



# Payment Follow-up Information System for Export Services

by

Ms. Nong-on Tharasuk

Final Report of the Three - Credit Courses  
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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|                 |  |
|-----------------|--|
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| Academic Year   | November 1999  |


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

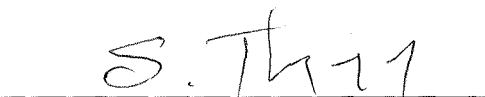
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## ABSTRACT

The purpose of this project is to apply information technology into a computerization of the existing manual Payment Follow-up System. The demand and needs of reliable, accurate and timely information by people at all levels of the management has also increased at a much faster rate. Thus in today's context of information needs, without computerization manual provision of information is inadequate.

This system is developed to improve the work efficiency and capacity of collecting the records on time plus providing the accurate information about Export Bill Payment. The scope of this project involves providing a computerized system to assist the staff to be able to perform their functions efficiently and accurately when the export bills workload greatly increases.

The new system is developed in accordance with the system Analysis and Design techniques. The project discusses user requirements, system design, hardware and software requirements, security and control and includes the design of the input / output screens as well as output reports. This system has been successfully tested and implemented on Microsoft Access.

## ACKNOWLEDGEMENTS

Several people have made contributions to this project. The writer would like to acknowledge their efforts and thank them for their contribution.

First and foremost she would like to thank Dr.Boonyarit Pokrud, her advisor, for his valuable suggestions and advice given in the preparation of this project. It is only due to his invaluable guidance provided to her during the entire course of the project that she is able to come out with this project in its present state. She considers herself fortunate to have had the opportunity to study under him in ABAC.

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TABLE OF CONTENTS

| <u>Chapter</u>                                | <u>Page</u> |
|---|-------------|
| ABSTRACT                                      | i           |
| ACKNOWLEDGEMENTS                              | ii          |
| LIST OF FIGURES                               | v           |
| LIST OF TABLES                                | viii        |
| I. INTRODUCTION                               |             |
| 1.1 Background of the Project                 | 1           |
| 1.2 Objectives of the Project                 | 2           |
| 1.3 Scope of the Project                      | 2           |
| 1.4 Project Plan                              | 3           |
| II. THE EXISTING SYSTEM                       |             |
| 2.1 Background of the Organization            | 5           |
| 2.2 The Area Under Study                      | 8           |
| 2.3 Analysis of the Existing System           | 8           |
| 2.4 Current Problems and Area for Improvement | 9           |
| III. THE PROPOSED SYSTEM                      |             |
| 3.1 Users' Requirements                       | 10          |
| 3.2 System Design                             | 16          |
| 3.3 Database and Files Design                 | 17          |
| 3.4 Hardware and Software Requirements        | 18          |
| 3.5 Cost and Benefit Analysis                 | 19          |
| 3.6 Security and Controls                     | 25          |

| <u>Chapter</u>                                      | <u>Page</u> |
|---|-------------|
| IV. PROJECT IMPLEMENTATION                          |             |
| 4.1 Overview of Project Implementation              | 26          |
| 4.2 Test Plan and Results                           | 27          |
| 4.3 Users Training                                  | 28          |
| V. CONCLUSIONS AND RECOMMENDATIONS                  |             |
| 5.1 Conclusions                                     | 29          |
| 5.2 Recommendations                                 | 30          |
| APPENDIX A DATA FLOW DIAGRAM OF THE EXISTING SYSTEM | 32          |
| APPENDIX B DATA FLOW DIAGRAM OF THE PROPOSED SYSTEM | 38          |
| APPENDIX C PROCESS SPECIFICATION                    | 46          |
| APPENDIX D DATA DICTIONARY                          | 59          |
| APPENDIX E DATABASE DESIGN                          | 69          |
| APPENDIX F STRUCTURE CHART                          | 72          |
| APPENDIX G USER INTERFACE / USER MANUAL             | 76          |
| APPENDIX H* REPORT FORMAT                           | 95          |
| APPENDIX I MODULE SPECIFICATION                     | 102         |
| BIBLIOGRAPHY  | 111         |

## LIST OF FIGURES

| <u>Figure</u>  | <u>Page</u> |
|--|-------------|
| 1.1 Project Plan                                       | 4           |
| 2.1 Organization Chart of Master Bank Public Co., Ltd. | 7           |
| 3.1 Hardware Configuration of the Proposed System      | 22          |
| 3.2 Cost & Benefit Comparison                          | 24          |
| A.1 Context Diagram (the Existing System)              | 32          |
| A.2 DFD Level – 0 (the Existing System)                | 33          |
| A.3 DFD Level – 1 Input the New Record & Tracing Date  | 34          |
| A.4 DFD Level – 2 Trace for Payment                    | 35          |
| A.5 DFD Level – 3 Update Payment (the Existing System) | 36          |
| A.6 DFD Level – 4 Storing File                         | 37          |
| B.1 Context Diagram (the Proposed System)              | 38          |
| B.2 DFD Level – 0 (the Proposed System)                | 39          |
| B.3 DFD Level – 1 Input the new record & Trace Date    | 40          |
| B.4 DFD Level – 2 Display Document Tracing             | 41          |
| B.5 DFD Level – 2.2 Follow-up by Tracer                | 42          |
| B.6 DFD Level – 3 Update Payment (the Proposed System) | 43          |
| B.7 DFD Level – 4 Entries Passed & Settlement          | 44          |
| B.8 DFD Level – 5 Make the report                      | 45          |
| E.1 Entity Relational Diagram (ER – Diagram)           | 69          |
| F.1 Structure Chart                                    | 72          |
| F.2 Expanded Payment Follow-up System                  | 73          |
| F.3 Decomposition 5.0 Update Forms                     | 74          |



| <u>Figure</u>                                   | <u>Page</u> |
|---|-------------|
| F.4 Decomposition of 6.0 Generate Reports       | 75          |
| G.1 User Login Screen                           | 76          |
| G.2 Main Menu Screen                            | 77          |
| G.3 Export Bill Screen                          | 78          |
| G.4 Follow-up Bill Screen                       | 79          |
| G.5 Follow-up Bill Forms                        | 80          |
| G.6 Sight Form Screen                           | 81          |
| G.7 Update Bill Screen                          | 82          |
| G.8 Update Bill Form Screen                     | 83          |
| G.9 Payment Bill Screen                         | 84          |
| G.10 Payment Bill Form Screen                   | 85          |
| G.11 Entries Passed Bill Screen                 | 86          |
| G.12 Entries Passed Bill Record Screen          | 87          |
| G.13 Entries Passed Bill Process Screen         | 88          |
| G.14 Receipt Bill Form                          | 89          |
| G.15 Storing Bill Screen                        | 90          |
| G.16 Storing Bill Record Screen                 | 91          |
| G.17 Storing Bill Not Found Record Screen       | 92          |
| G.18 Report Menu Screen                         | 93          |
| G.19 Export Bill Lists Screen                   | 94          |
| H.1 Export Bill Report Classify by Ref.No.      | 95          |
| H.2 Overdue Report Classify by Ref.No.          | 96          |
| H.3 Performance Report Classify by Company Name | 97          |

| <u>Figure</u>   | <u>Page</u> |
|---|-------------|
| H.4 Confirm Due Date Report   | 98          |
| H.5 Daily Summary Performance classified by Company Name Report               | 99          |
| H.6 Daily Summary Performance classified by Company Name Report<br>(Continue) | 100         |
| H.7 Daily Summary Payment Bills classified by Currencies                      | 101         |



## LIST OF TABLES

| <u>Table</u>                  | <u>Page</u> |
|-------------------------------|-------------|
| 3.1 System Cost Comparison    | 23          |
| E.1 Export Bill Schedule File | 70          |
| E.2 Follow-up Date File       | 70          |
| E.3 Update File               | 71          |
| E.4 Payment File              | 71          |
| E.5 Storing File              | 71          |



## **I. INTRODUCTION**

### **1.1 Background of the Project**

Payment Follow-up Information System is an important system for Export services, in order to control the information of document in a firm, which co-operates with another department and provides service to the customers. Payment Follow-up Information System is the tool which can help the executive in decision making and the connections of information system.

The manual system in the new organization is not acceptable, with the problems of data redundancy, paper work, low security, and mistake in records. Those kinds of problems can automatically regress the growth of the organization. This is the main reasons why this system has to be developed in to a computerized system and to improve the effectiveness of a Payment Follow-up Information System.

In the business, the manager must forecast and plan to design a new system that solves the above problems whit the change from the manual to the computerized system. The transactions are entered directly into the computer system and processed immediately. Payment Follow-up information System is developed for controlling Export Bills, increasing organization's efficiency and reducing many problems.

With the rapid growth of this company, in the decision making for the department, the manager will affect the future of this company.

In the past, the old machine, low technology and under qualified personnel caused the company not to grow as much as it should have. Moreover, with the computerized system we still have to be developing more than we can expect. So, the writer has a chance to install the computerized system into the department in order to forecast the business, summarize the reports that could help the Manager in controlling and planning the volume of documents to invest in the following years.



## **1.2 Objectives of the Project**

The objectives of the project can be defined as follows:

1. To study the existing payment follow-up information system of Master Bank Public Company Limited and identify the current problems of the system.
2. To define the user requirement on a proposed follow-up payment system for a computer system, which will improve the effectiveness and the efficiency.
3. To arrange and generate report for management level in order to make a good strategic plan, controlling balance of the export of the company.
4. To design a new system supported by Database Management Systems (DBMS) in order to eliminate the complexity of the problems.
5. To implement and test the proposed systems to be ready for use in the company and follow up.

## **1.3 Scope of the Project**

This project will develop a new computerized payment follow-up information system for Master Bank Public Company Limited to replace the existing system, which is currently based on manual operation. The scope of the project can be defined as follows:

1. To analyze, design and develop a computerized system for the Payment Follow-up Information System.
2. To design user interface screen.
3. To maintain Payment file and related files.
4. To analyze the cost and benefit of the proposed system.
5. To determine documentation layout and usage.
6. To determine MIS reports and related reports.

The proposed system is designed to solve the existing and the proposed systems, and the implementation and testing procedures.

#### **1.4 Project Plan**

The project plan outline consists of the following stages.

##### **1. System Analysis.**

- Identify Area of Study.
- Develop Data flow Diagram.
- Develop Data Dictionary.
- Develop Process Specification.

##### **2. System Design.**

- Logical Database Design.
- Developing Structure chart.
- Screen Design.
- Report Layout.

##### **3. Implementation.**

- Programming.
- Data conversion
- Testing.
- Training.
- Documentation.

As shown by Gantt Chart in Figure 1.1 the System Development Project Plan starts from May,1999 to September,1999. The major activities are identification of area of study, System Analysis & Design, System Implementation and System Testing & Training. System Analysis & Design takes 50% and Implementation takes 25% of the entire period. For System Testing & Training takes about 25%.

# Project Implementation Schedule for Payment Follow-up Information System

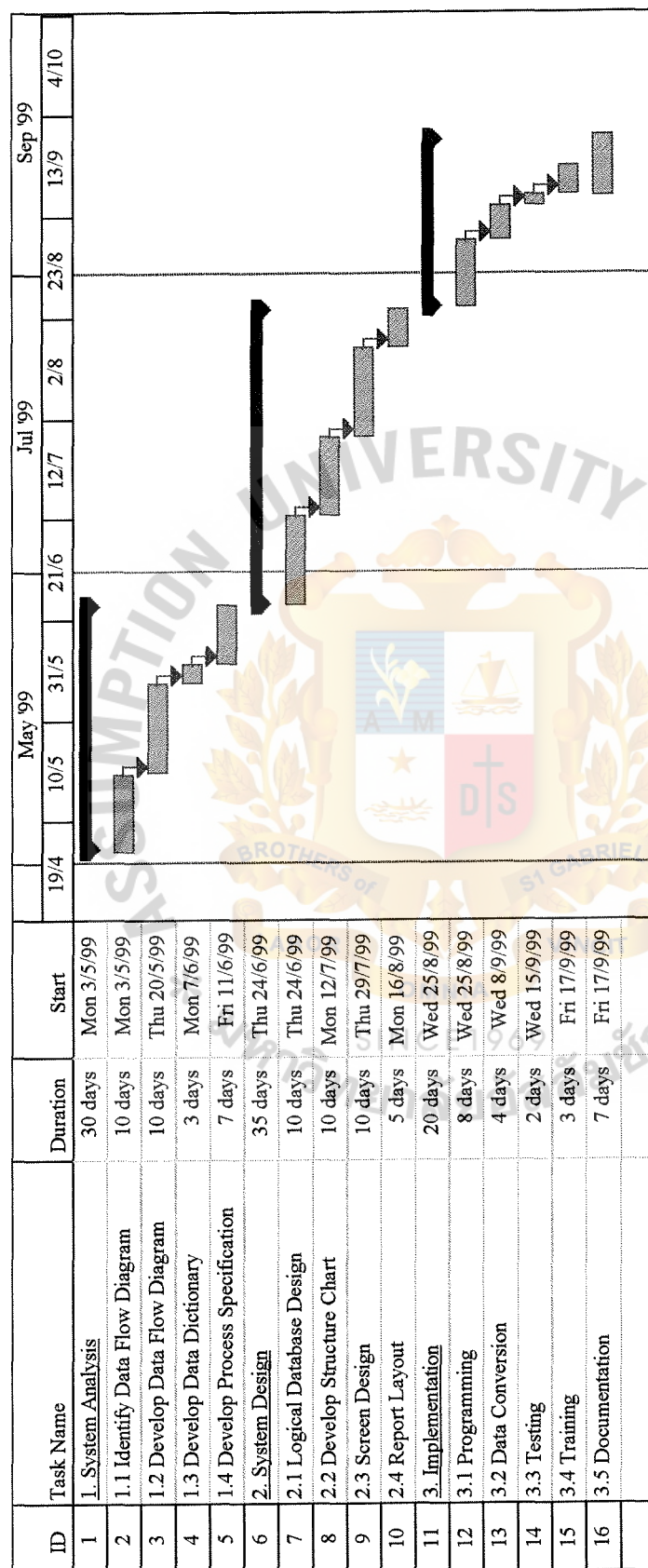


Figure 1.1. Project Plan.

## **II. THE EXISTING SYSTEM**

### **2.1 Background of the Organization**

Master Bank came into being through the initiative of a group of Thai courtiers, businessmen and others, who had a strong determination to find a Thai bank to provide all banking services. The founders registered the newly formed institution as Master Bank Public Company Limited on 20<sup>th</sup> November 1944, and the Bank commenced operations on December 1, 1944.

Registered capital was US\$ 160,000. On the first day, 23 staff members reported for work at the bank's office located in two adjacent shophouses in the Chinatown area of Bangkok.

In the early 1950's, the Bank expanded its branch network into the rural areas where mineral and agricultural products, in great demand overseas, were produced. This move initiated the rapid expansion of Master Bank's branch system, and enhanced its significant role in the nation's economic development. The Bank's present domestic network exceeds 450 branches, all on-line.

Technologically, Master Bank has been a pioneer in the use of modern technology in its operations as well as in the introduction of a full range electronic banking products to the domestic market.

From that humble beginning in December 1944, Master Bank has grown by leaps and bounds and is today, not only the largest Thai commercial bank, but one of the largest in South East Asia. The total assets stand at approximately US\$ 40.00 billion, and the present workforce numbers about 25,000 persons.



Master Bank Public Company Limited has increasingly undertaken new businesses, which have enabled it to earn greater non-interest income. The Bank's management is well aware that world economic and financial situations constantly undergo changes. It has therefore planned its operations to be flexible and adaptable to the changing environment. It has also transformed its service system to accommodate the needs of its customers. The Bank has undertaken to develop the proficiency of its staff in line with the changes, and has introduced modern and efficient technology to enable it to be more competitive in a more liberalized financial market, and thus realizes its goal of being "the Quality Bank."



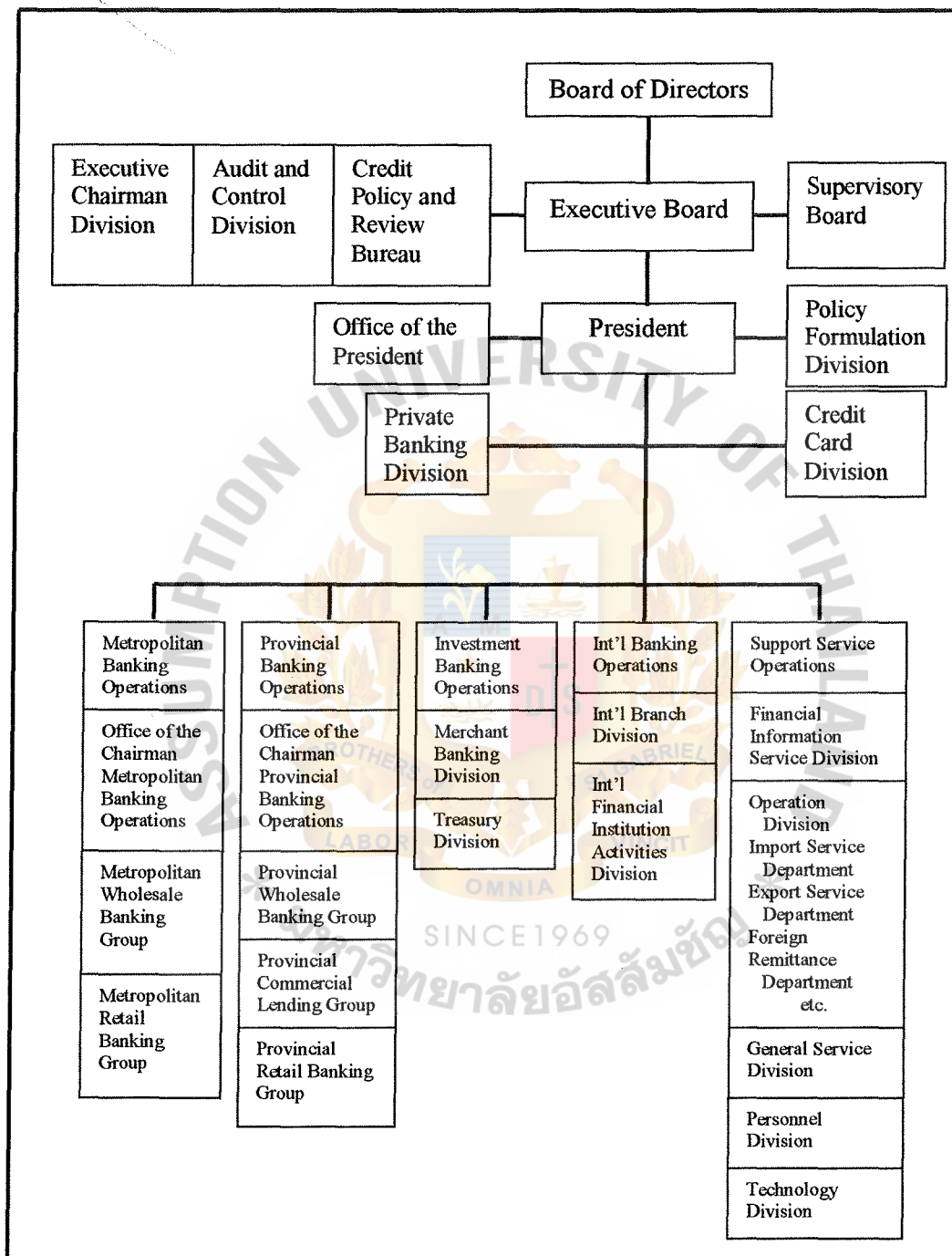


Figure 2.1. Organization Chart of Master Bank Public Company Limited.

