has PO Code, Supplier Code and Item Model as Concatenate Key to link with Item Master and Supplier Table. It includes all purchasing transaction of supplier. (Refer to Appendix A : Table A-3)

4) Sum_PO is the table use for sum all calculation in PO Table that has many PO Code into one PO Code of Sum_PO Table. This table show all discounts and net total after deduct from discount for each purchase order of PO Table. (Refer to Appendix A : Table A-4)

5) Sale Order (SO) has SO Code, Customer ID, Product ID and Salesman ID as Concatenate Key that link with Item Master, Customer, and Salesman Table. It includes all sales transaction with customer and salesman information. (Refer to Appendix A : Table A-5)

6) Sum_SO is the table use for sum all calculation in SO Table that has many SO Code into one SO Code of Sum_SO Table. This table also show all discounts and net total after duduct from discount for each sale order of SO Table. (Refer to Appendix A : Table A-6)

- 7) **Supplier** is show all information about supplier such as supplier name, address, and contact details. It has Supplier Code as Primary Key that used to link with Item Master Table. (Refer to Appendix A : Table A-7)
- 8) **Customer** is show all information about customer such as customer name, store name, address, and other useful details. It has Customer ID as Primary Key that used to link with SO Table. (Refer to Appendix A : Table A-10)
- 9) **Salesman** is show all information about salesman such as salesman name, address, assistant name, and other detail. It also has starting work date for each salesman and show status to check whether salesman get commission for each month or not. It has Salesman ID as Primary Key that used to link with SO Table. (Refer to Appendix A : Table A-11)
- 10) **Commission** used for keep record all sales transaction that the salesman can sales in each month. It has Salesman ID as Primary Key that used to link with Salesman Table. (Refer to Appendix A : Table A-12)
- 11) **tempPO** used as temporary table while user of program has recording all purchasing transactions before recorded all information into PO Table. It also delete or clear table every time when user has terminate the program. (Refer to Appendix A : Table A-8)
- 12) **tempSO** used as temporary table while user of program has recording all sales transactions before recorded all information into SO Table. It also delete or clear table every time when user has terminate the program. (Refer to Appendix A : Table A-9)

13) **Login** is used to keep username and password when the users has login into the system and having priority to classified user capacity. (Refer to Appendix A : Table A-13)

(4) Process Specification

Table 3-3 Process Specification for Process 1.0

Process Name:	Handle Order
Data In:	(1) Customer Order Information (2) Product Information (3) Customer Information (4) Salesman Information
Data Out:	(1) Product ID (2) Customer ID (3) Salesman(SM) Code (4) Product Information (5) Reject Order Information (6) Update SO Information (7) Update Customer Information (8) Customer Invoice Information
Process:	(1) Get customer order information and send product information to customer (2) Retrieve customer and salesman information (3) Check whether product is available or not (4) Update information for new salesman and customer (5) Update Sale Order File (6) Send invoice information to the customer
Attachment:	(1) Customer (2) Data Store D1

	(3) Data Store D2
	(4) Data Store D5
	(5) Data Store D6

Table 3-4 Process Specification for Process 1.1

Process Name:	Get Order
Data In:	(1) Customer Order Information (2) Product Information
Data Out:	(1) Product ID (2) Product Information
Process:	(1) Get customer order information (2) Send product information from item master file to customer
Attachment:	(1) Customer (2) Data Store D1 (3) Process 1.1 (4) Process 1.2

Table 3-5 Process Specification for Process 1.2

Process Name:	Check Inventory
Data In:	(1) Product Amount Information (2) Customer Order Information
Data Out:	(1) Product ID (2) Reject Order Information (3) Sale Order Information
Process:	(1) Check whether there is enough stock or not (2) Send reject order to customer for not enough stock (3) Send sale order information in order to update SO file
Attachment:	(1) Customer (2) Data Store D1 (3) Process 1.3

Table 3-6 Process Specification for Process 1.3

Process Name:	Update File
Data In:	<ul style="list-style-type: none"> (1) Sale Order Information (2) Customer Information (3) Salesman Information
Data Out:	<ul style="list-style-type: none"> (1) Customer ID (2) Salesman(SM) Code (3) Update SO Information (4) Update Customer Information (5) Customer Invoice Information
Process:	<ul style="list-style-type: none"> (1) Get sale order information (2) Update information for new customer (3) Retrieve salesman information (4) Update sale information into sale order file (5) Issue invoice information to the customer
Attachment:	<ul style="list-style-type: none"> (1) Customer (2) Data Store D2 (3) Data Store D5 (4) Data Store D6 (5) Process 1.2