## **2.2 The Area Under Study**

The area under study of the project covers only the Follow-up and Settlement Division. The Follow-up and Settlement is one of the Export Service Departments in Master Bank Public Company Limited. This division collects, updates information, and follows-up payment for their customers.

## **2.3 Analysis of the Existing System**

The existing system of the Follow-up and Settlement Division is a manual system. At the first step, the Follow-up Division receives the Export Bill Schedule, collects and records these bills, and prepares for tracing. Then, if non-payment, follows-up by tracing the message to the Swift/Telex Sections for sending to the bank abroad. After that, it receives Swift/Telex messages and finds the Reference Number to record for updating payment and sends pass through the accounting for balancing. After balancing the account, it sends payment records documents to settle charges before filing to the warehouse and concentrate on the report to determine and control the volume of documents in each quarter of the year.

### **2.3.1 Data Flow Diagrams of the Existing System**

The Context Diagram and Data Flow Diagram are used to present the Data Flows, Files, Processes, and Entities related to the current Payment Follow-up Information System. Figure A.1 shows the Context Diagram of Payment Follow-up Information System. It establishes the overview of the system by showing the net set of Data Flows that process inward and outward of the system. Figure A.2 presents the Level – 0 Data Flow Diagram of Payment Follow-up Information System. Figure A.3 presents Step 1 of the Existing System. Figure A.4 represents Step 2 of the Existing System. Figure A.5 shows Step 3 of the Existing System. Figure A.6 presents Step 4 of the Existing System as shown in APPENDIX A.

## **2.4 Current Problems and Areas for Improvement**

### Current Problems

There are many problems that need to be solved as follows:

1. Plenty of papers are used and kept in daily operation data that staff may use many times in filing and searching documents.
2. The complexity of transaction making procedures wasted too much time to check the payment information of others up to date.
3. At the same time, must services to customer in more than two lines and sometimes must co-operates with other departments' staff.
4. Human errors in the manual system are brought about by the lack of data accuracy.
5. Less efficiency of information system and more mistake in decision making for future management.

### Areas for Improvement

Describe briefly how the proposed system can improve the current system:

1. Reduce storage for documents and increase efficiency searching documents.
2. Increase data accuracy and consistency decreasing data redundancy.
3. Speed up transaction operations and update information deliver to the present or answer the payment information that it may be concerned.
4. Up to date and accurate information will help the company's management in decision making.



### **III. THE PROPOSED SYSTEM**

#### **3.1 Users' Requirements**

There are user requirements or system specifications of the new system that must be addressed. It may be a way of capturing or processing data, payment information, controlling a business activity or supporting management. After interviewing the relevant users and analyzing the existing system, the new systems specifications are classified into four categories: outputs, inputs, database, and files and controls.

##### **3.1.1 Output Requirements**

###### **1.) The Query screen**

Screen represented the information related Export Bill Schedule and Export Payment Information by query. Users can search details of Export Bills such as Reference Number or BRL Number or Company Name by query. Users can find out Export Update Payment of Bills. Moreover, users can find out the record in a little time.

###### **2.) The Output Report**

On a weekly basis, the system must create a report about Overdue Records Report that can be classified by Reference Number and Company Name.

On a quarter basis, the system must create two reports; Payment Reports and Performance Reports. Payment Report shows the records of the Bills that had already made payment to customers. Another, Performance Report shows all of the details in export bills i.e. Company Name, Reference Number, Value Date of Payment, Payment Date of Bills, Principle Amount, Payment Amount, Balance Amount (Both in US Dollar and Baht currencies).

On a yearly basis, the system must create a report about The Total Volume of Export Bills including the amount of these that are classified by the Company name for Management in the next year.

### 3.1.2 Input Requirements

The input requirements for Payment Follow-up Information System are as follows:-

- Record the new Export Bill Documents and calculate for tracing date by type of Bills on the screen.
- Assign Forms used to follow-up the payment by sending tracing form messages through Swift/Telex Sections to the Issuing Bank to instruct the payment.
- Update the Swift/Telex Messages from the Issuing Bank or Paying Bank i.e. payment records, confirm due date, list the discrepancies, and charges.
- Record BRL Number of payment documents before filing and sending to the warehouse.
- Assign Report Form such as Performance Form and Total Volume of Export Bills Form. These Forms are not like the other forms that these are classified by Company Name but the other forms classify Reference Number.

### 3.1.3 Database and Files Requirements

- Export Bills File.
- Follow-up Date File.
- Update File.
- Payment File.
- Storing File.

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## Payment Follow-up Information System Screen

It's the main menu for service selecting that there are of four groups. The first group is **Export Bills**, which is used for selecting the services of operation i.e. record the new export bills document and calculate for tracing documents. The second group is **Update**, it is used for recording and updating the swift / telex message from the paying bank and other records for update information i.e. still to follow-up, non payment, discrepancies, etc. The third group is **Payment** that is used for checking the updated records when the customer calls for services and check records of storing record documents. The Last group is **Report** that used for MIS report printing.

### Export Bills Menu Screen

It is used for recording the new export bills document, calculating for tracing documents and printing report status of document that must be traced.

### Export Bill Screen

It is used for recording daily new export bills. For this screen, the staff must input the data from the export bills as shown in Figure G.3 that is sent to the paying bank abroad for payment and all the daily documents could be seen on the screen for checking accuracy.

### Follow-up Bill Screen

After the staff recorded the transaction on the Export Bill Screen, then they must be calculated for tracing date document by typing on the screen. And if there is on overing due record, the follow-up's user can be traced by putting in the Follow button and show the blank page, then keying-in the message. The message that is keying-in will link to the Swift / Telex Section through the Issuing Bank to instruct the payment when the releaser checks the accuracy, and it can print to compose the bill.

### Update Menu Screen

It is used for recording and updating the swift / telex from Issuing or Paying Bank and other records i.e. confirming due date, not accepting the payment by listing the discrepancies, contacting the Issuing Bank, and confirming payment.

### Update Payment Screen

The staff can make inquiry about the export bills record, then there must input the message on the screen as in Swift / Telex message and print the status of the overdue record.

### Payment Menu Screen

There are two functions in this screen to select such as Payment Record and Storing Record

### Payment Record Screen

This screen is used for checking the Payment Document when the customer request services.

### Storing Record Screen

This screen is used for other department staff to know the status of the document. These documents had already paid, made the entries passed and settlement of the charges, and had stored to the warehouse.

### Report Menu Screen

There are five buttons for this screen to select report printing such as New Export Bill, Update Record and Performance Reports for the Manager, etc.

### Export Bill List Screen

This screen has two report types for displaying or printing.

- Daily Export Bill Report : It shows detail of the document.



- Export Bill Report by BRL. Number : It shows the details of document, classified by BRL. Number.

#### Overdue Record Report Screen

This screen has two report types for displaying or printing.

- Overdue Record Report by Reference Number : It shows the details of overdue record, classified by Reference Number (Weekly).
- Overdue Record Report by Customer Name : It shows the details of overdue record, classified by Customer Name (Weekly).

#### Performance Report Screen

This screen has two report types for displaying or printing.

- Performance Report by Customer Name : It shows all of the document records, classified by Customer Name (Trial).
- Performance Report by L/C Number : It shows all of the document records, classified by L/C Number (Trial).

#### 3.1.4 The Proposed Processes

The proposed processes are the same as the existing process, but the proposed processes will add processes of Entries Passed & Settlement and the process of Make the Report to help the Management in making decision.

The Proposed System should have the following major processes;

##### 1.) Input new records

- Receive new records of Export Bill Schedule
- Create details of Export Bills and record information
- Classify the new Export Bill Schedule record
- Prepare for tracing

# St. Gabriel's Library

## 2.) Display & Follow Documents

- Display the record of Export Bills from Follow-up Date File
- Assign Form for tracing
- Input messages to follow
- Approve by authorized staff
- Send the tracing messages to Swift/Telex Sections
- Record update tracing to Update File

## 3.) Update Payment Bills

- Receive Swift/Telex Messages
- Search the Reference Number of Export Bills
- Update Swift/Telex Payment
- Send Payment Information to the next Process and Payment File for inquiry again and making services for customers when calling

## 4.) Entries Passed & Settlement

- Inquiry payment information
- Entries passed and settled the charges
- Authorized Staff approve and sign the receipt and send to the customer
- Record the BRL number and file the Export Bills in the Storing File

## 5.) Make the Report

- Inquire about the total records
- Create the Report Form
- Approve by Chief Section and sign the Report
- Present to the Manager
- Send the total Reports to the Payment Update

### 3.1.5 Data Flow Diagrams

With CASE Software, the software development tool, data flow diagrams of the system can be documented according to the proposed process as shown in Appendix B. Figure B.1 – Figure B.8 present the DFDs of the proposed system.

### 3.1.6 Data Dictionaries

Data Dictionaries are created to provide the standard terminology. It allows people to decide what they mean by each term. The data dictionaries of the proposed system include the Data Flow Description, Data Process Description and Data Store Description that are shown in Appendix D.

## 3.2 System Design

### 3.2.1 Software Packaging

#### 1.) Top-Level Structure Chart

Refer to Figure B.2, shows the Level-0 DFD of the Proposed System representing a transaction-centered design. Figure F.1 shows the Level-0 Structure Chart for this transaction-centered design, defining the scope of the system.

#### 2.) Expanded Structure Chart

Since the proposed system is menu-based, users select the program to be processed by the computer, after signing on, the user will be introduced to the Payment Follow-up Information System and asked to choose among several interactive programs. Figure F.2 shows the revised top-level structure chart with file management and utility, display, and special reporting functions indicated. Those top-level modules can be decomposed as shown in Figure F.3 to Figure F.4.

### 3.2.2 User Interface Design and User Manual

This section of user interface design includes image of input, output screen and report in the Payment Follow-up Information System. Each screen follows from the main menu of the system as shown in Figure G.1 to Figure G.19.

### 3.3 Database and Files Design

The designs of the computer files and the database are implemented in parallel with the design of input and output. The relational database is chosen to be the standard of database system used in the new system.

#### Design of the Relational Files

All files in the system can be shown by the Entity-Relationship Diagram as shown in Appendix E. Figure E.1 and File Layout is shown in Table E.1 – E.5. First, we define all entities included in the system. The following items are information required to be stored in the database.

1. Export Bills File.
2. Follow-up Date File.
3. Update File.
4. Payment File.
5. Storing File.

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## 3.4 Hardware and Software Requirements

The following are the hardware and software requirements for the proposed system. The proposed Payment Follow-up Information System is being run on the Local Area Network in the basis of Client/Server Architecture. Initially the system will install 1 server and 3 workstations connecting to a printer. A list of minimum hardware configurations that can support the proposed system are as follows.

### 3.4.1 Hardware Requirements

|  | <u>Qty.</u> | <u>Baht</u> |
|--|-------------|-------------|
| 1.) Server:  | 1           | 45,000.00   |
| <ul style="list-style-type: none"><li>• CPU Pentium III 450 MHz</li><li>• Memory 64 MB</li><li>• Hard Disk 6.4 GB</li><li>• HUB 8 Port (Intel) @ 8,000 Bht.</li><li>• Network Adapter (Intel) 1 piece @ 2,100 Bht.</li></ul> |             |             |
| 2.) Workstation  | 3           | 75,000.00   |
| <ul style="list-style-type: none"><li>• CPU Pentium Celeron 400 MHz</li><li>• Memory 32 MB</li><li>• Hard Disk 4 GB</li><li>• Network Adapter (Intel) 3 pieces @ 2,100 Bht.</li><li>• Cable UTP @ 140 Bht.</li></ul>         |             |             |
| 3.) Printer  | 1           | 12,000.00   |
| 4.) UPS (Uninterrupted Power Supply) 1.2 KVA.  | 1           | 12,000.00   |

### 3.4.2 Software Requirements

|                                      |   |           |
|--------------------------------------|---|-----------|
| 1.) Microsoft Windows NT 4.0 Server  | 1 | 30,000.00 |
| 2.) Microsoft SQL Server 10 Licenses |   | 85,000.00 |



|                                       |   |          |
|---------------------------------------|---|----------|
| 3.) Microsoft Windows 98 Thai Edition | 2 | 8,000.00 |
| 4.) Microsoft Office 97 Thai Edition  | 2 | 6,000.00 |
| 5.) Microsoft Visual Basic 6.0        | 1 | 6,000.00 |

### 3.5 Cost and Benefit Analysis

#### 3.5.1 Cost Analysis

There are three categories that must be taken into consideration when developing the proposed system. These three categories are:

- 1.) Investment Cost
- 2.) Implement action Cost
- 3.) Annual Operating Cost

#### 1.) Investment Cost

##### Hardware

|                                    |                          |
|------------------------------------|--------------------------|
| • File Server 1 set                | 45,000.00                |
| • Workstation @ 3 sets             | 75,000.00                |
| • Laser Printer 1 set              | 12,000.00                |
| • UPS (Uninterrupted Power Supply) | 12,000.00                |
| <b>Total Hardware Cost</b>         | <b><u>144,000.00</u></b> |

##### Software

|                                  |                          |
|----------------------------------|--------------------------|
| • MS Windows NT Server 4.0 1 set | 30,000.00                |
| • MS SQL Server 10 Licenses      | 85,000.00                |
| • MS Windows 98 2 sets           | 8,000.00                 |
| • MS Office 97 2 sets            | 6,000.00                 |
| • MS Visual Basic 6.0 1 set      | 6,000.00                 |
| <b>Total Software Cost</b>       | <b><u>135,000.00</u></b> |
| <b>Total Investment Cost</b>     | <b><u>279,000.00</u></b> |

## 2.) Implement action Cost

|  |                  |
|--|------------------|
| • Software Development & Training Cost | 30,000.00        |
| Total Implement action Cost            | <u>30,000.00</u> |

## 3.) Annual Operating Cost

|                             |                  |
|-----------------------------|------------------|
| • Annual Expense            | 20,000.00        |
| • Stationery                | 10,000.00        |
| Total Annual Operating Cost | <u>30,000.00</u> |

### 3.5.2 Benefit Analysis

From the Cost Analysis the proposed system provides Tangible and Intangible benefits as follows:

#### Tangible Benefit

|   |                   |
|---|-------------------|
| • Staff Cost for Existing System (5 Staffs) | 37,500.00         |
| Salary per year (37,500*12)                 | <u>450,000.00</u> |
| • Staff Cost for Proposed System (4 Staffs) | 30,000.00         |
| Salary per year (30,000*12)                 | <u>360,000.00</u> |
| • Total Saving (450,000 – 360,000)          | <u>90,000.00</u>  |

#### Intangible Benefit

- Reducing storage for documents and increasing efficiency in searching documents.
- Increasing data accuracy and consistency, decreasing data redundancy.
- Speeding up transaction operation and updating information will be delivered to present or answer for customer's request.
- Up to date and accuracy information will help the company's management in decision making.
- Reduce human error.

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## Payback Period Calculations

The Payback period is defined, as the number of months or years required to accumulate sufficiently to cover the cost of the proposed system. It is the exact amount of time required for the company to recover its initial investment as calculated from cash in flow. The formula for payback period is as follows:

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

Where

P = Payback Period

I = Investment Cost

R = Average annual return on investment

T = Corporate tax rate in percentage (30%)

Average annual return on investment = Total saving – Annual Cost

= 90,000 – 30,000

= 60,000.00 Baht.

Payback Period =  $\frac{144,000}{(1-0.3) 60,000}$

=  $\frac{144,000}{(0.7*60,000)}$

= 3.43 Years.

From the above comparison, it can be seen that the investment will yield just in three years and four months of operation with the new computerized system.

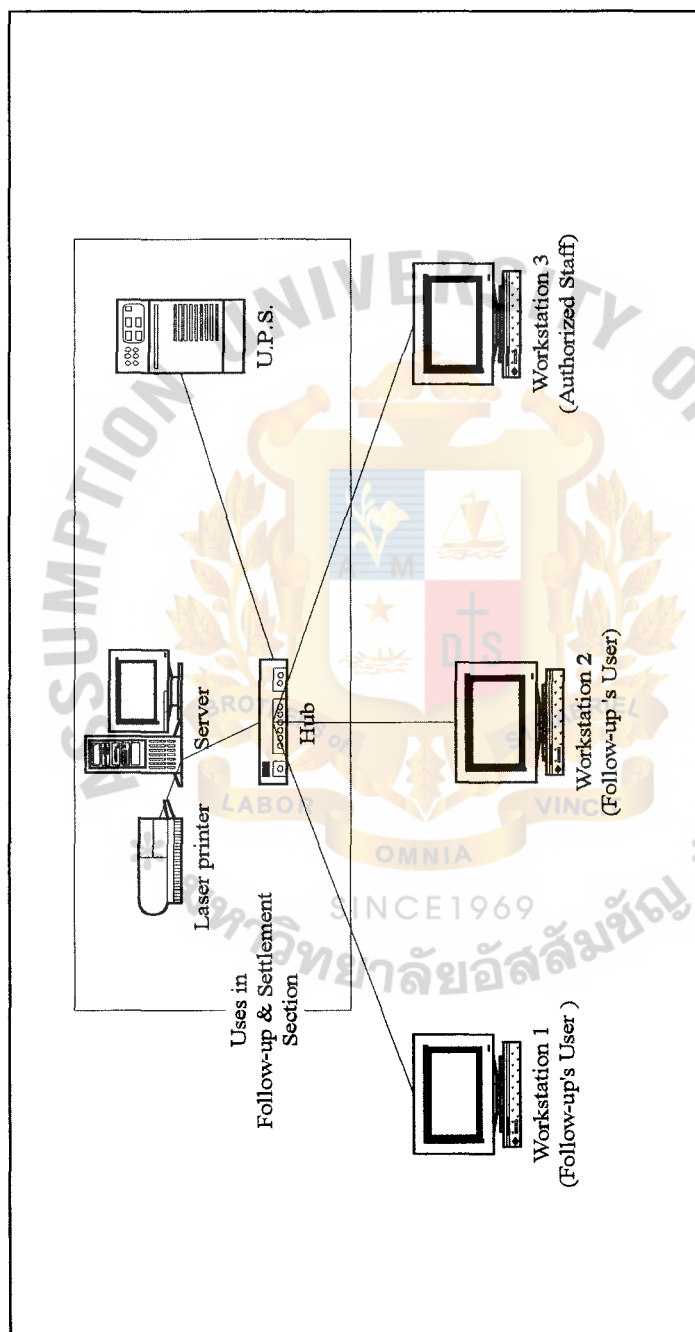


Figure 3.1. Hardware Configuration of the Proposed System.

Table 3.1. System Cost Comparison, in Baht.

| Description                        | Year 1   | Year 2     | Year 3     | Year 4     | Year 5     | Total      |
|------------------------------------|----------|------------|------------|------------|------------|------------|
| <b>Existing System</b>             |          |            |            |            |            |            |
| 5 staffs (7,500 * 5 + 10% yearly)  | 450,000. | 495,000.   | 544,500.   | 598,950.   | 658,845.   | 2,747,295. |
| Utility (10,000 + 10% yearly)      | 10,000.  | 11,000.    | 12,100.    | 13,310.    | 14,461.    | 61,051.    |
| Stationary (30,000 + 10% yearly)   | 30,000.  | 33,000.    | 36,300.    | 39,930.    | 43,923.    | 183,153.   |
| Other expense (5,000 + 10% yearly) | 5,000.   | 5,500.     | 6,050.     | 6,655.     | 7,320.     | 30,525.    |
| <b>Total</b>                       | 495,000. | 544,500.   | 598,950.   | 658,845.   | 724,729.   | 3,022,024. |
| <b>Cumulative Costs</b>            | 495,000. | 1,039,500. | 1,638,450. | 2,297,295. | 3,022,024. | 6,044,048. |
| <b>Proposed System</b>             |          |            |            |            |            |            |
| 4 staffs (7,500 * 4 + 10% yearly)  | 360,000. | 396,000.   | 435,600.   | 479,160.   | 527,076.   | 2,197,836. |
| Hardware                           | 144,000. | 0.         | 0.         | 0.         | 0.         | 144,000.   |
| Software                           | 135,000. | 0.         | 0.         | 0.         | 0.         | 135,000.   |
| Utility (10,000 + 10% yearly)      | 10,000.  | 11,000.    | 12,100.    | 13,310.    | 14,641.    | 61,051.    |
| Stationary (20,000 + 10% yearly)   | 20,000.  | 22,000.    | 24,200.    | 26,620.    | 29,282.    | 122,102.   |
| Other expense (5,000 + 10% yearly) | 5,000.   | 5,500.     | 6,050.     | 6,655.     | 7,320.     | 30,525.    |
| <b>Total</b>                       | 674,000. | 434,500.   | 477,950.   | 525,745.   | 578,319.   | 2,690,514. |
| <b>Cumulative Costs</b>            | 674,000. | 1,108,500. | 1,586,450. | 2,112,195. | 2,690,514. | 5,381,028. |



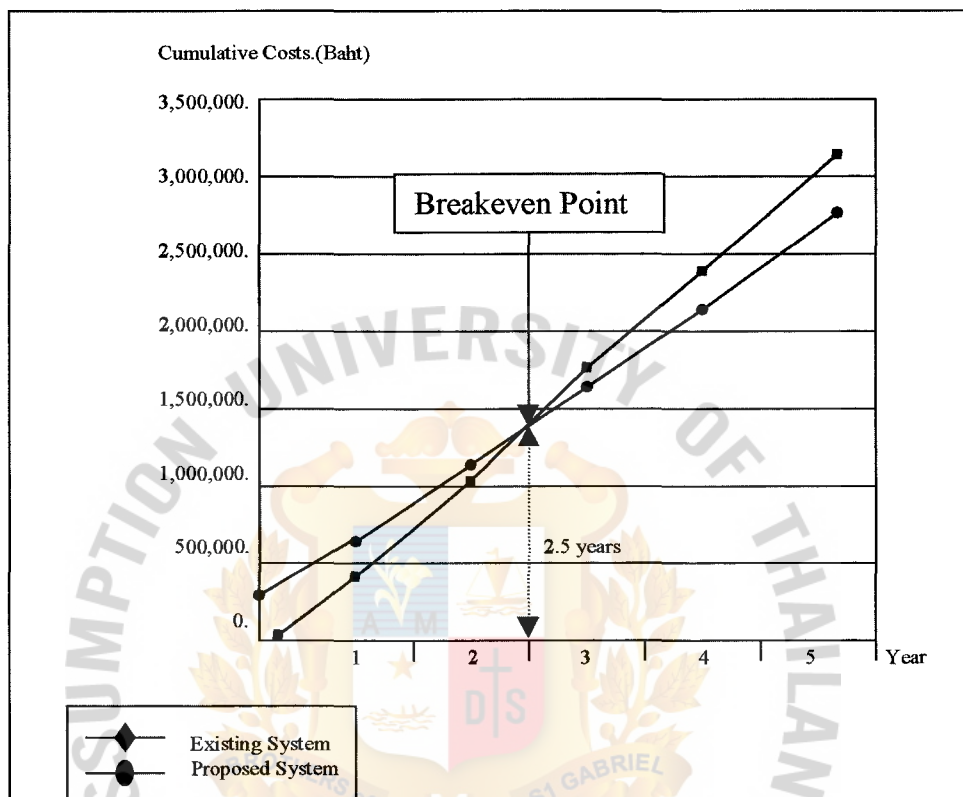


Figure 3.2. Cost & Benefit Comparison.

### **3.6 Security and Controls**

#### **3.6.1 Data Security**

- Input documents must be kept in specified office, which will be used for comparing data during recovery and should be designed or checked by the authorized staff.
- Each key-in field should be validated before entering the database.
- To prevent duplicating the data from entering the system, a source document should be stamped on otherwise marked as it goes through a data entry process.
- Reports are distributed only to appropriate people.
- Every report is appropriately titled and induces the date the report was prepared and the period covered by the report.
- Sensitive reports are kept in screen areas.
- After producing the output, report listing must be double-checked and should be signed by authorized officer before sending to the destination.
- Server, Workstation and Printer should not be left unattended when it's printing information.

#### **3.6.2 System Security**

- Login password can be accessed only by the authorized person.
- Database must be backed up once a week, and backup copies must be retained for a month.
- To prevent loss of data during power failure, a UPS (Uninterrupted Power Supply) is recommended.

## **IV. PROJECT IMPLEMENTATION**

### **4.1 Overview of Project Implementation**

The Project Implementation can be divided into 3 main parts: System Analysis, Detailed Analysis and Design, Implementation.

#### **1.) System Analysis**

This part is to gather all information about the Existing system including Data Flows and data related to each other and how to keep the data. Then, identify the area of the study of the problems. At this stage, the Context Diagrams and the Data Flow diagrams of the Existing system will explain the step of the Existing System.

#### **2.) Detailed Analysis and Design**

This part is to develop the workflow of the Existing System. The new workflow, such as the Context Diagram and the Data Flow Diagrams at different levels are designed for aiming to solve the problems in the Existing System. The relationship of data in each file is designed to the best relation. The step of work at each process is defined in order to reduce the duplication of work.

#### **3.) Implementation**

This part is to implement all the design into real time program supporting the workflow that is created on all screens, such as input and output screens and several of the reports are generated to support the designed workflow. After that, the program will be tested and then trained to the users of the system when the test is accepted.

### **4.2 Test Plan and Results**

We need a testing of the system to ensure that there are no any errors in a program and Outputs of the system are completed according to the target of the Payment Follow-up Information system of organization project.

Then, Testing is the implementation process of executing all or part of a system with the intensive test that causing to indicate a defect. Testing of specific programs, sub systems and total system is essential to guarantee quality control of the software and to illustrate any existing problems and their interfaces before the system is actually used.

During the program implementation, for each module will be tested separately with a test case. After finishing all the modules, a new test case is prepared to test the whole program again. Some errors are found at this stage, and these errors are revised until no error occurs when executed the final test by using another test case. The result of the final test is at the expected appreciate level and fulfils the objectives of the project.

Program Testing:

We performed the testing of each module independently of one another to detect an error in coding and logic that are contained within each module. If an error is in discovered. The error must be corrected or the transaction is to be aborted. The end of these results are completed.

System Testing:

After the completed testing of each module. We begin to test the whole system modules to find discrepancies between the systems. The outputs are checked with the original objectives and compatibility of each module to ensure that the system is consistent.

Recovery Testing:

By assume that the system failed. The system must be reloaded and recovered from the backup files and continue running without re-installation of the whole system.

### 4.3 Users Training

Purpose:

- To provide staff with basic knowledge of the proposed system and to apply the knowledge in daily working.
- To develop staffs' capability in operating and controlling the purposed system.

Procedure:

- The system operator must know such basic as to how operate to the system, what to do when common error occur, basic troubleshooting, and how to enter data.
- For the end-users, they must be known how to use the new proposed system, what job can be done by the system and done by themselves.
- Management information system department follows up and evaluates the results of training from the users and adjusts course description to the user's needs.



## V. CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

In the Master Bank Public Company Limited, the Payment Follow-up Information System is part of export bank operation. This system is very important because it controls the documents of the department and follows up the payment from abroad. The study of the Existing Payment Follow-up System shows that the volume of transactions contain too many errors in the system. Therefore, we need to improve the Existing System by replacing the manual procedure with the computerized system.

For improving the capacity of the staff and increasing efficient information management in order to satisfy the user and create the MIS report for administrator. After analyzing the existing system the current problems and areas for improvement are defined. Then, developing the system design that includes design output, input, files, database and user interface by using the Microsoft Access to write the application program and Microsoft Visual Basic to design the screen.

This system requires 3 microcomputers with 1 printer connected in a LAN and requires Windows NT. From using LAN and Microsoft Access, we will have the security and controls in two steps. The first is from Windows NT and the second is from the Microsoft Access that using the password and authorized in accessing the data.

Cost and Benefit analysis is used to determine the proposed system. After the company used the proposed system, it increases the speed of performances as follows:

| (Per Person)               | Existing System | Proposed System |
|----------------------------|-----------------|-----------------|
| Time: Transaction (min)    | 90              | 45              |
| Search for searching (min) | 10              | 1               |

After implementation, the efficiency and accuracy of the Existing System can be improved through design and development of a new system. This new computerized system can reduce errors while controlling the balance of the Export of the company and arranging and generating reports for management level in order to implement strategies. Moreover, it helps to decrease paper work, save cost, reduce the time-delay as the users can interact with information system through the computer screen.

## **5.2 Recommendations**

At present, the Bank's management is well aware that world economic and financial situations constantly undergo changes. It has therefore planned its operations to be flexible and adaptable to the changing environment. The bank has also transformed its service system to accommodate the needs of its customers. The bank should be developed the proficiency of its staff in the line with the changes and has introduced modern and efficient technology to enable it to be more competitive in more liberalized financial market.

### **1.) Changes in the criterion for staff in the computerized system.**

The new system will be success, the staff of this system should be trained before operating and controlling the Payment Follow-up Information System. Therefore, they must be skillful both in operating Payment Follow-up Information System and the computer environment to be flexible in using the computerized system.

### **2.) Establishes clear project priorities.**

To ensure that the new system has reached the maximum capability evaluate the performance of the new system after a period of time to compare with end users, and management's satisfaction and a comparison of decreasing error between the old system and the new system. In this way, the result will show the trend to accommodate Payment Follow-up Information System for the organization's needs and targets.

### 3.) Internet Banking.

Internet Banking refers to the financial transactions that are made without the use of paper documents, such as Export Bills that will be sent to the banks in abroad. At present, we used Swift/Telex to contact other banks. If internet can be replaced of them, it can be used to communicate with the banks or the customers who have certain rights regarding electronic transactions. Also, the customers and the banks have responsibilities regarding the electronic transactions, which are destined to their account. Moreover, internet banking maintains and improves the quality of its service and develops the skill of the staff and ensures that these meet the needs of their customers quickly to ensure greater customer's satisfaction.





## **APPENDIX A**

### **DATA FLOW DIAGRAM OF THE EXISTING SYSTEM**

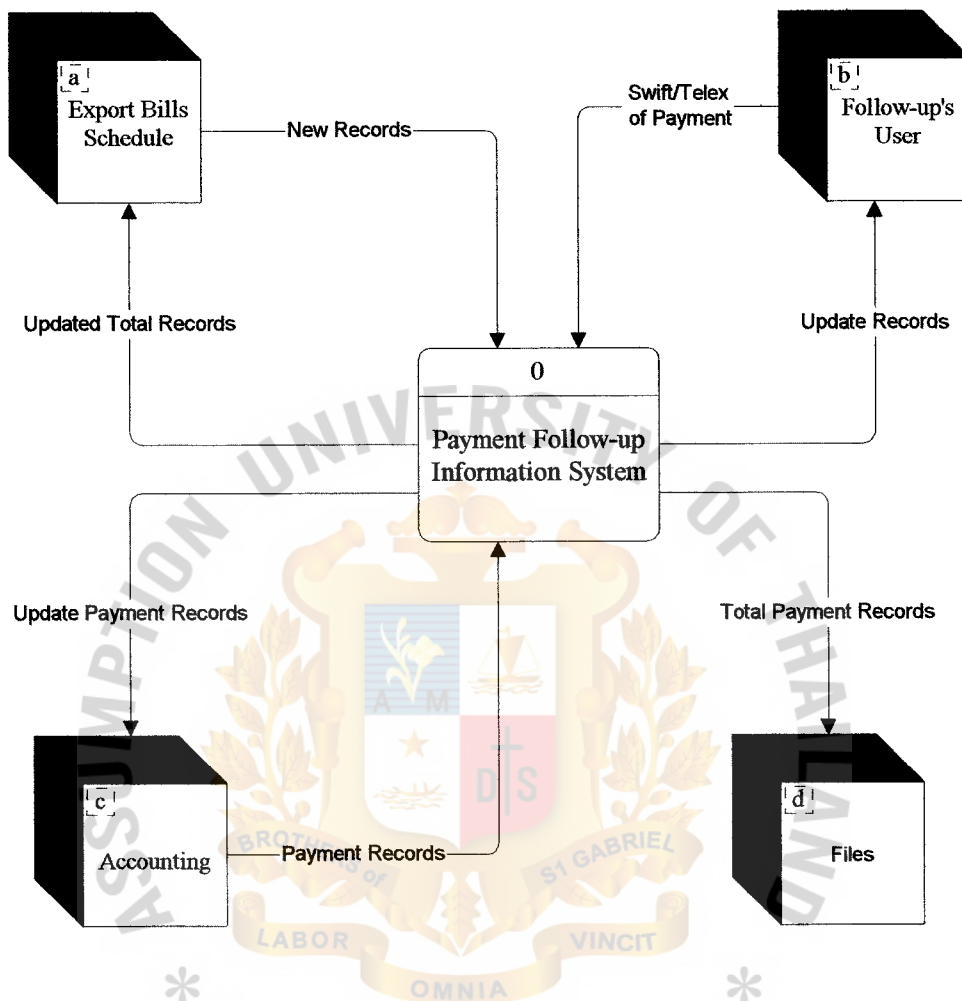


Figure A.1. Context Diagram (the Existing System).



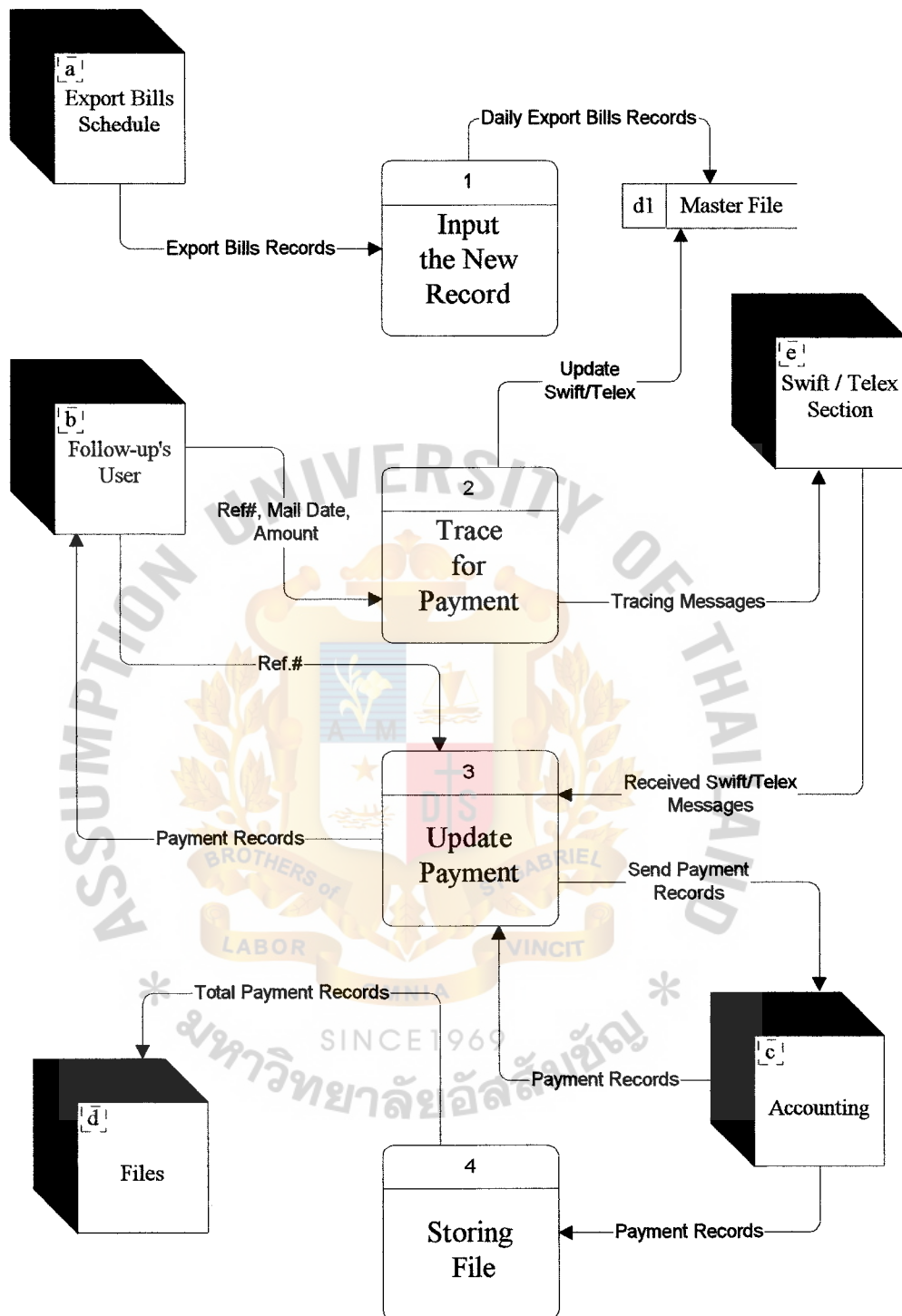


Figure A.2. DFD Level-0 (the Existing System).