Table 3-7 Process Specification for Process 2.0

Process Name:	Manage Inventory
Data In:	(1) Sale Order Information (2) Reorder Product Information (3) Purchase Order Information (4) Supplier Information (5) Invoice Information
Data Out:	(1) Purchase Order Information (2) Update PO Information (3) Update Inventory and Item Master Information (4) Update Supplier Information
Process:	(1) Get sale order information from SO file (2) Update inventory of item master file and check whether there are any product out of stock (3) Send reorder information to manager (4) Send purchase order to supplier for products that are out of stock (5) Update supplier file for new supplier
Attachment:	(1) Supplier (2) Manager (3) Data Store D1 (4) Data Store D2 (5) Data Store D3 (6) Data Store D4

Table 3-8 Process Specification for Process 2.1

Process Name:	Get Reminder
Data In:	(1) Sale Order Information (2) Reorder Product Information (3) Purchase Order Information
Data Out:	(1) Update Master File Information (2) Reorder Information
Process:	(1) Get sale order information from SO file (2) Update sale information into item master file (3) Send reorder product information to manager for the products that out of stock or lower limit
Attachment:	(1) Manager (2) Data Store D1 (3) Data Store D2 (4) Process 2.2

Table 3-9 Process Specification for Process 2.2

Process Name:	Refill Inventory
Data In:	<ul style="list-style-type: none"> (1) Reorder Product Information (2) Supplier Information (3) Supplier Invoice Information
Data Out:	<ul style="list-style-type: none"> (1) Purchase Order Information (2) Update Inventory Information (3) Update PO Information (4) Update Supplier Information
Process:	<ul style="list-style-type: none"> (1) Get reorder product information (2) Issue purchase order to supplier (3) Get invoice information from supplier (4) Update inventory amount of item master file (5) Update information for new supplier
Attachment:	<ul style="list-style-type: none"> (1) Supplier (2) Data Store D1 (3) Data Store D3 (4) Data Store D4 (5) Process 2.1

Table 3-10 Process Specification for Process 3.0

Process Name:	Calculate Commission
Data In:	(1) Salesman Information (2) Sale Order Information
Data Out:	(1) Salesman(SM) Code (2) Sale Commission Information
Process:	(1) Retrieve salesman information (2) Get sale order information from SO file (3) Issue sale commission information to salesman
Attachment:	(1) Manager (2) Data Store D2 (3) Data Store D6

Table 3-11 Process Specification for Process 4.0

Process Name:	Generate Report
Data In:	(1) Purchase Order Information (2) Sale Order Information (3) Inventory Information
Data Out:	(1) Purchase Order(PO) Code (2) Sale Order(SO) Code (3) Product ID (4) Management Report Information
Process:	(1) Get purchase order information from PO file (2) Get sale order information from SO file (3) Get inventory information from Item Master file (4) Generate management report for manager
Attachment:	(1) Manager (2) Data Store D1 (3) Data Store D2 (4) Data Store D4

Table 3-12 Process Specification for Process 4.1

Process Name:	Prepare Report
Data In:	<ul style="list-style-type: none"> (1) Purchase Order Information (2) Sale Order Information (3) Inventory Information
Data Out:	<ul style="list-style-type: none"> (1) Purchase Order(PO) Code (2) Sale Order(SO) Code (3) Product ID (4) Report Information
Process:	<ul style="list-style-type: none"> (1) Get purchase order information from PO file (2) Get sale order information from SO file (3) Get inventory information from Item Master file (4) Send report information to create the reports
Attachment:	<ul style="list-style-type: none"> (1) Manager (2) Data Store 1 (3) Data Store D2 (4) Data Store D4 (5) Process 4.2

Table 3-13 Process Specification for Process 4.2

Process Name:	Create Report
Data In:	(1) Report Information
Data Out:	(1) Management Report Information
Process:	(1) Get report information from Process 4.1 (2) Create reports to show the manager
Attachment:	(2) Manager (3) Process 4.1

(5) Data Dictionary

Table 3-14 Data Dictionary of Inventory-Commission System Database

Field Name	Meaning
Customer id	Identification number of the customer
Customer information	All information or details of the customer
Customer order information	All details that customer order the goods
Inventory information	The information and amount of inventory stock
Invoice information	All invoice's detail from sale or purchase order
Management report information	All information of management report
PO code	Identification number of purchase order
Product id	Identification number of product
Product information	All details of product information
Purchase order information	The list of products from purchase order
Reject order information	The list of product that out of stock
Reorder information/reorder product information	The products that have to be order
Sale commission information	All information in sale commission of the salesman