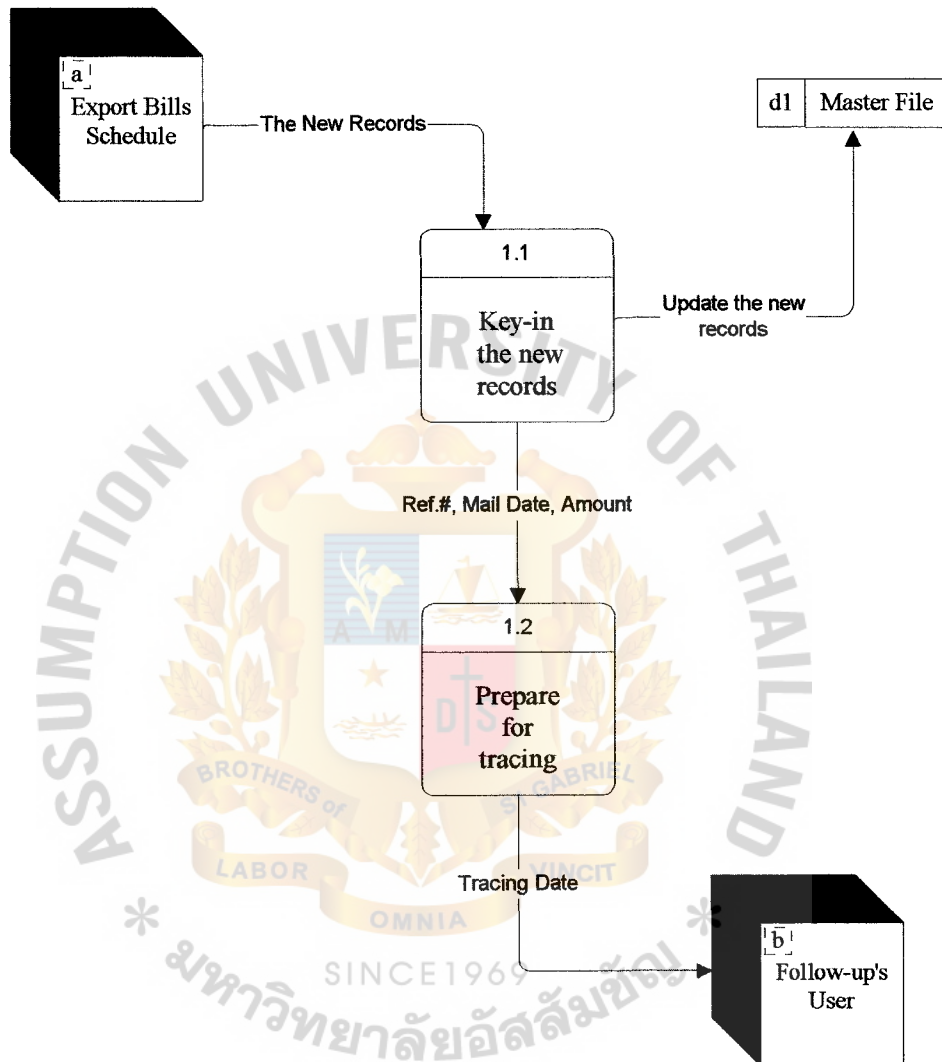


Figure A.3. DFD Level-1 Input the New Records & Tracing Date.

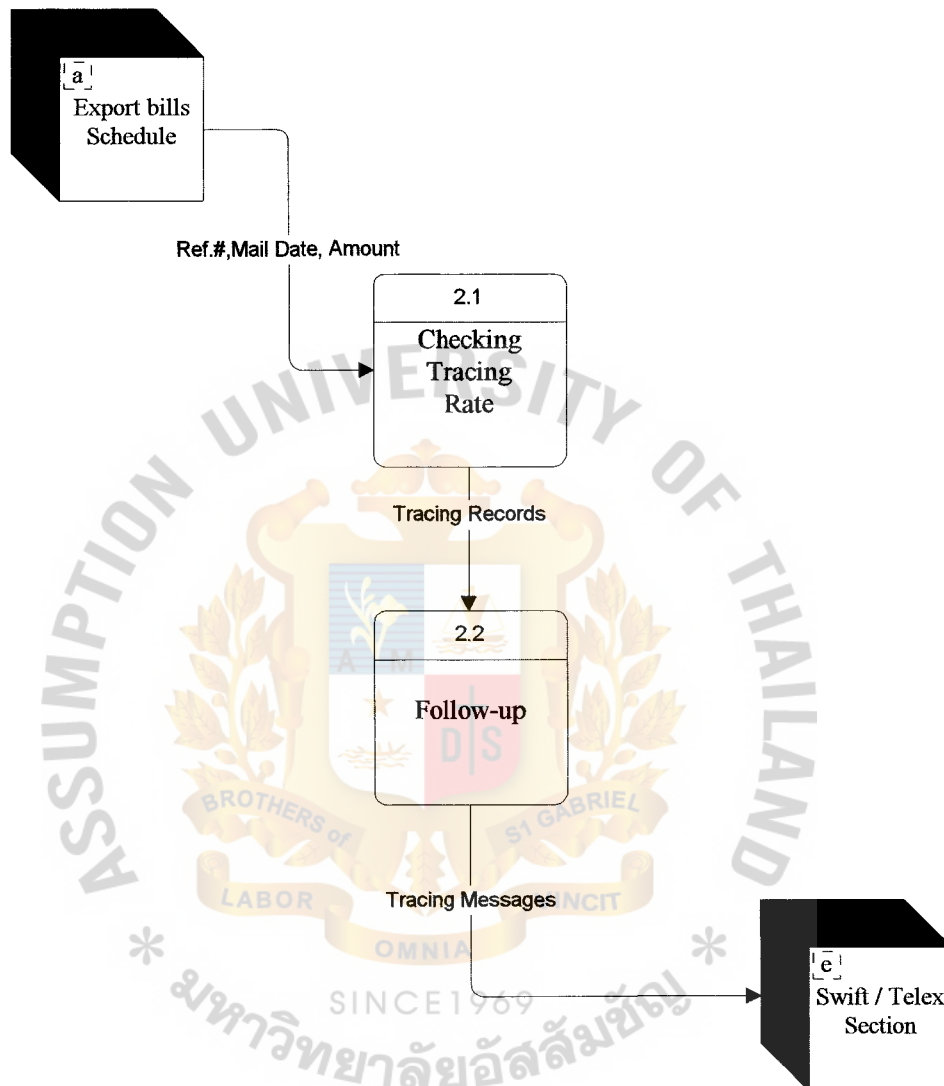


Figure A.4. DFD Level-2 Trace for Payment.

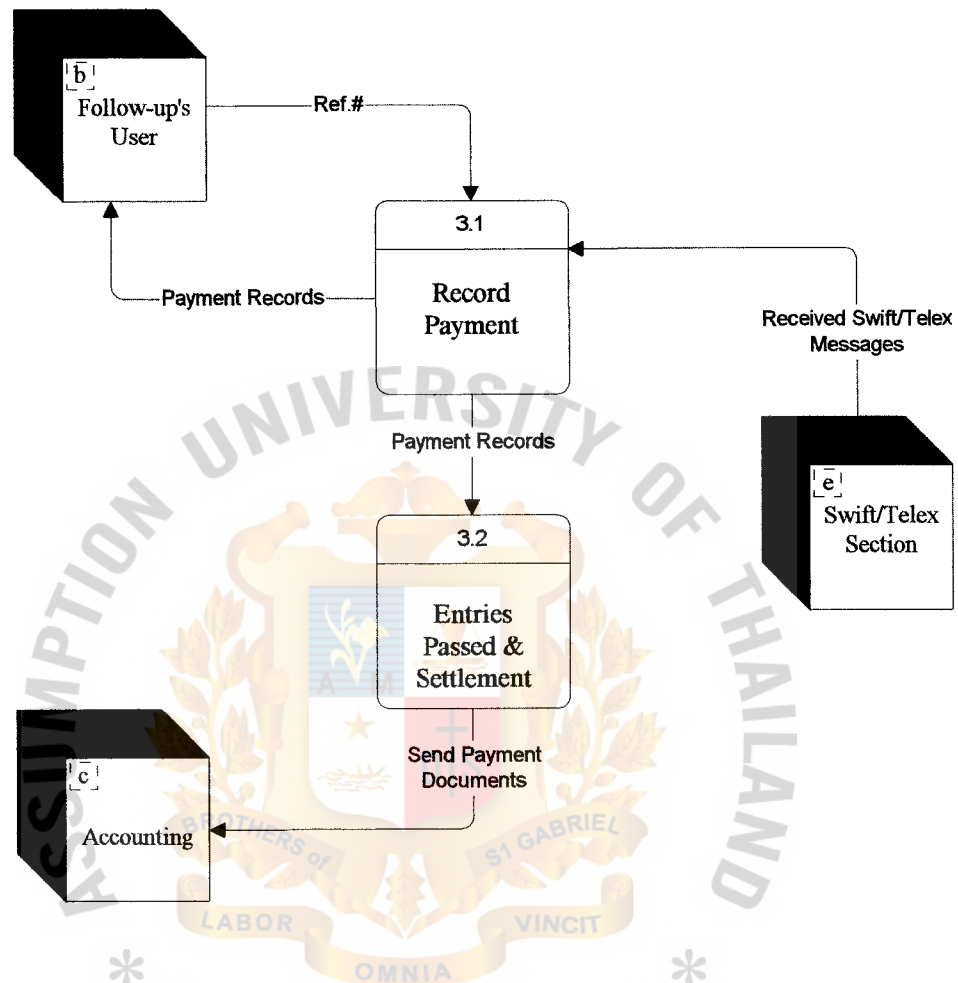


Figure A.5. DFD Level-3 Update Payment (the Existing System).

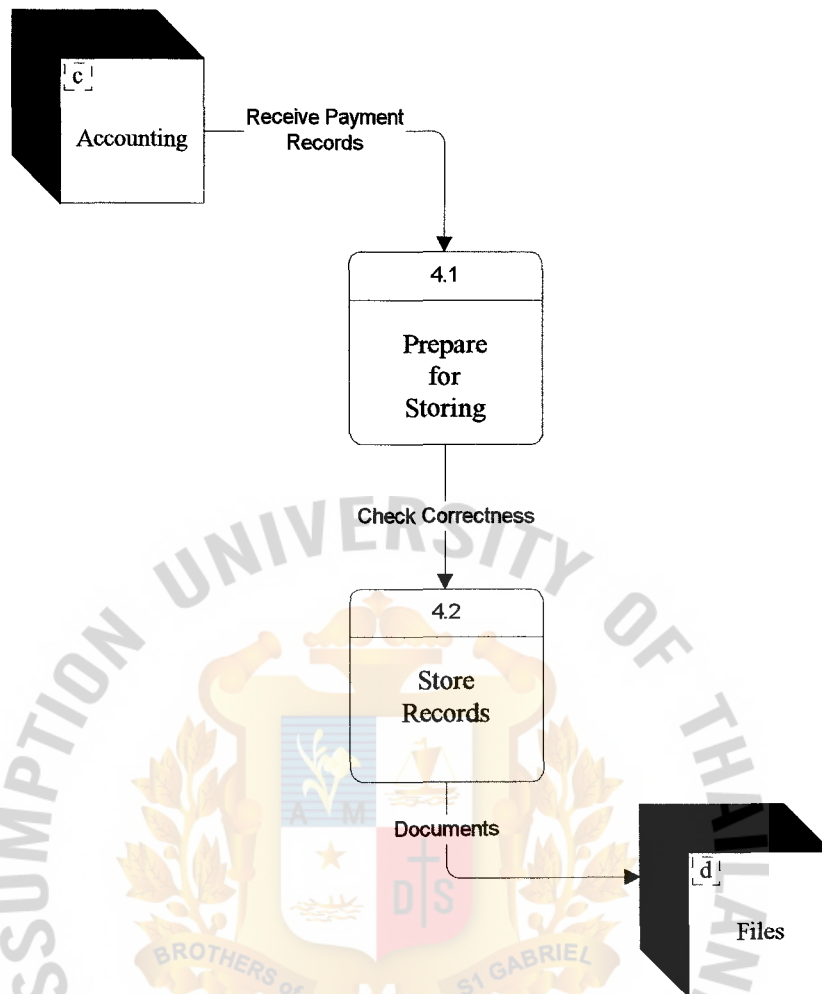


Figure A.6. DFD Level-4 Storing File.





## **APPENDIX B**

### **DATA FLOW DIAGRAM OF THE PROPOSED SYSTEM**

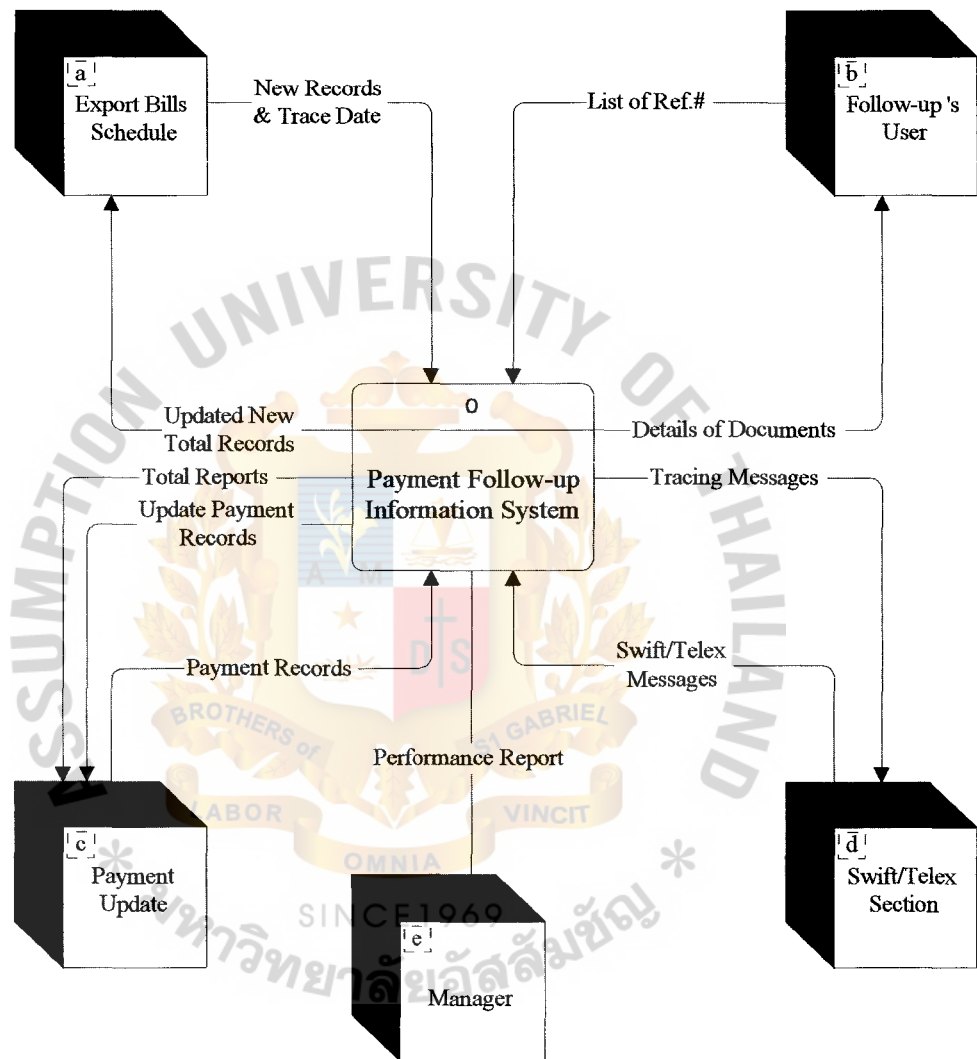


Figure B.1. Context Diagram (the Proposed System).

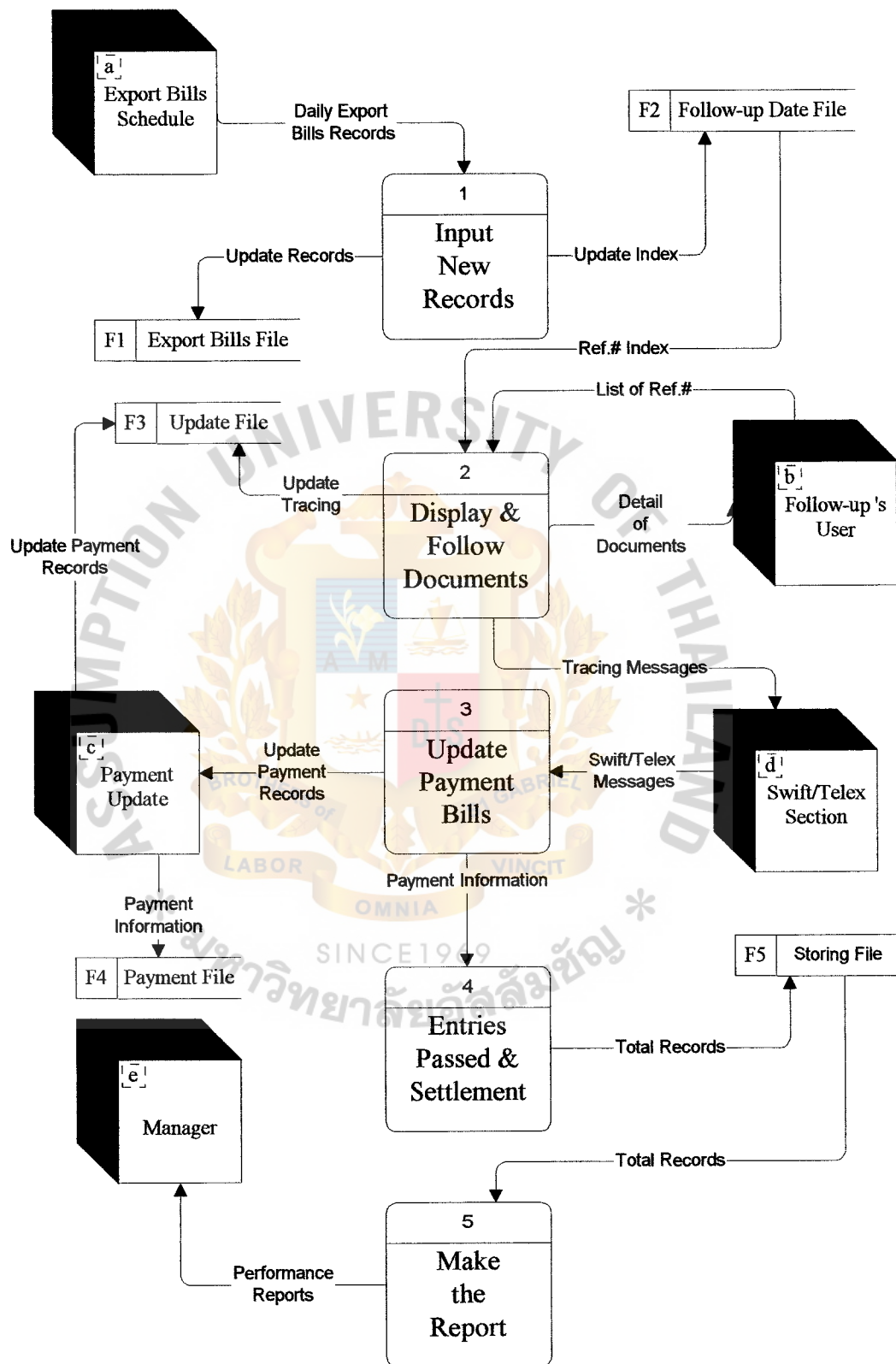


Figure B.2. DFD Level-0 (the Proposed System).

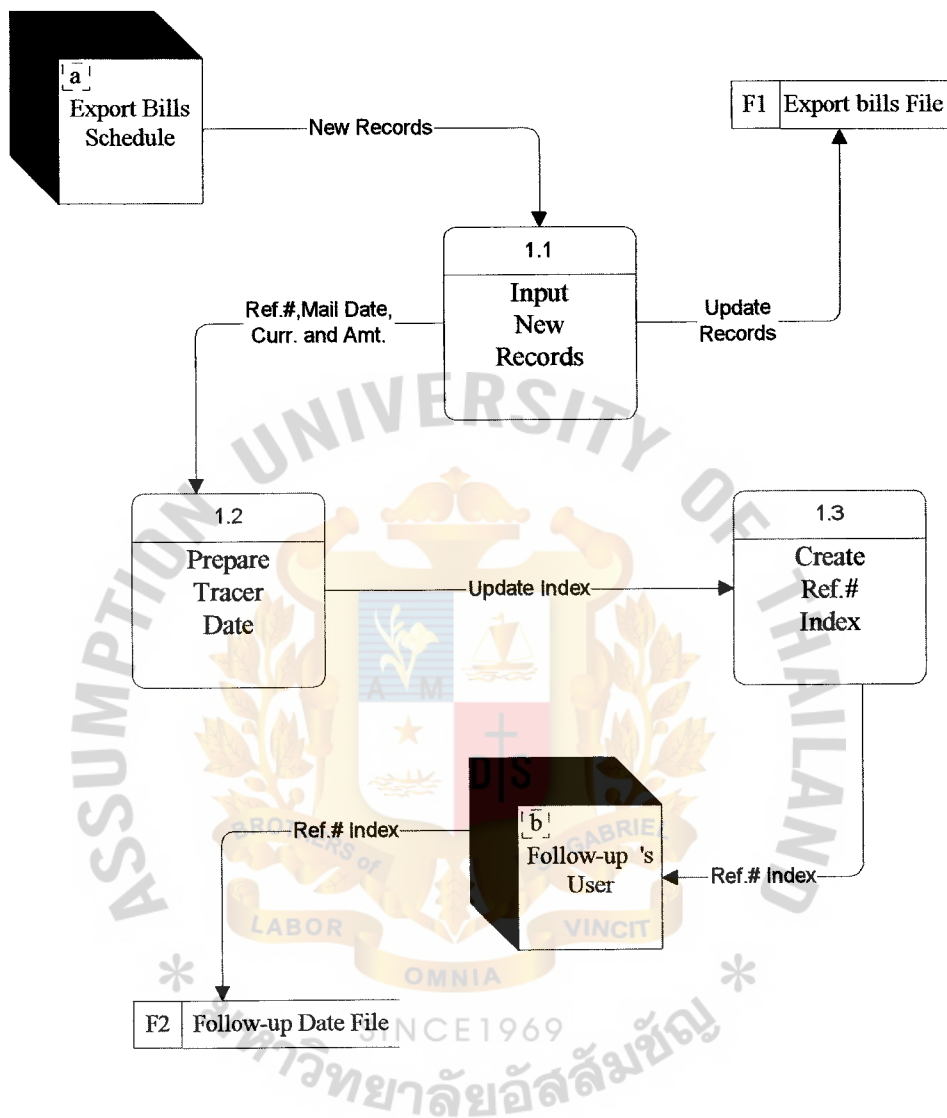


Figure B.3. DFD Level-1 Input New Records & Trace Date.

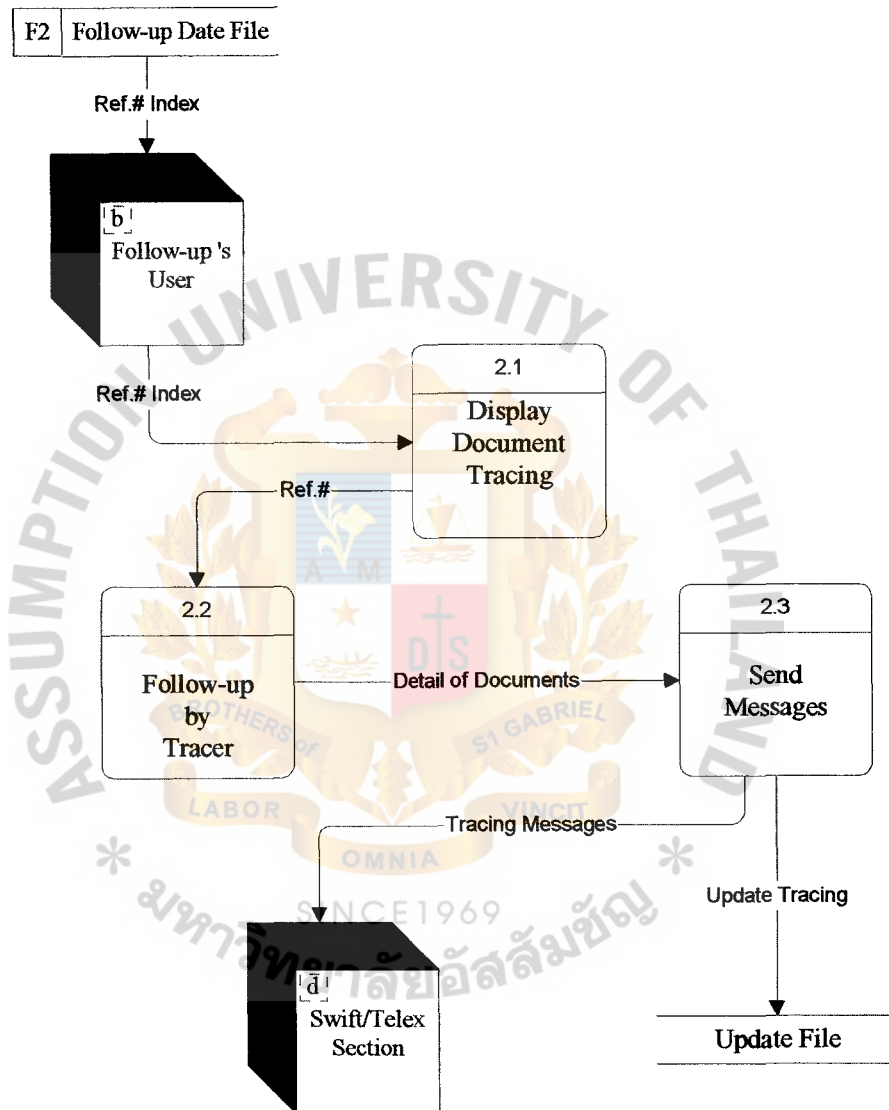


Figure B.4. DFD Level-2 Display Document Tracing.



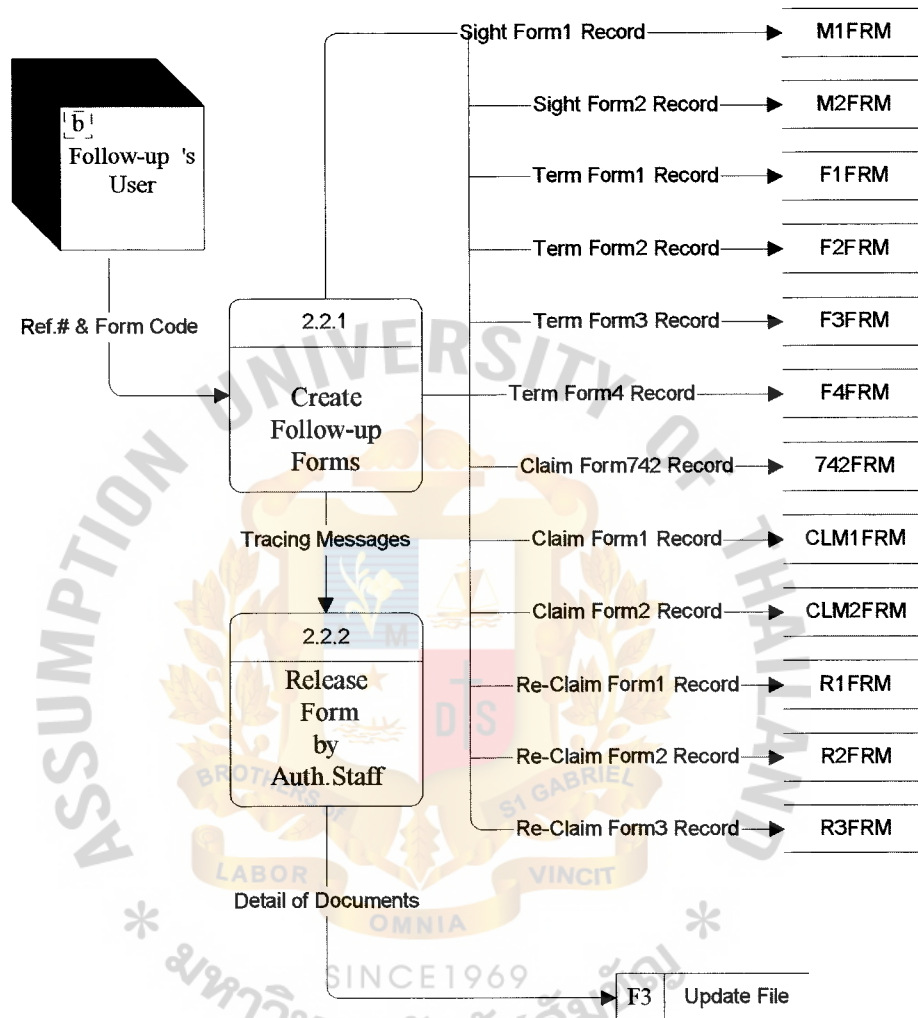


Figure B.5. DFD Level-2.2 Follow-up by Tracer.

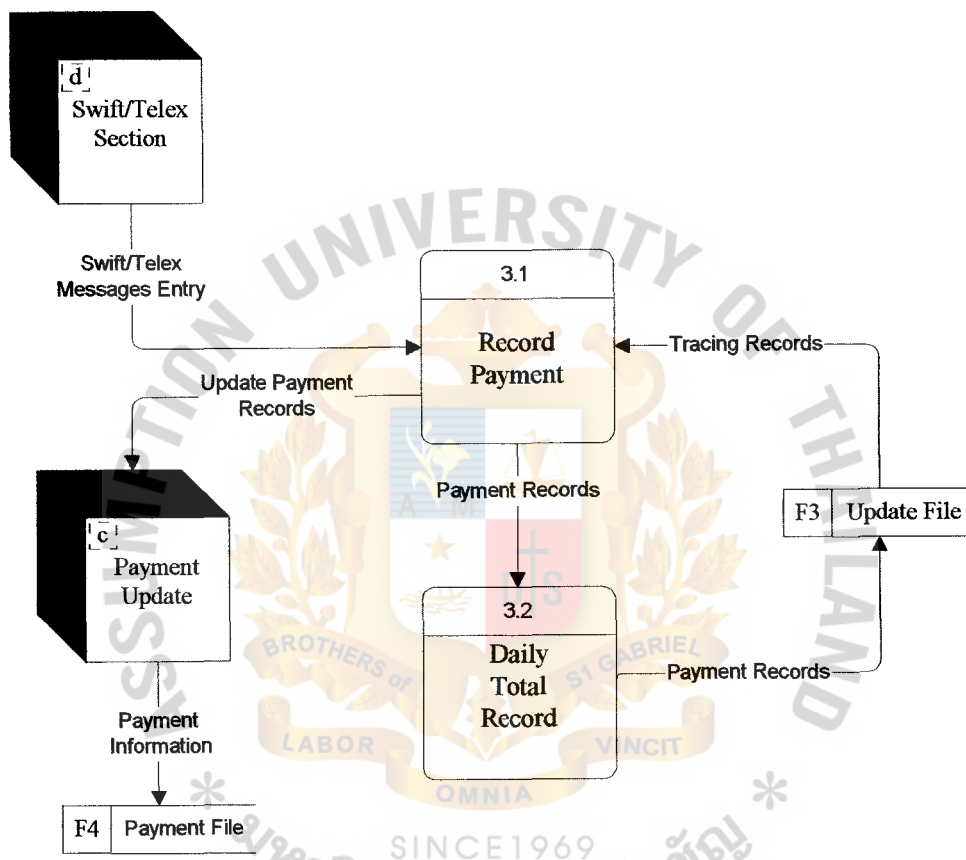


Figure B.6. DFD Level-3 Update Payment.

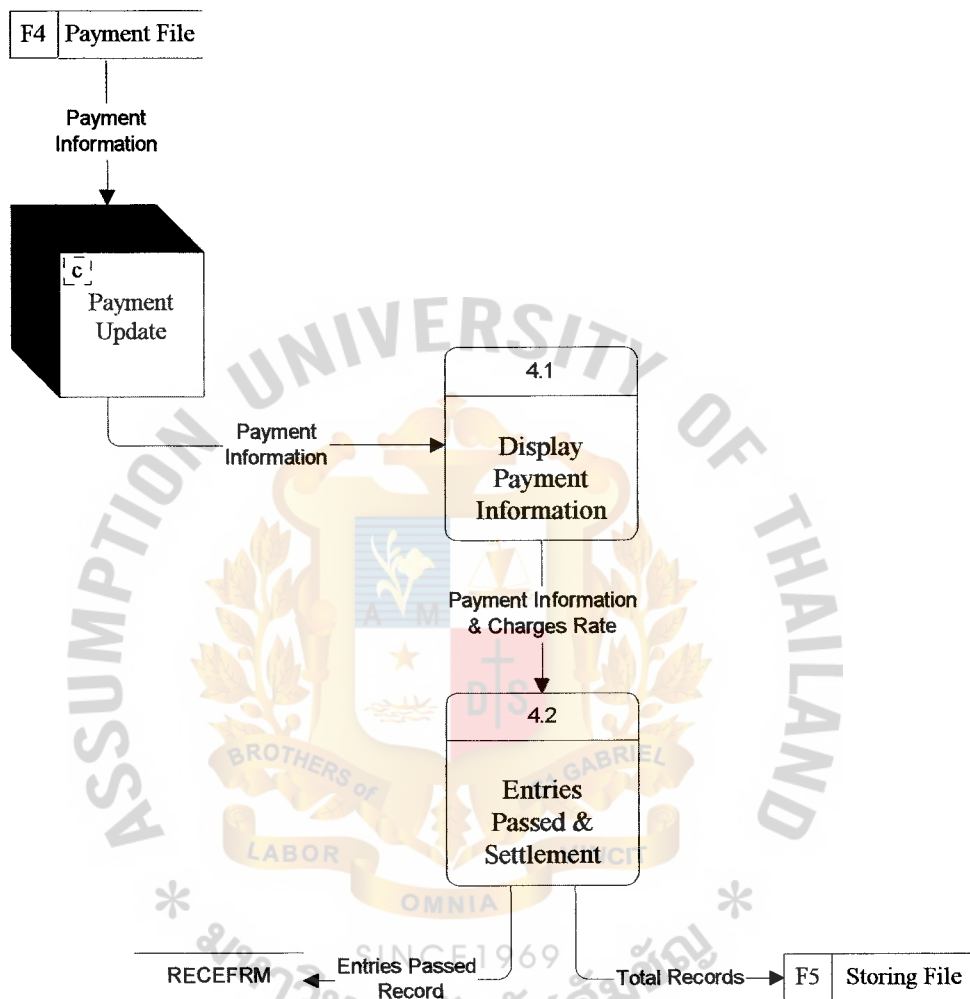


Figure B.7. DFD Level-4 Entries Passed & Settlement.

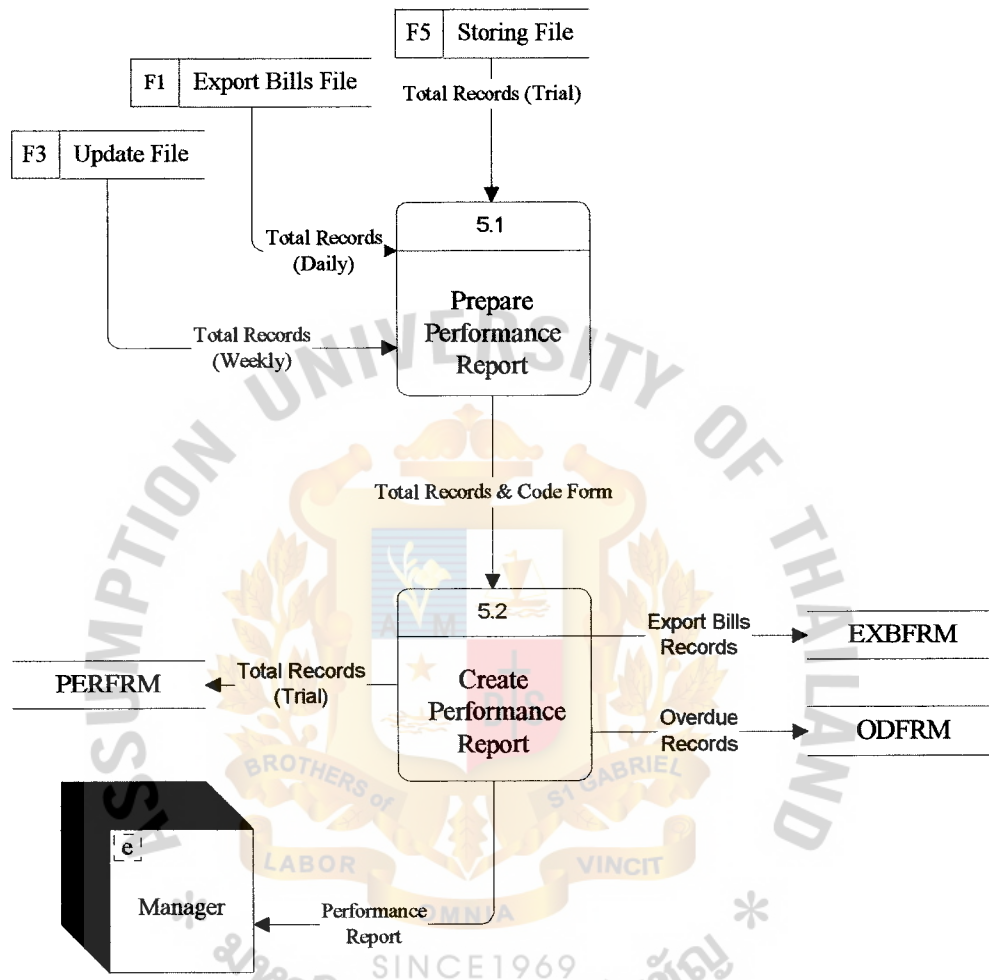


Figure B.8. DFD Level-5 Make the Report.



## APPENDIX C

### PROCESS SPECIFICATION



**Process Name : Input New Records**

**Process Number : 1.0**

**Description :**

- Receive new records of Export Bill Schedule.
- Check details of Export Bills and record information.
- Classify the new Export Bills Schedule records. (By Type)
- Prepare for tracing.

**Input :**

- New records of Export Bill Schedule.
- Tracing Date.

**Output :**

- Follow-up Date File.
- Update File.



**Process Name : Display & Follow Documents.**

**Process Number : 2.0**

**Description :**

- Display the records of Export Bills from Follow-up Date File.
- Assign forms for tracing.
- Input messages to follow.
- Approved by Authorized Staff.
- Send the tracing messages to Swift/Telex Sections.
- Record update tracing to Update File.

**Input :**

- Details of Documents.
- Tracing Forms.
- Update record tracing of Export Bills.

**Output :**

- Tracing Messages.
- \* Update File.