Salesman information	All details of the salesman .
Sale order information	The list of products from sale order
SM code	Identification number of salesman
SO code	Identification number of sale order
Supplier information	All details or information of supplier
Update customer information	Adding information for the new customer
Update inventory information	Update information in master file
Update master file information	Adding information for the new product(s)
Update PO information	All purchasing detail in purchase order
Update SO information	All transaction detail in sale order
Update supplier information	Adding information for the new supplier

(6) Interface Design

1) **Product Detail** is the main form for show all information of the products that having sell. This form can use in edit the product information or add the new product. Furthermore, search also available for search by product id and product name. It can be delete for the product that company is not sell anymore. (Refer to Appendix B : Figure B-1)

2) **Product-In (Purchasing)** use in purchasing the products from supplier. It can keep record information from supplier and product that purchasing. It also automatic generate purchase order(PO) code and save the purchasing date. Moreover the products that have low stock, it can be order by checking on the Low Stock CheckBox. (Refer to Appendix B : Figure B-2)

3) **Selling** is make for the selling transaction to the customer by choosing the customer or manually input for the new customer and choose the salesman. And choose the products to sell, and input amount, gift, and discount. (Refer to Appendix B : Figure B-3)

4) **Commission Interface** use for calculate commission of the salesman in every month. Its function begins from choose the salesman and paid commission of last issue will be shown and the beginning date and ending date will automatic compute. After press calculate button the list of the product that sold by the selected salesman will be show and calculate for the total amount with the sale commission that salesman can get. (Refer to Appendix B : Figure B-5)

5) **Report** will be show totally 6 reports : it consists of top sale report, daily sale report, monthly sale report, transaction report, purchasing report, and low stock report. (Refer to Appendix B : Figure B-4)

6) Login, Add User, Change Password : these 3 forms use as to login into the program, it has 2 priorities between manager and staff that manager has authorized to use full access of the program but staff can use only product detail and selling form. (Refer to Appendix B : Figure B-9, B-10, B-11)

7) Salesman and Supplier : these 2 forms use for add new salesman or supplier and it can adjust or change the details. (Refer to Appendix B : Figure B-7, B-8)

(7) Report Design

1) **Top Sale Report** show the product that is most selling in the first line and show the product details such as product id, product name, item name, price, and quantity. (Refer to Appendix C : Figure C-1)

2) **Daily Sale Report** is use for display the total amount in daily that the company can sell and it also compute for the grand total from selling. (Refer to Appendix C : Figure C-2)

3) **Monthly Sale Report** is use for display the total amount in monthly that the company can sell and it also compute for the grand total from selling. (Refer to Appendix C : Figure C-3)

4) **Transaction Report** will be show all transaction that happened in selling by user can choose the beginning and ending date that user want to know. The report will show the all products that salesman can sold within the period and it will group by sale order(SO) code. (Refer to Appendix C : Figure C-4)

5) **Purchasing Report** will be show all purchasing that purchase from supplier and show the sub total and grand total. (Refer to Appendix C : Figure C-5)

6) **Low Stock Report** is the report use for telling the stock in the warehouse that has lower than determined minimum stock. All the item that are lower will show in the report and the amount will be red color.

All report design will be show in Appendix C. (Refer to Appendix C : Figure C-6)

IV. SYSTEM IMPLEMENTATION

4.1 Overview of the System Implementation

For the new system of this inventory-commission program, it can be collect and maintain customer, supplier, salesman and product information. The inventory can be maintain for the minimum level that user has determined the amount and when some products are out of stock, automatically reorder will be implemented by the program's remind in purchasing section. They can be automated calculation of inventory price and also generate tailored necessary transactions and management reports.

To implemented in converting the old system to the new or modified one, we use Parallel Conversion because this will running the old system and the new system at the same time. We will use the inventory-commission program with the old system that we use the worker to note down all the transaction into the papers. Finally, we will compare the ending transaction in each month of both new and old system in the part of calculation revenue and stock checking. If there is no any errors in the new system for 3 months, we will change the old system to use completely new system. Although these will have some more cost of running two systems and the burden of employees in their workload during conversion but we think the new system will familiar to the employee because it has no more difficult of using the new system and we will also provided some trainings.

4.2 Test Plan

After completed of the programming, program has issued as a demo version to the proposed company purposing to test the program in the new system. With testing of the program, we select manager, supervisor, and admin as the user to test the program and use all main functions of the program in the real working context. By the way they have to put the login name and password with the existing username so they can use the

program. For the data that they input into the program, its data will process or record into database upon input the correct of data type and correct amount such as number of discount that they purchase the product from supplier in each time can't more than 20% but if it's more than so the dialog box will appear to warn and not allow them to input that number. Furthermore, the date that happen from making transaction also determine and specific by the program.

V. CONCLUSIONS AND RECOMMENDATIONS

(1) Conclusions

In conclusions, this inventory-commission program can be implemented system in the real working context and make the effective system in retrieving information.

The inventory-commission program can helps the user to collect and maintain customer, supplier, salesman and product information. User can view all information of each product in the program and user can also use it to generate tailored necessary transactions in purchasing and selling with the automated calculation inventory price. It can maintain the minimum inventory and reorder product automatically. All important management reports also include with the inventory program.

(2) Recommendations

From testing the inventory-commission system, the result has some problems still exists. We suggested that the system should has return function from the customer because when the product can't sell so it can be return to the system.

In order to make the effective in checking stock from van, the company should select the new technology that can scan the product through barcode system. It will increase speed and accurate of checking stock.

APPENDIX A DATABASE DESIGN

Table A-1 Item Master Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	ProductID	int (6)	Y	Y		SO,PO		Primary Key
2	ProductName	varchar (50)						Attribute
3	ItemCode	int (2)	Y					Foreign Key
4	SupplierCode	int (3)						Foreign Key
5	Price	int (6)						Attribute
6	Cost	int (5)						Attribute
7	LowLimit	int (4)						Attribute
8	Quantity	int (4)						Attribute
9	Detail	varchar (50)						Attribute

Table A-2 Item Type Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	ItemCode	int (2)	Y	Y		ItemMaster,SO,PO		Primary Key
2	ItemName	varchar (50)		Y				Attribute

Table A-3 PO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	POCode	varchar (10)	Y			Sum_PO		Primary Key
2	SupplierCode	int (3)	Y					Primary Key
3	ProductID	int (6)	Y					Primary Key
4	ProductName	varchar (50)						Attribute
5	ItemCode	int (2)						Foreign Key
6	OrderDate	date/time						Attribute
7	Cost	int (5)						Attribute
8	Quantity	int (4)					<Positive	Attribute
9	NetTotal	int (7)						Attribute

Table A-4 Sum_PO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	POCode	varchar (10)	Y	Y				Primary Key
2	SupplierCode	int (3)	Y					Foreign Key
3	OrderDate	date/time						Attribute
4	Total	int (7)						Attribute
5	Discount	int (6)					<Positive	Attribute
6	NetTotal	int (7)						Attribute

Table A-5 SO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	SOCODE	varchar (10)	Y			Sum_SO		Primary Key
2	CUSTOMERID	int (6)	Y					Primary Key
3	PRODUCTID	int (6)	Y					Primary Key
4	SALESMANID	int (3)	Y		Y			Foreign Key
5	PRODUCTNAME	varchar (50)			Y			Attribute
6	ITEMCODE	int (2)						Attribute
7	SDATE	date/time						Attribute
8	TIME	date/time						Attribute
9	PRICE	int (5)						Attribute
10	QUANTITY	int (4)						Attribute
11	GIFT	int (3)						Attribute
12	DISCOUNT	int (4)					<Positive	Attribute
13	NETTOTAL	int (7)						Attribute

Table A-6 Sum_SO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	SOCODE	varchar (10)	Y	Y				Primary Key
2	CUSTOMERID	int (3)						Foreign Key
3	SDATE	date/time						Attribute
4	TIME	date/time						Attribute
5	TOTAL	int (7)						Attribute
6	DISCOUNT	int (6)						Attribute
7	NETTOTAL	int (7)						Attribute

Table A-7 Supplier Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	SupplierCode	int (3)	Y	Y		PO		Primary Key
2	Name	varchar (50)						Attribute
3	Address	varchar (50)						Attribute
4	ContactName	varchar (50)			Y			Attribute
5	Telephone	int (9)						Attribute
6	Fax	int (9)			Y			Attribute
7	E-Mail	varchar (50)			Y			Attribute
8	Detail	varchar (50)			Y			Attribute

Table A-8 tempPO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	ProductID	int (6)	Y	Y				Primary Key
2	ProductName	varchar (50)						Attribute
3	ItemCode	int (2)	Y					Foreign Key
4	Cost	int (5)						Attribute
5	Quantity	int (3)						Attribute
6	NetTotal	int (7)						Attribute