**Process Name : Update Payment Bills**

**Process Number : 3.0**

**Description :**

- Receive Swift/Telex messages.
- Verify the Reference Number of Export Bills.
- Update Swift/Telex Payment.
- Send Payment Information to next process and Payment File for inquiry again and making services for customers when calling.

**Input :**

- Swift/Telex messages.

**Output :**

- Payment File.
- Update File.



Process Name : Entries Passed & Settlement.

Process Number : 4.0

Description :

- Inquiry payment information.
- Entries passed and settle the charges.
- Authorized staff approves and sign for the receipt send to the customer.
- Record the BRL Number and file the Export Bills in the Storing File.

Input :

- Payment Information.
- Rate of Charges.

Output :

- Receipt Form.
- Storing File.

**Process Name : Make the Report.**

**Process Number : 5.0**

**Description :**

- Inquiry the total records.
- Create the report forms.
- Approved by chief Section and sign the report.
- Present to the Manager.
- Send the total reports to the Payment Update.

**Input :**

- Database of Payment Follow-up Information System.

**Output :**

- Export bills Report.
- Overdue Report.
- Performance Report.

**Process Name : Display Document Tracing**

**Process Number : 2.1**

**Description :**

- Search Reference Number. (By Type of Document)
- Display Document Tracing.

**Input :**

- Review Reference Number of Export Bills.

**Output :**

- Display Document Tracing Records.

**Process Name : Follow-up by Tracer.**

**Process Number : 2.2**

**Description :**

- Verify Reference Number of Export Bills.
- Assign Form of Tracing.
- Input the Messages.
- Approve by Authorized Staff.

**Input :**

- Details of Exports Bills
- Tracing forms.

**Output :**

- Approved Form of Tracing.



Process Name : Send Messages.

Process Number : 2.3

Description :

- Received approved tracing messages.
- Send the tracing messages to Swift/Telex Sections.
- Record update tracing to Update File.

Input :

- Approved Tracing Messages.
- Record Update Tracing.

Output :

- Update File.

Process Name : Input new records.

Process Number : 1.1

Description :

- \* Receive new records of the Export Bill Schedule.
- Check Details of Export Bills and Record Information.

Input :

- New records of Export Bill Schedule.

Output :

- Export Bills File.

## St. Gabriel's Library

Process Name : Prepare Tracer Date.

Process Number : 1.2

Description :

- Classify the New Export Bill Schedule Records.
- Prepare for Tracing.

Input :

- Details of Export Bill Schedule.

Output :

- Follow-up Date File.

Process Name : Record Payment.

Process Number : 3.1

Description :

- Receive Swift/Telex Messages.
- Verify the Reference Number of Export Bill Schedule.
- \* Update Swift/Telex Messages.

Input :

- Swift/Telex Messages.

Process Name : Daily Total Record.

Process Number : 3.2

Description :

- Update Swift/Telex Payment, or Details of Discrepancies.
- Send to Payment File and Update File.

Input :

- Swift/Telex Payment.

Output :

- Payment file.
- Update File.

Process Name : Display Payment Information.

Process Number : 4.1

Description:

- Inquiry payment information.
- Display payment information.
- Send to the Process 4.2.

Input :

- Payment Information.

**Process Name : Entries Passed & Settlement.**

**Process Number : 4.2**

**Description :**

- Display Payment Information.
- Entries passed and settle the charges.
- Authorized staff approves and signs the receipt for the customers.
- Record the BRL Number and file the records of Export Bills to Storing File.

**Input :**

- Payment Information.
- Rate of Charges.

**Output :**

- Details of Balance Payment.
- Receipt of the Export Bills.
- Storing File.

Process Name : Create Follow-up Forms.

Process Number : 2.2.1

Description :

- Verify Reference Number of the Export bill Schedule.
- Assign Form of Tracing.
- Input the Messages for each form.
- Send tracing messages to Process 2.2.2

Input :

- Reference Number of the Export bills.
- Forms of Tracing.
- Tracing messages.

Output :

- Tracing Messages Document.

Process Name : Release Form by Authorized Staff.

Process Number : 2.2.2

Description :

- Receive tracing message documents.
- Check correctness.
- Approve and sign by Authorized Staff.
- Record update tracing to Update File.

Input :

- Reference Number of approved tracing document.

Output :

- Approved Tracing Document Records.

**Process Name : Prepare Performance Report.**

**Process Number : 5.1**

**Description:**

- Inquiry Total Records. (By Company Name)
- Display Total Records.
- Send to Process 5.2

**Input :**

- Reference Number.
- Company Name.
- Total Records.

**Output :**

- Total Records of Export Bills.





Process Name : Create Performance Report.

Process Number : 5.2

Description :

- Receive Total Records of Export Bills.
- Assign the Performance Form.
- Approve by Chief Section and sign the report.
- Record to Payment File.
- Present to the Manager.

Input :

- Total Records of Export Bills.
- Export Bills Form.
- Overdue Form.
- Performance Form.

Output :

- Export Bills Report.
- \* Overdue Report.
- Performance Report.



### Data Dictionaries. (Proposed System)

1.     Object Name:         Daily Export Records  
  
       Object Type:        Data Flow  
  
       Definition:         Reference Number + BRL Number + Customer Name +  
  
                              Amount + Tenor of payment + L/C No. + Sticker No.  
  
       Description:        Records of new daily export bills to collect in to the  
  
                              System.
2.     Object Name:         Update New records  
  
       Object Type:        Data Flow  
  
       Description:        Records that information is kept including the status of  
  
                              Daily Export Bills.
3.     Object Name:         Update Total Records  
  
       Object Type:        Data Flow  
  
       Description:        Records that include the total information of Export Bills.
4.     Object Name:         Update Index  
  
       Object Type:        Data Flow  
  
       Description:        Records of the Daily Export Bills that have fixed date to  
  
                              follow.
5.     Object Name:         Received Swift / Telex Messages  
  
       Object Type:        Data Flow  
  
       Description:        Messages of Export Bills that Bank abroad sent to us  
  
                              through Swift / Telex.
6.     Object Name:         Payment Records  
  
       Object Type:        Data Flow  
  
       Definition:         Value Date + Paid Date + Currency + Amount.

7. Object Name: Ref.#  
Object Type: Data Flow  
Description: Records of Export Bills that have already had payment.
8. Object Name: Ref.# Index  
Object Type: Data Flow  
Definition: BRL Number + Reference Number + Sequence.  
Description: Number of Export Bills Transaction.
9. Object Name: List of Ref.#  
Object Type: Data Flow  
Definition: Reference No. + Mail date  
Description: Details of number that Follow-up's User input to update records.
10. Object Name: Update Tracing  
Object Type: Data Flow  
Description: New records of Export Bills that had already been followed-up to Issuing Bank\*
11. Object Name: Detail of Documents  
Object Type: Data Flow  
Description: Details of Export Bills that include Reference Number, Following Date, amount, L/C Number and Issuing Bank.
12. Object Name: Ref.#, Mail Date, Amount.  
Object Name: Data Flow  
Description: Details of Bills = Reference Number + Mailing Date + Amount of Bills.

13. Object Name: Tracing Message  
Object Type: Data Flow  
Description: Information used for tracing document to Issuing Bank.
14. Object Name: Tracing Rate  
Object Type: Data Flow  
Definition: Mail Date + Day of payment  
Description: Rates used to follow-up the payment.
15. Object Name: Send Payment Documents  
Object Type: Data Flow  
Description: Sending Documents that join together with Swift / Telex before sending to account for the customers.
16. Object Name: Payment Info. Entries  
Object Type: Data Flow  
Definition: Reference No. + BRL No. + Value Date + Paid + Date + Currency + Amount.  
Description: Swift / Telex records that up-to-date in daily received Messages and Information that includes Export Bills records and Swift / Telex payment Messages.
17. Object Name: Update Payment Records  
Object Type: Data Flow  
Definition: Reference Number + Value Date + Currency + Amount  
Description: Records of Total Daily Export Bills that have already had payment.

18. Object Name: Check Correctness  
Object Type: Data Flow  
Description: Correctness status of payment records before sending to the warehouse.
19. Object Name: Sight Form1 Record  
Object Type: Data Flow  
Description: Form1 to trace for sight bills.
20. Object Name: Sight Form2 Record  
Object Type: Data Flow  
Description: Form2 to trace for sight bills.
21. Object Name: Term Form1 Record  
Object Type: Data Flow  
Description: Form1 to trace for term bills.
22. Object Name: Term Form2 Record  
Object Type: Data Flow  
Description: Form2 to trace for term bills.\*
23. Object Name: Term Form3 Record  
Object Type: Data Flow  
Description: Form3 to trace for term bills.
24. Object Name: Term Form4 Record  
Object Type: Data Flow.  
Description: Form4 to trace for term bills.
25. Object Name: Claim Form 742 Record  
Object Type: Data Flow  
Description: Form 742 Directly Claim for Export Bills



26. Object Name: Claim Form1 Record  
Object Type: Data Flow  
Description: Form1 Claim through New York Branch.
27. Object Name: Claim Form2 Record  
Object Type: Data Flow  
Description: Form2 Claim through Bank that wanted to claim directly.
28. Object Name: Re-Claim Form1 Record  
Object Type: Data Flow  
Description: Form1 to re-claim if non-payment entry.
29. Object Name: Re-Claim Form2 Record  
Object Type: Data flow  
Description: Form2 to re-claim if until no payment entry.
30. Object Name: Re-Claim Form3 Record  
Object Type: Data Flow  
Description: Form3 to re-claim if until no reply for payment entry.
31. Object Name: Total Payment Records  
Object Type: Data Flow  
Definition: BRL Number + Reference Number  
Description: Total payment records of Export Bills which the charges was entries passed from the Customer Account.
32. Object Name: Entries Passed Record  
Object Type: Data Flow  
Description: Record of entries passed and settlement of Export Payment Bills to make the Receipt for the customers.

## St. Gabriel's Library

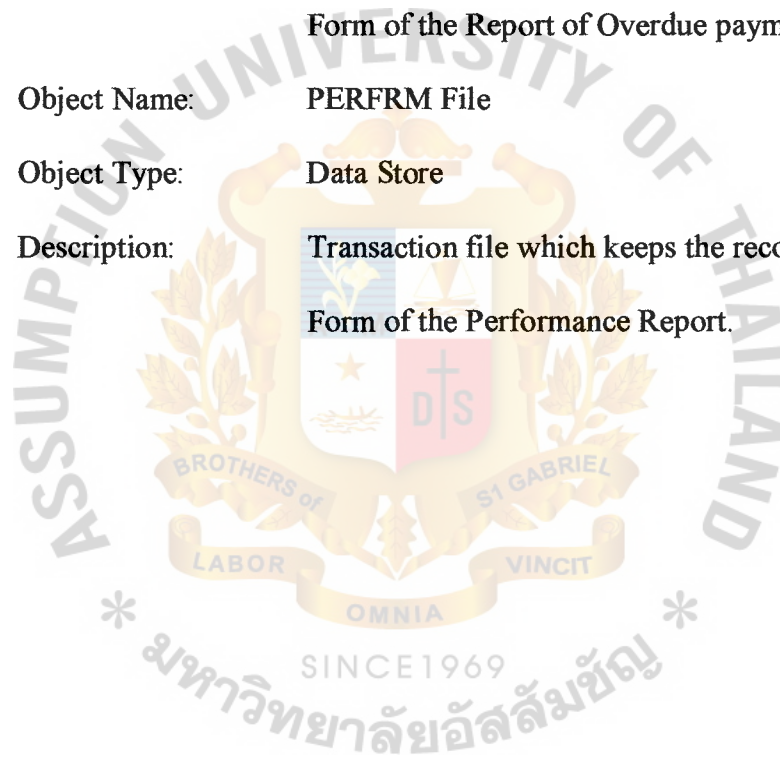
33. Object Name: Total Records (Daily)  
Object Type: Data Flow  
Description: Total daily new records of Export Bills
34. Object Name: Total Records (Weekly)  
Object Type: Data flow  
Description: Total Overdue records of Export Bills that had no payment
35. Object Name: Total Records (Trial)  
Object Type: Data flow  
Description: Total records of Export Bills with which entries had passed already.
36. Object Name: Ref.# & Form Code  
Object Type: Data Flow  
Description: Reference Number and Code Form to update form.
37. Object Name: Export Bills Report  
Object Type: Data Flow  
Description: Report of total new daily Export Bills Records.
38. Object Name: Overdue Report  
Object Type: Data Flow  
Description: Report of total weekly Overdue Payment Records of Export Bills.
39. Object Name: Performance Report  
Object Type: Data Flow  
Description: Report of total records that include all trial balance Export's Payment Docs. for the next time management.

40.    **Object Name:**            Export Bills File
- Object Type:**        Data Store
- Description:**       Master file which keeps the details of Export Bill Schedule.
41.    **Object Name:**        Follow-up Date File
- Object Type:**       Data Store
- Description:**       Transaction file, which keeps the details of the date to follow in each type of Export Bill Schedule.
42.    **Object Name:**        Update File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the update record from Swift/Telex messages such as messages of due date, contact opening bank, discrepancies.
43.    **Object Name:**        Payment File
- Object Type:**       Data Store
- Description:**       Transaction file, which keeps the confirmation/advise Payment record from Swift/Telex messages.
44.    **Object Name:**        Storing File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the total balance payment record before filing and making the reports.
45.    **Object Name:**        M1FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message Form1 of Sight Bills.

46.   **Object Name:**           M2FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form2 of Sight Bills.
47.   **Object Name:**       F1FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form1 of Term Bills.
48.   **Object Name:**       F2FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form2 of Term Bills.
49.   **Object Name:**       F3FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form3 of Term Bills.
50.   **Object Name:**       F4FRM File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form4 of Term Bills.
51.   **Object Name:**       742FRM.File
- Object Type:**       Data Store
- Description:**       Transaction file which keeps the records of Message  
                                    Form742 of direct Claim Bills.

52. Object Name: CLM1 FRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form1 Claim through New York Branch.
53. Object Name: CLM2 FRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form2 Claim through the Bank that wanted to claim.
54. Object Name: R1FRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form1 to re-claim if non-payment entry.
55. Object Name: R2FRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form2 to re-claim if until no payment entry
56. Object Name: R3FRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form3 to re claim if no reply for payment entry.
57. Object Name: RECEFRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message Form of the Receipt of Export Bills for the customers.

58. Object Name: EXBFRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message  
Form of the Report of Export Bills.
59. Object Name: ODFRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message  
Form of the Report of Overdue payment records.
60. Object Name: PERFRM File  
Object Type: Data Store  
Description: Transaction file which keeps the records of Message  
Form of the Performance Report.







**APPENDIX E**  
**DATABASE DESIGN**

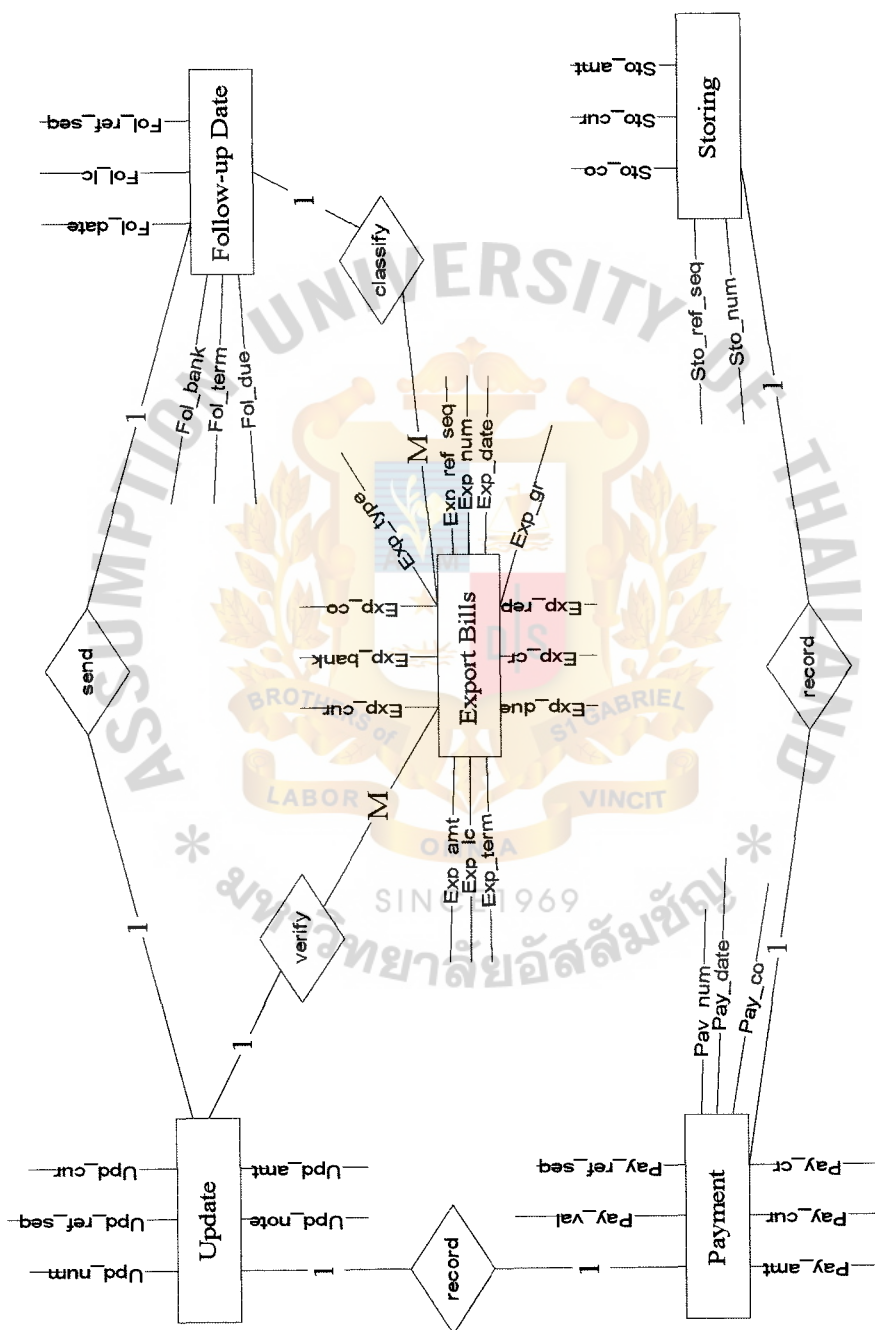


Figure E.1. Entity Relationship Diagram(ER- Diagram).

# St. Gabriel's Library

Table E.1. Export Bill Schedule File.

| Field name  | Type    | Length | Description              |
|-------------|---------|--------|--------------------------|
| Exp_ref_seq | char    | 11     | Bills Reference Number   |
| Exp_num     | char    | 7      | Bills Manual Number      |
| Exp_co      | char    | 20     | Company Name             |
| Exp_gr      | char    | 1      | Groups of Export Bills   |
| Exp_type    | char    | 1      | Types of Export Bills    |
| Exp_date    | date    | 8      | Mailing Documents Date   |
| Exp_bank    | char    | 30     | Issuing Bank             |
| Exp_cur     | char    | 3      | Currency                 |
| Exp_amt     | numeric | 15     | Bill Amount              |
| Exp_lc      | char    | 25     | Letter of Credit Number  |
| Exp_term    | char    | 15     | Tenor of Bills           |
| Exp_due     | date    | 8      | Specific Due Date        |
| Exp_cr      | char    | 1      | Credit Customer Account  |
| Exp_rep     | char    | 15     | Representative Bank Code |

Table E.2. Follow-up Date File.

| Field Name  | Type    | Length | Description             |
|-------------|---------|--------|-------------------------|
| Fol_ref_seq | char    | 11     | Bills Reference Number  |
| Fol_date    | date    | 8      | Follow-up Date          |
| Fol_bank    | char    | 30     | Issuing Bank            |
| Fol_lc      | char    | 25     | Letter of Credit Number |
| Fol_term    | char    | 15     | Tenor of Bills          |
| Fol_due     | date    | 8      | Specific Due Date       |
| Fol_cur     | char    | 3      | Currency                |
| Fol_amt     | numeric | 15     | Bill Amount             |

Table E.3. Update File.

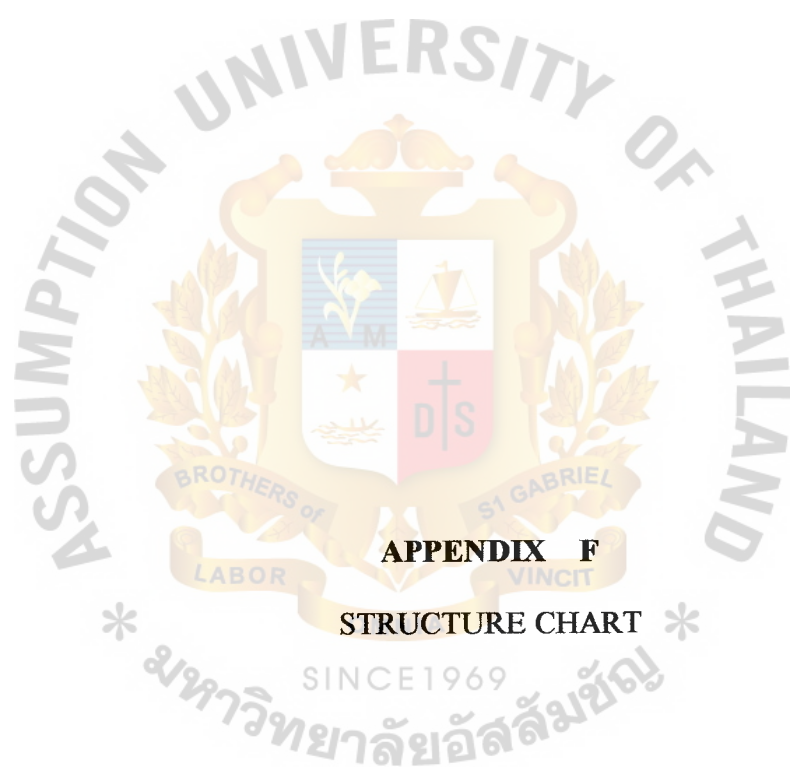
| Field Name  | Type    | Length | Description             |
|-------------|---------|--------|-------------------------|
| Upd_ref_seq | char    | 11     | Bills Reference Number  |
| Upd_num     | char    | 7      | Bills Manual Number     |
| Upd_cur     | char    | 3      | Currency                |
| Upd_amt     | numeric | 15     | Bills Amount            |
| Upd_cr      | char    | 1      | Credit Customer Account |
| Upd_co      | char    | 20     | Company Name            |
| Upd_note    | char    | 45     | Note of Bills' Details  |

Table E.4. Payment File.

| Field Name  | Type    | Length | Description             |
|-------------|---------|--------|-------------------------|
| Pay_ref_seq | char    | 11     | Bills Reference Number  |
| Pay_num     | char    | 7      | Bills Manual Number     |
| Pay_date    | date    | 8      | Paid Date               |
| Pay_val     | date    | 8      | Value Date of Payment   |
| Pay_cur     | char    | 3      | Currency                |
| Pay_amt     | numeric | 15     | Paid Amount             |
| Pay_cr      | char    | 1      | Credit Customer Account |
| Pay_co      | char    | 20     | Company Name            |

Table E.5. Storing File.

| Field Name  | Type    | Length | Description            |
|-------------|---------|--------|------------------------|
| Sto_ref_seq | char    | 11     | Bills Reference Number |
| Sto_num     | char    | 7      | Bills Manual Number    |
| Sto_co      | char    | 20     | Company Name           |
| Sto_cur     | char    | 3      | Currency               |
| Sto_amt     | numeric | 15     | Balance Amount         |



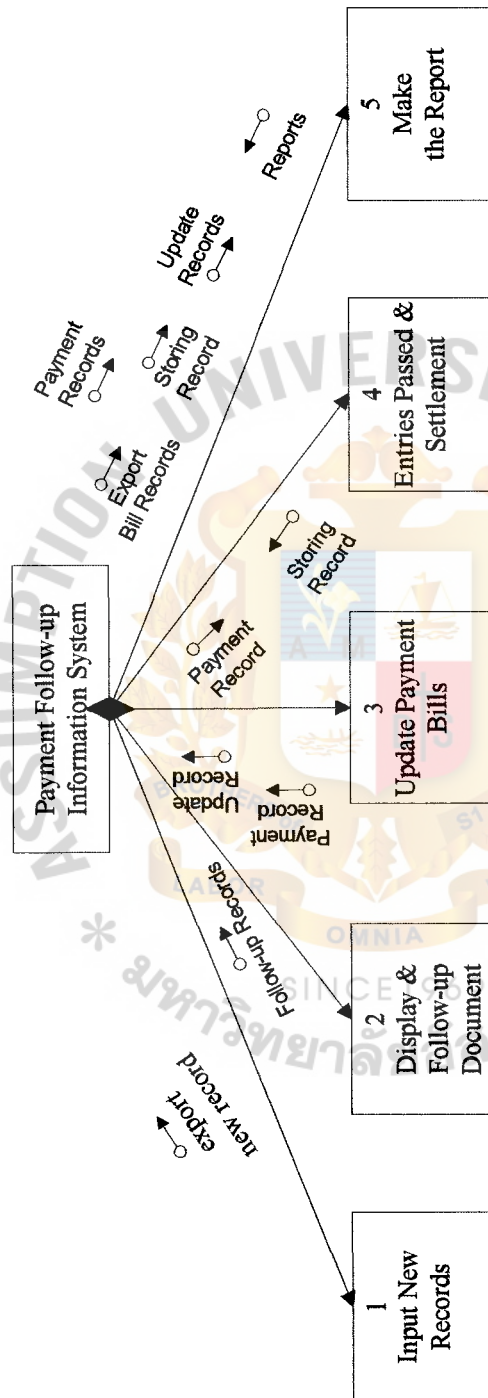


Figure F.1. Structure Chart.



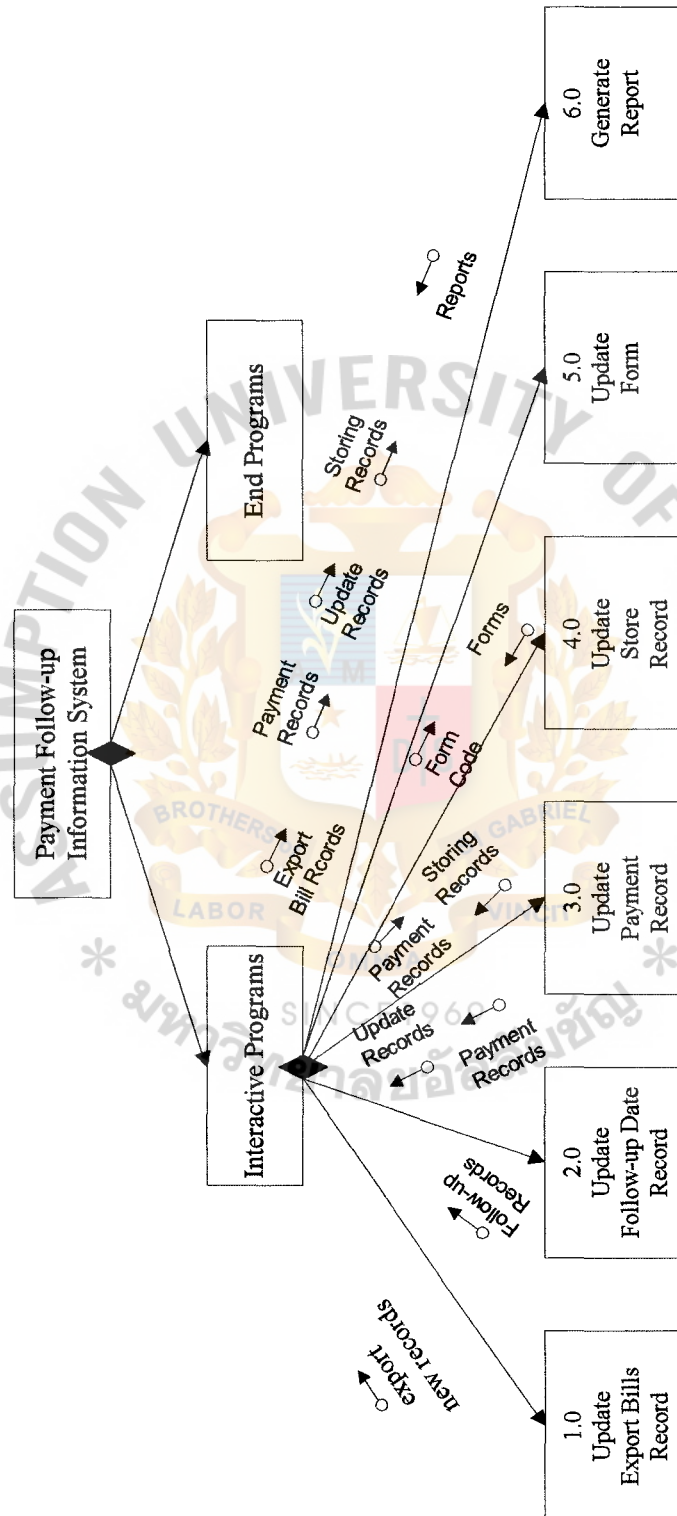


Figure F.2. Expanded Payment Follow-up System.



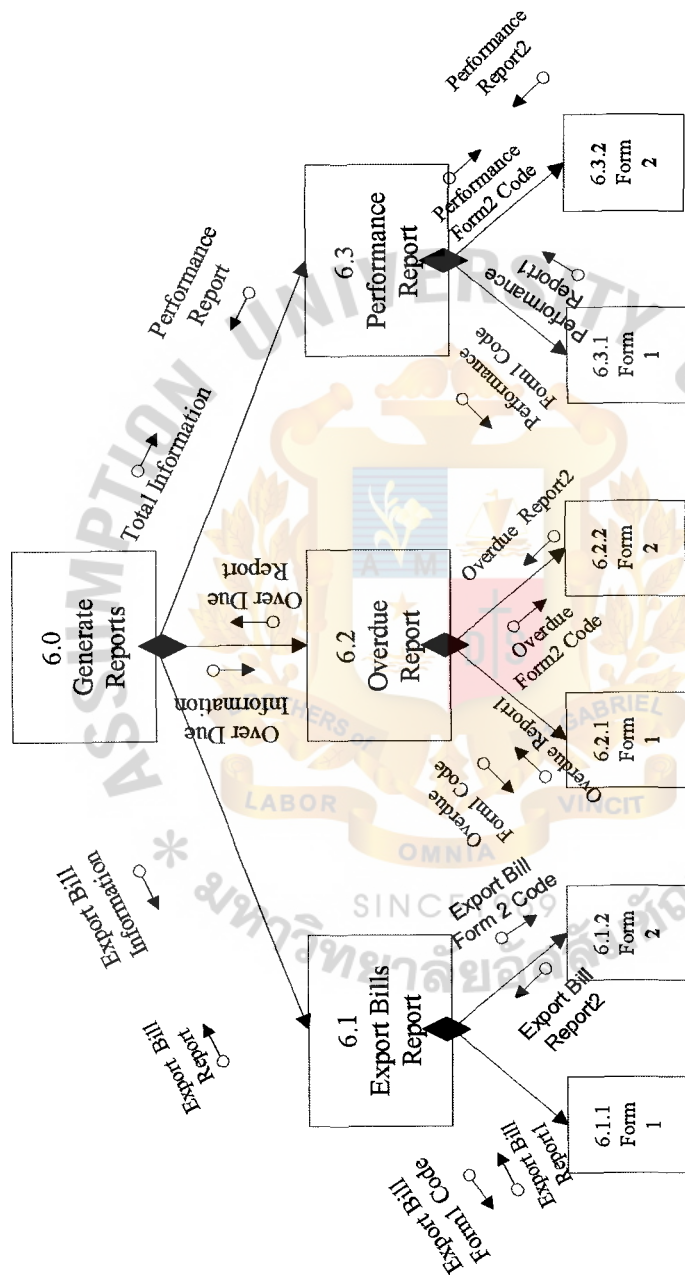


Figure F.4. Decomposition of 6.0 Generate Report.



**APPENDIX G**

**USER INTERFACE DESIGN / USER MANUAL**

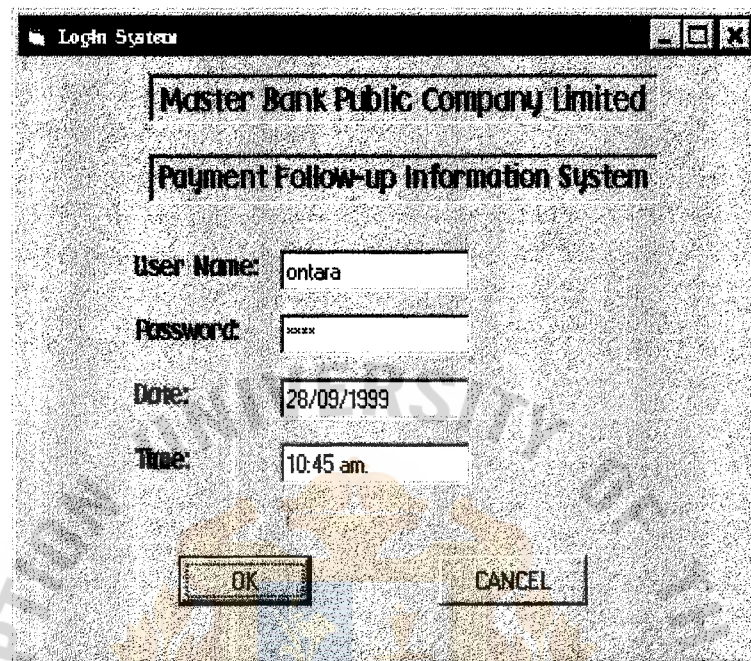


Figure G.1. User Login Screen.

#### **Login Payment Follow-up Information System**

1. Insert your User Name and push TAB button.
2. Insert your Password.
3. Move the mouse to click at the OK button to Login the System.
4. It will show the Main Menu.
5. If you cancel this process, move the mouse to click at the CANCEL button to Exit the System.



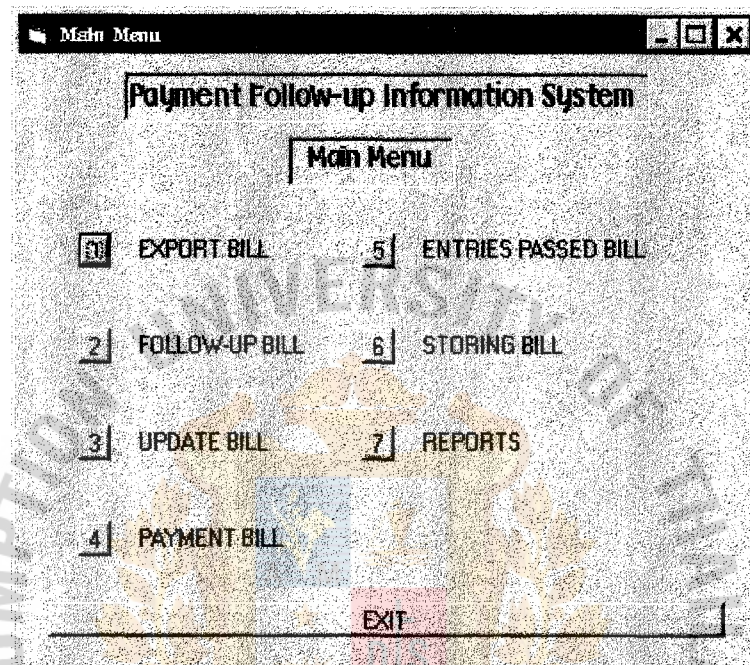


Figure G.2. Main Menu Screen.

#### Main Menu

1. In this screen, it will show the menu in this system.
2. If you want to enter in menu Export Bill to input the new record.
3. You move the mouse to click at the button number 1.
4. It will show the Export Bill Screen.

**Export Bill**

H.O. [ ]

Reference: [1011X208301-001] BRL Number: [L908801]

L/C Number: [873-2000814] Issuing Date: [11/03/99]

Mail Date: [22/04/99] Company Name: [Klang Co., Ltd.]

[USD] Bill Amount: [22,651.20] Sticker Code: [ ]

Issuing Bank: [Banca Popolare Dell'etruria E Del Lazio, Corso Italia 179,52100 Arezzo, Italy.]

[TERM] Term of Payment: [45 days after B/L date.]

To be mature on: [19/05/99] B/L Date: [04/04/99] REMIT [ ]

[Late Presentation, Credit Ex] Notes: [Swift Address: "ARBA IT 33"]

[ADD] [DELETE] [SAVE] [CANCEL] [EXIT]

[RECORD 1]

Figure G.3. Export Bill Screen.

### Export Bill Screen

1. This Screen will show the Export Bill Form to enter the new record of Export Bill.
2. First, you move the mouse to the box "H.O." to choose Group of Bill by click the mouse.
3. Then, insert the Ref. No., BRL No., L/C No., until the last box.
4. After that, move the mouse to click the "ADD" button. Then, it will show the new screen to insert the new record until the final transaction.
5. Last, moves the mouse to click at "SAVE" button in order to save all of the new record.
6. After save, it will back to the main menu screen for choosing the new function.



Follow-up Bill

Payment Follow-up Information System

Follow-up Bill

H.O. SIGHT

Reference Number: 1011E097273-001 Mail Date: 07 May. 99

OK CANCEL EXIT

Record1

Figure G.4. Follow-up Bill Screen.

#### Follow-up Bill Screen

1. First, you move the mouse to the box "H.O." to choose Group of Bill by click the mouse.
2. Then, you move the mouse to the box "Sight" to choose Type of Bill by click the mouse.
3. After that, push the "TAB" button to the next box (Ref.No.) and input the Reference Number.
4. Then, push the "TAB" button to the next box (Mail Date) and input the Mail Date.
5. Finally, you move the mouse to the "OK" button and click the mouse. It will show the Follow-up Bill Form Screen to choose the form to Follow-up Bill.