Table A-9 tempSO Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	ProductID	int (6)	Y	Y				Primary Key
2	ProductName	varchar (50)						Attribute
3	ItemCode	int (2)	Y					Foreign Key
4	Price	int (5)						Attribute
5	Quantity	int (5)						Attribute
6	Gift	int (3)						Attribute
7	Discount	int (3)						Attribute
8	NetTotal	int (7)						Attribute

Table A-10 Customer Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	CustomerID	int (6)	Y	Y		SO		Primary Key
2	CustomerName	varchar (50)						Attribute
3	StoreName	varchar (50)			Y			Attribute
4	Address	varchar (50)						Attribute
5	Telephone	int (9)						Attribute

Table A-11 Salesman Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	SalesmanID	int (3)	Y	Y		SO		Primary Key
2	Name	varchar (50)						Attribute
3	Address	varchar (50)						Attribute
4	Assistant	varchar (50)						Attribute
5	Telephone	int (9)						Attribute
6	StartDate	date/time						Attribute
7	BeginDate	date/time						Attribute
8	EndDate	date/time						Attribute
9	Status	Boolean						Attribute

Table A-12 Commission Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	SalesmanID	int (3)	Y	Y				Primary Key
2	Total	int (7)						Attribute
3	SCommission	int (5)						Attribute
4	ACommission	int (5)						Attribute
5	EeginDate	date/time						Attribute
6	EndDate	date/time						Attribute

Table A-13 Login Table

No.	Field Name	Field Type	Index	Unique	Nullable	Foreign Key to Table	Check	Key Type
1	UserName	varchar (10)	Y	Y				Primary/ Key
2	Password	varchar (10)						Attribute
3	Priority	int (1)						Attribute

APPENDIX B

INTERFACE DESIGN

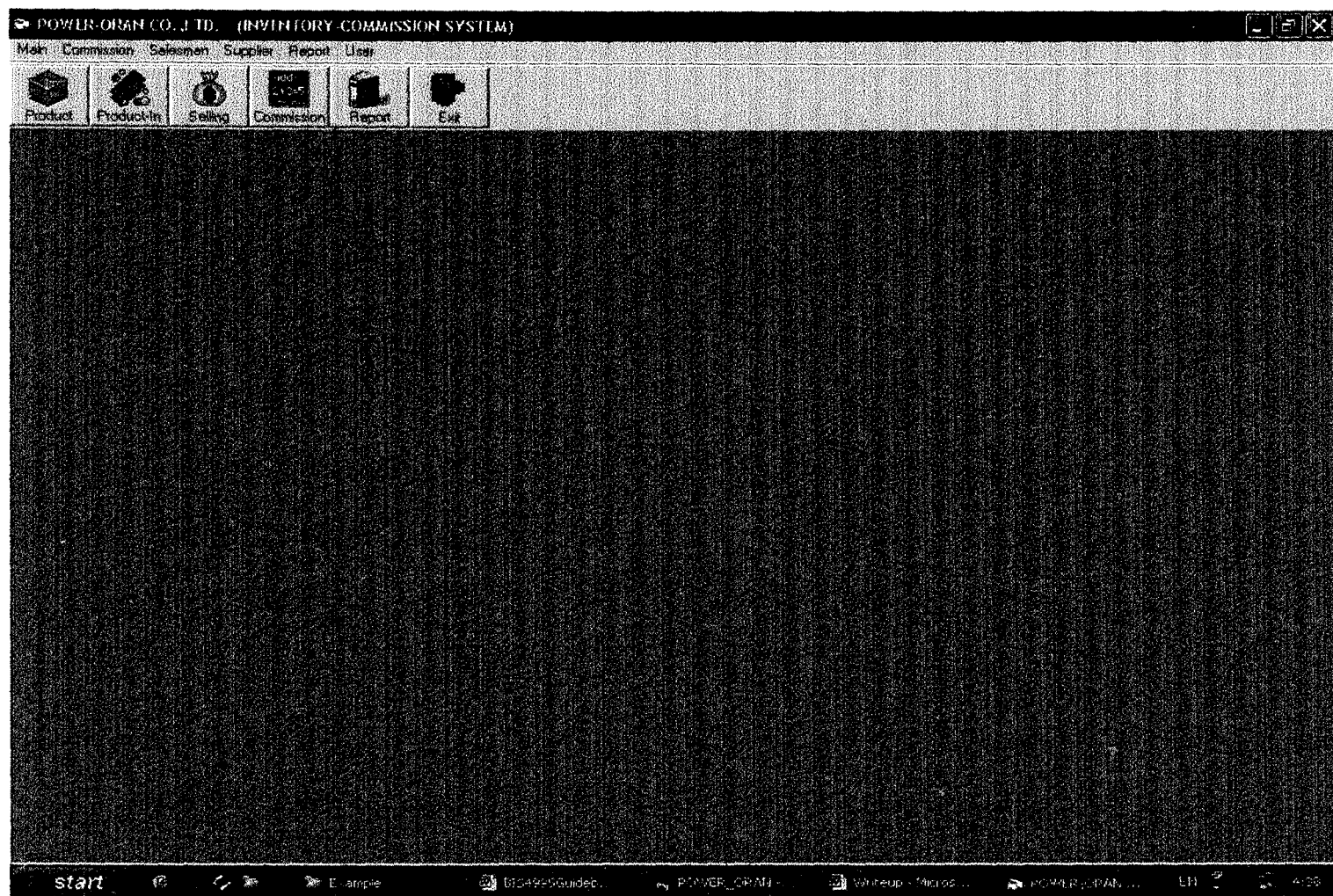


Figure B-1 Main Menu Form

POWER ORAN CO., LTD. (INVENTORY-COMMISSION SYSTEM) - [PRODUCT ITEM MASTER]

Main Commission Salesman Supplier Report User

Product Product In Selling Commission Report Exit

General Information

Product ID: 000001

Item Type: Non-Food

Supplier: Lever Brother Co. Ltd.

Product Name: Toothpaste (Medium)

Price: 18

Additional Information:

EDIT

ADD

Stock Amount

Cost: 12

Quantity Remain: 617

Minimum Stock: 20

Search

Search By:

FIRST PREVIOUS NEXT LAST

Total: 1727 Item(s)

start Example 6124992oudet... POWER_ORAN... POWER_ORAN... Windows - Micros... EN 4 40

Figure B-2 Item Master Form

POWER ORAN CO., LTD. (INVENTORY COMMISSION SYSTEM) [PRODUCT IN]

MainCommissionSalesmanSupplierReportUser

Product

Product In

Selling

Commission

Report

Exit

Purchasing Information

PO NumberPO-0000018

Order Date17/12/2545

Supplier Code

Supplier Name

Show Low Stock

Order Detail

Product IDProduct NameCostAmountTotal

ADD

Product ID	Product Name	Cost	Quantity	Net Total
------------	--------------	------	----------	-----------

Discount (%)0

Total

Discount

Net Total

CONFIRM

DELETE

CLOSE

start

Example

BIT-1995 Guideb...

POWER ORAN

POWER ORAN

Winamp

Minos...

EN

1:40

Figure B-3 Product-In Form

Figure B-4 Sale Form

POWER ORAN CO. LTD. (INVENTORY COMMISSION SYSTEM) [GENERATE REPORT]

Main Commission Salesman Supplier Report User

Product Production Selling Commission Report Exit

Type of Report

☒ Top Sale Report ☐ Transaction Report

☐ Daily Sale Report ☐ Purchasing Report

☐ Monthly Sale Report ☐ Low Stock Report

Top Sale Report

☒ Date As Of : 1/12/2545

☐ Month As Of :

PREVIEW

start [Icons] Example DISK95Cudch... POWER_ORAN... POWER_ORAN... Wakeup... News... EN 4:46

Figure B-5 Report Form

POWER ORAN CO., LTD. (INVENTORY COMMISSION SYSTEM) [CALCULATE COMMISSION]

Main Commission Salesman Supplier Report User

Product Product In Selling Commission Report Exit

Salesman Information

Salesman ID: 001

Salesman Name: Mr. Eakkaluk Maneewong

Address: 459/32-36 Charoen Krun Rd. (Sci 107) Bangkok 10120

Telephone: 01-6064312

Assistant Name: Mr. Someak Kaewmorn

Last Issue: 1/9/2545

Select Date

Beginning Date: 2/9/2545

Ending Date: 30/11/2545

CALCULATE

Product ID	Product Name	Price	Quantity	Net Total
000001	Toothpaste (Medium)	18	12	฿216.00
000009	White-House Detergent	29	10	฿290.00

Commission Selling Information

Total Selling Amount: ฿506.00

Salesman Commission: ฿5.06

Assistant Commission: ฿2.53

PAID

start

Example

POWER_ORAN...

POWER_ORAN...

Winlog - Mac...

EN

4:48

Figure B-6 Commission Form

SALESMAN INFORMATION

Supplier Information

Salesman ID : 001 **DELETE**

Salesman Name : Mr. Eakkaluk Maneewong

Contact Information

Address : 469/32-36 Charoen Krut Rd. (Sri 107) Bangkok 10120 **+**
ADD

Assistant : Mr. Somsak Kaewmorn

Telephone : 01-6064312

Addition Detail **EDIT**

Starting Date : 1/9/2545

Search

Search By : **SEARCH** **CLEAR**

FIRST **PREVIOUS** **NEXT** **LAST** **CLOSE**

Figure B-7 Salesman Form

SUPPLIER INFORMATION

Supplier Information

Supplier Code : 001 **DELETE**

Supplier Name : RDS Store Supplies Co., Ltd.

Contact Information

Address : 678 Soi Watphangern Chan Rd. Yannawa Bangkok 1012

Contact Name : Mr. Prasert Phookiat

Telephone : 02-2125824

Fax : 02-6749261

E-Mail : buebee@hotmail.com

Addition Detail :

ADD

EDIT

Search

Search By : **SEARCH** **CLEAR**

FIRST **PREVIOUS** **NEXT** **LAST** **CLOSE**

Figure B-8 Supplier Form

SMART OA CENTER CO., LTD. (ADD USER)

User Name :

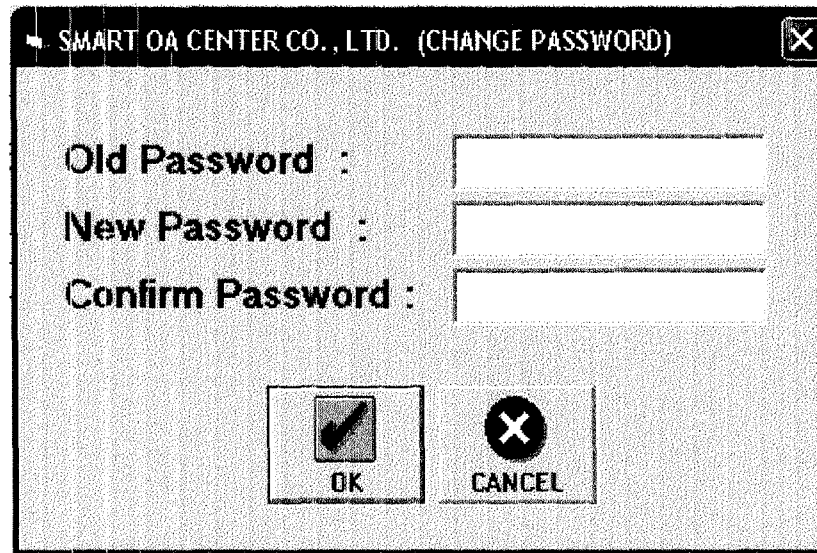
Password :

Confirm Password :

Priority :

OK CANCEL

Figure B-9 Add User Form



A screenshot of a 'Change Password' dialog box. The title bar at the top reads 'SMART OA CENTER CO., LTD. (CHANGE PASSWORD)' and includes a close button (X). The main area contains three labels with corresponding input fields: 'Old Password :', 'New Password :', and 'Confirm Password :'. Each label is followed by a rectangular text input box. At the bottom, there are two buttons: 'OK' with a checkmark icon and 'CANCEL' with an 'X' icon.

SMART OA CENTER CO., LTD. (CHANGE PASSWORD)

Old Password :

New Password :

Confirm Password :

Figure B-10 Change Password Form

POWER-ORAN CO., LTD. (LOGIN)

POWER-ORAN CO., LTD.

User Name :

Password :

OK CANCEL

Figure B-11 Login Form

APPENDIX C
REPORT DESIGN



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

TOP SALE REPORT

	PRODUCT ID	PRODUCT NAME	ITEM NAME	PRICE	QUANTITY
1	000003	Pantip Soap	Non-Food	25.00	100
2	000020	Roasted Chili Paste (น้ำพริกเผา)	Food	20.00	50
3	000001	Toothpaste (Medium)	Non-Food	18.00	22
4	000008	Gross Toilet Cleaning	Non-Food	25.00	20
5	000013	Razor	Non-Food	10.00	20
6	000002	Toothpaste (Small)	Non-Food	10.00	10
7	000005	Lemon 200 ML.	Non-Food	10.00	10
8	000007	Lemon 800 ML.	Non-Food	29.00	10
9	000009	White-House Detergent	Non-Food	29.00	10
10	000010	Kick-Off Toilet Cleaning	Non-Food	35.00	10
11	000011	Lighter	Non-Food	5.00	10
12	000027	UFC Fruit Juice	Food	15.00	10

Figure C-1 Top Sale Report



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

DAILY SALE REPORT

FOR THE END OF DATE : 21/11/2002

PRODUCT ID	PRODUCT NAME	ITEM NAME	PRICE	QUANTITY	TOTAL
000001	Toothpaste (Medium)	Non-Food	18.00	12	216.00
000005	Lemon 200 ML.	Non-Food	10.00	10	100.00
000008	Gross Toilet Cleaning	Non-Food	25.00	20	500.00
000009	White-House Detergent	Non-Food	29.00	10	290.00
000010	Kick-Off Toilet Cleaning	Non-Food	35.00	10	350.00
000013	Razor	Non-Food	10.00	20	200.00
000027	UFC Fruit Juice	Food	15.00	10	150.00

Grand Total : 1,806.00

Figure C-2 Daily Sale Report



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

MONTHLY SALE REPORT

FOR THE END OF MONTH : 11/2002

PRODUCT ID	PRODUCT NAME	ITEM NAME	PRICE	QUANTITY	TOTAL
000001	Toothpaste (Medium)	Non-Food	18.00	22	396.00
000002	Toothpaste (Small)	Non-Food	10.00	10	100.00
000003	Pantip Soap	Non-Food	25.00	100	2,500.00
000005	Lemon 200 ML.	Non-Food	10.00	10	100.00
000007	Lemon 800 ML.	Non-Food	29.00	10	290.00
000008	Gross Toilet Cleaning	Non-Food	25.00	20	500.00
000009	White-House Detergent	Non-Food	29.00	10	290.00
000010	Kick-Off Toilet Cleaning	Non-Food	35.00	10	350.00
000011	Lighter	Non-Food	5.00	10	50.00
000013	Razor	Non-Food	10.00	20	200.00
000020	Roasted Chili Paste (น้ำพริกเผา)	Food	20.00	50	1,000.00
000027	UFC Fruit Juice	Food	15.00	10	150.00

Grand Total : 5,926.00

Figure C-3 Monthly Sale Report



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

TRANSACTION SALE REPORT

SO CODE:	SO-0000012
STORE NAME:	Phangern Department Store
SALESMAN NAME:	Ms.Saowaros Chaicheerit
DATE:	1/12/2545

PRODUCT ID	PRODUCT NAME	ITEM NAME	PRICE	QUANTITY	NET TOTAL
000006	Lemon 700 ML.	Non-Food	27.00	10	270.00
000016	Bell Toilet Paper	Non-Food	6.00	10	60.00
000022	Bean Thread (เส้นเส้น)	Food	6.00	10	60.00
000004	AN-AN Herbal Soap	Non-Food	25.00	10	250.00
000012	Di-Star Battery	Non-Food	6.00	10	60.00
					700.00
Grand Total :					700.00

Figure C-4 Transaction Sale Report



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

PURCHASING REPORT

PO CODE:	PO-0000018
SUPPLIER NAME:	Siam Food Co.,Ltd.
ORDER DATE:	1/12/2545

PRODUCT ID	PRODUCT NAME	ITEM NAME	COST	QUANTITY	NET TOTAL
000003	Pantip Soap	Non-Food	20.00	10	200.00
000017	Apollo Pencil	Non-Food	4.00	50	200.00
000025	UFC Coffee Can	Food	10.00	10	95.00
000005	Lemon 200 ML.	Non-Food	8.00	10	75.00

	570.00
Grand Total:	570.00

Figure C-5 Purchasing Report



POWER ORAN CO., LTD.
213/8-9 M.Phai-Roch Bangna-Trad Road
KM.4 Phrakonong Bangna Bangkok 10260
Tel. (02) 744-0680 Fax : (02) 744-0681

LOW STOCK REPORT

PRODUCT ID	PRODUCT NAME	ITEM CODE	COST	LOW LIMIT	QUANTITY
000002	Toothpaste (Small)	Non-Food	7.00	200	190
000012	Di-Star Battery	Non-Food	4.00	250	150
000020	Roasted Chili Paste (น้ำพริกเผา)	Food	16.00	100	0
000025	UFC Coffee Can	Food	9.50	150	10

Figure C-6 Low Stock Report

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