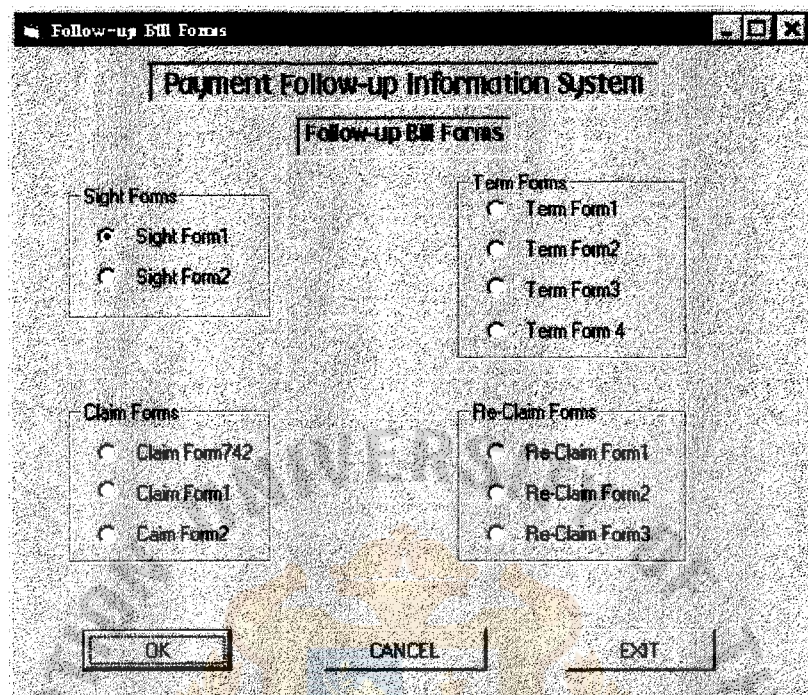


Figure G.5. Follow-up Bill Forms.

### Follow-up Bill Form Screen

1. From the Follow-up Bill Screen, this screen will show the menu of Follow-up Bill Forms Screen for choosing the form that you want to use.
2. In this screen, it will choose the Sight Form1. You move the mouse to click at the Sight Form1 in the frame of Sight Forms.
3. Then, you move the mouse to the “OK” button and click it. After that, it will show the Sight Form1 Screen.

**Payment Follow-up Information System**

**Sight Form 1**

Swift Address: IDBJPTK (Not over 8 or 11 Characters) ☒ Test Require.

Alt: Import L/C Dept.

Re our Ref. 1011E097273-001 for USD. 50,337.68

Drawn under yr L/C No. LLC07800017283

Relative docs forwarded to you since May. 07.99

Please Telex/Swift advise late urgently.

Regards.

Export Bill Section.(Follow-up)

User: NT - 001

SAVE PRINT EXIT

Figure G.6. Sight Form Screen.

### Sight Form Screen

1. First, input the Swift Address (not over 8 or 11 Characters) and click at the Test Require.
2. Then, input the Ref.No. and amount of the bill. After that, input the L/C No. and Mail Date.
3. Then, input the User Code in the last box and move the mouse to the "SAVE" button for saving page.
4. Last, moves the mouse to the "PRINT" button to print the form of sight bill for authorized to prove and sign before sending to the Bank abroad.



Update Bills

Payment Follow-up Information System

Update Bill

H.O. ▼

Ref.No.: 1011X208301-001

Company Name: ▼

OK CANCEL EXIT

Record 1

Figure G.7. Update Bill Screen.

#### Update Bill Screen

1. First, move the mouse to the box “H.O.” to choose the Group of Bill.
2. Then, click at the Ref.No. and input the Reference Number if you don't know the Reference Number you can click at the Company Name and choose the Name in the box.
3. After that, you move the mouse to the “OK” button and click to find the Bill Record.

**Update Bill Form**

**Payment Follow-up Information System**

**Update Bill**

H.O.

Ref. No.: 1011X208301-001 Mail Date: Apr. 22,99

L/C No.: 873-2000814 Term of Payment 45 days after B/L date.

Currency: USD Amount: 22,651.20 B/L Date: Apr.04,99

Received Swift Date: May.05,99

Due Date: May.19,99

Discrepancies Details:

At maturity date we'll credit for

USD.22,611.20 Less Swift Charges.

USD.40.00 as per your instruction.

Details

☐ Discrepancies.

☐ Contact Opening Bank

☐ Follow-up

☒ Confirm Due Date

☐ Others.

**SAVE** **CANCEL** **EXIT**

Figure G.8. Update Bill Form Screen.

### Update Bill Form Screen

1. This screen will show the details of Export Bill that you choose to update.
2. You will input the record in the Received Swift Date, Details Box, and Discrepancies /Details Box.
3. If update in confirm due date you must input in the due date box.
4. Last, you move the mouse to click at the "SAVE" button.

The screenshot shows a window titled "Payment Bill" with a subtitle "Payment Follow-up Information System". Inside the window, there is a label "Payment Bill" above a dropdown menu currently showing "H.O.". Below this is a "Ref.No" label followed by a text box containing "1011E097273-001". At the bottom of the form area are three buttons: "OK", "CANCEL", and "EXIT". At the very bottom of the window is a status bar with a record navigation icon, the text "Record 1", and another record navigation icon.

Figure G.9. Payment Bill Screen.

#### Payment Bill Screen

1. First, move the mouse to "H.O." and click down at the box to choose the Group of Bill.
2. Then, insert the reference number in the next box.
3. After that, move the mouse to "OK" button and click to find the record to update the payment records.



**Payment Follow-up Information System**

**Payment Bill Form**

Group of Bill: H.O. Company Name: Central Poultry Processing

Ref. No.: 1011E097273-001 BRL No.: L909700

L/C No.: LLC07800017283 Term Payment: Sight

Currency: USD Bill Amount: 50,337.68 Due Date:

Value Date: May.20.99 Payment Date: May.21.99

Currency: USD Paid Amount: 50,337.68

Details: Frame1

☒ Direct Paid

☐ Follow-up Charges

☐ Others

FIK 56410

SAVE

CANCEL

EXIT

User: NT - 002

\* Figure G.10. Payment Bill Form Screen.

#### Payment Bill Form Screen

1. From the Payment Bill Screen, in this screen will show the record of the reference that you find as in the screen.
2. Then, you will input the record of Value Date, Payment Date, Currency, and Paid Amount.
3. After that, you choose in the Details Box and other detail in the text box below. Then, input the User Code in the right bottom box.
4. When you input completely details, you move the mouse to the "SAVE" button and click it to save the information and back to the Payment Bill Screen again to record the new payment bill.



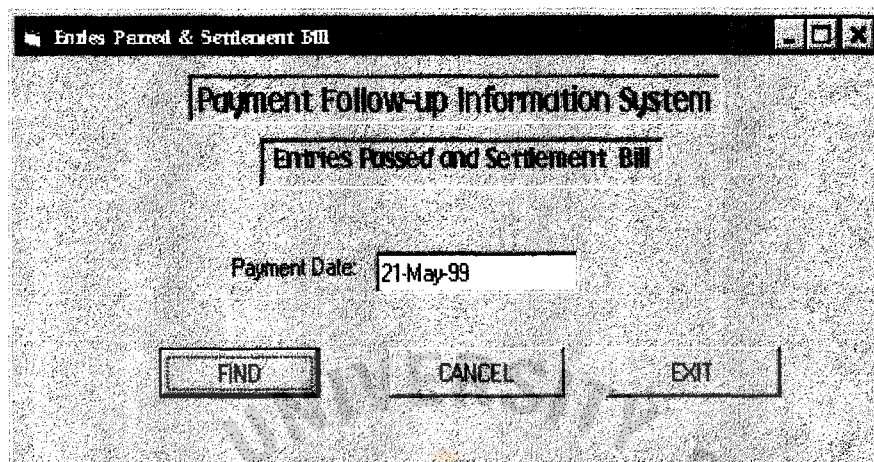


Figure G.11. Entries Passed Bill Screen.

#### Entries Passed Screen

1. After complete the Payment Bill Record, It will back to the Main menu Screen to choose the new function (Entries Passed Bill).
2. In the Entries Passed Bill Screen, you input the date of Payment Bill.
3. Then, you move the mouse to click "FIND" button. it will show the Entries Passed Bill Records.

Entries Passed Bill Record

Payment Follow-up Information System

Entries Passed Bill Record

Date: 21-May-99

| ID | Reference Number | BRL Number | Paymer |
|----|------------------|------------|--------|
| 2  | 1011E097273-001  | L909700    | 5,     |
| 3  | 1011X208301-001  | L908801    | 5,     |
| 4  | 1011E098773-001  | L910351    | 5,     |
| 5  | 1011X208464-007  | L909745    | 5,     |

Data1

OK EXIT

Figure G.12. Entries Passed Bill Record Screen.

#### Entries Passed Bill Record Screen

1. After the Entries Passed Bill Record Screen show the records.
2. You move the mouse in each record and click at the record.
3. Then, move the mouse to the "OK" button and click it.
4. It will show the Entries Passed Bill Process Screen.
5. If you want to exit, you move to the "EXIT" and click it. It will show the Entries Passed Bill Screen.

**Payment Follow-up Information System**

**Entries Passed Bill Process**

Reference Number: 1011E097273-001 BRL Number: L909700

Value Date: 20-May-99 Paid Amount: USD 50,337.68

Paid Date: 21 May-99 Exchange Rate: 36.55

Convert To: THB 1,839,842.20

Less:

Foreign Bank Charges: THB 400.00 Cable Charges: THB 800.00

Revenue Stamp Charges: THB 23.00

Balance Amount: THB 1,838,619.20

OK CANCEL PRINT EXIT

Figure G.13. Entries passed Bill Process Screen.

#### Entries Passed Bill Process Screen

1. After this screen show, It will show the details of Reference Number, BRL Number, Value Date, Paid Date, Paid Amount, Current Exchange Rate, and Convert to Baht Amount.
2. Then, insert the details of Less Charge (Foreign Bank Charges, Cable Charges, and Revenue Stamp Charges).
3. After that, Click the "OK" button, it will calculate the Balance Amount and show in the Balance Amount box.
4. Last, moves the mouse to the "PRINT" button. It will print to the Receipt Bill in Figure G.14.

**Master Bank Public Company Limited**

**Receipt Bill**

|  |  |                  |                 |
|--|--|------------------|-----------------|
| Receipt No.  | 2507L923009  | Taxpayer ID No.  | 3 10 1 02477 7  |
| Reference Number:  | 1011E099666-004  |                  |                 |
| Company Name:  | Joh Joon Co.,Ltd.<br>2/307 Anusaowareechai-Condo.Floor.8<br>Paholyothin Soi 2/1 Phayathai<br>Bangkok 10400 Thailand                                  |                  |                 |
| Customer Code:   | 0001487370   | A/C No. Debited: | 359-3-01713-4   |
| Re:  | Our Export Bill No. 1011E099666-004<br>Under L/C No. AKI9900773<br>Charged by: Master Bank Public Company Limited, New York.<br>Invoice No. JJ-99133 |                  |                 |
| We have debited your account for the following items:  |  |                  |                 |
| Foreign Bank Charges   | USD  |                  | 122.00          |
| Exchange Rate \$ 39.630000000  | THB  |                  | 4,834.86        |
| Plus : Interest for delayed payment at 9.0000000 % P.A.<br>For 2 days ( Amount USD.24,642.24 ) |  |                  |                 |
| Interest Charges   | USD  |                  | 12.32           |
| From 06/10/99 to 15/10/99  | THB  |                  | 488.24          |
| Less : Transmittal Period 7 days = 2 day   |  |                  | -----           |
| Total Amount Debited   | THB  |                  | <u>5,323.10</u> |

Faithfully Yours,  
Bangkok Bank Public Co., Ltd.

Bangkok Bank Public Co.,Ltd.

Collector

Authorized Signature

Figure G.14. Receipt Bill Form.



Stored Bill

Payment Follow-up Information System

Stored Bill

H.O. ▼

☐ BRL No. L908801

☒ Ref. No. 1011X208301-001

SAVE FIND CANCEL EXIT

Record 1

Figure G.15. Storing Bill Screen.

### Storing Bill Screen

1. First, Move the mouse to the “H.O.” button and click down to choose the Group of Bill List.
2. Enter the BRL Number and Ref.No. in each box.
3. After that, move the mouse to click at the “SAVE” button. It will show the Storing Bill Record Screen.

Storing Bill Records

Payment Follow-up Information System

Storing Bill Records

Reference Number: 1011X208301-001

BRL Number: L908801

Date: 24-May-99

EXIT

Figure G.16. Storing Bill Record Screen.

#### Storing Bill Record Screen

1. After Storing Bill Records Screen show, the record will show the Reference Number, BRL Number, and Date of Storing.
2. Then, move the mouse to click the “EXIT” button to back to the Storing Bill Screen to enter the new record.
3. If the record isn't stored in the file, it will show in the next screen.

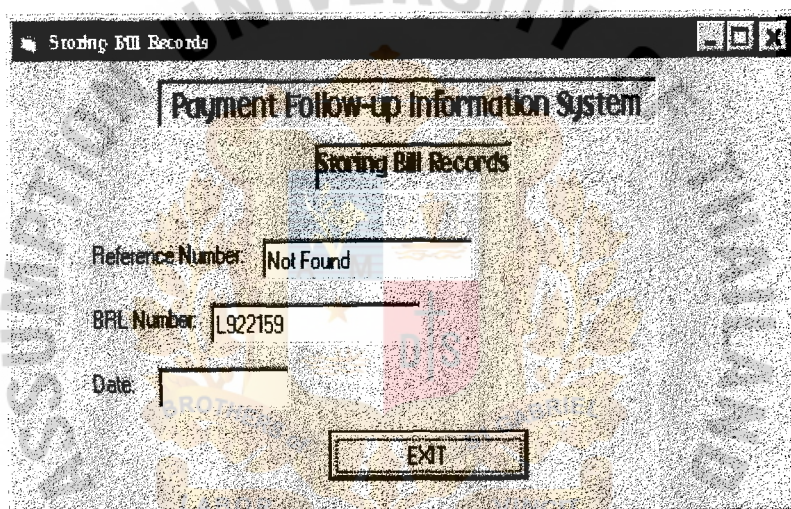


Figure G.17. Storing Bill Not Found Record Screen.



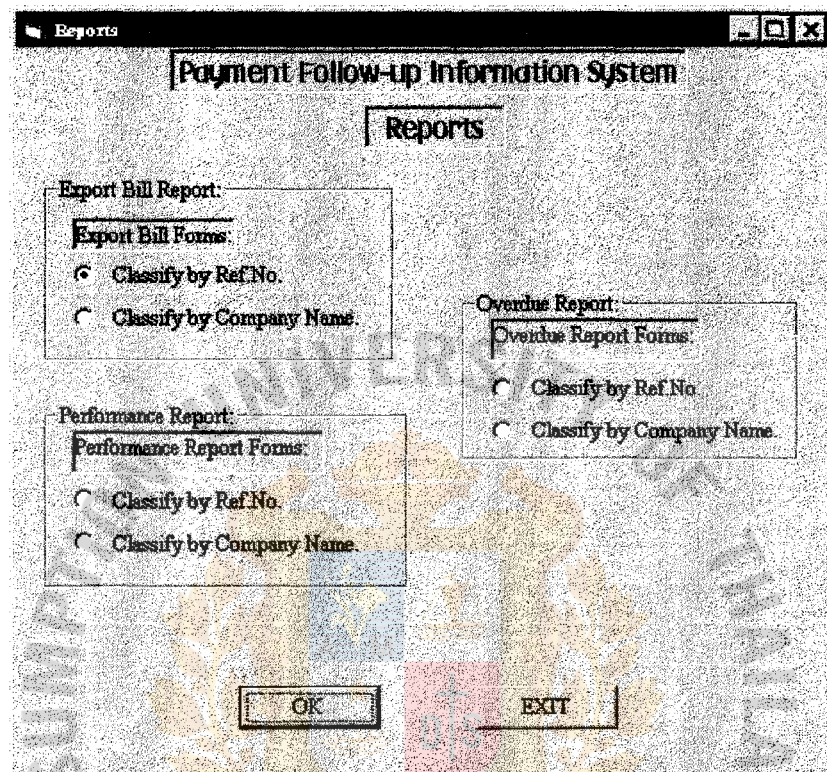


Figure G.18. Report Menu Screen.

### Reports Menu Screen

1. When you want to create the Daily Export Bill Report, you back to the Main Menu Screen and choose the Function No.7. and click it. It will show the Report Menu Screen.
2. Then, you move the mouse to the frame of Export Bill Report. And choose the sub menu in the frame if you want to classify by Reference Number you click at the option of it as in this screen.
3. After that, you move the mouse to the "OK" button and click it. It will show the Export Bill Lists Screen.

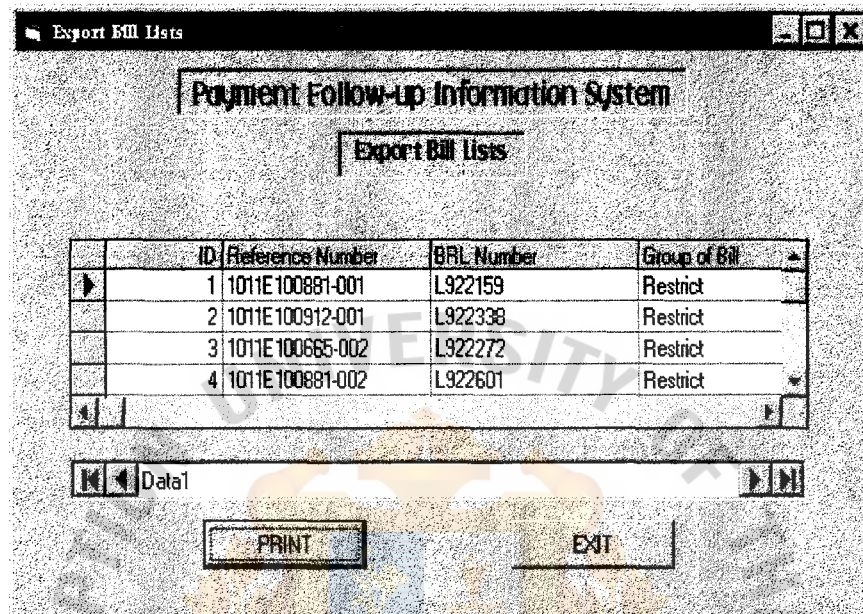


Figure G.19. Export Bill Lists Screen.

#### Export Bill Lists Screen

1. After the Export Bill Lists screen show, if you want to file or present the manager in this report.
2. You move the mouse to the "PRINT" button and click it. It will print the Export Bill Report as in the Figure H.1. in APPENDIX H.



**APPENDIX H**  
**REPORT FORMAT**

**Master Bank Public Company Limited**

**Export Bill Report**

Date: September 30, 1999

| ID | Reference Number | BRL No. | Type of Bill | Mailing Date | Curr. | Bill Amount | L/C Number     | Term Payment            | Specific Date | B/L Date |
|----|------------------|---------|--------------|--------------|-------|-------------|----------------|-------------------------|---------------|----------|
| 1  | 1011E100881-001  | L922159 | Sight        | 23-Sep-99    | USD   | 79,800.00   | 1079742        | At sight                |               | 20/09/99 |
| 2  | 1011E100912-001  | L922338 | Term         | 23-Sep-99    | USD   | 5,203.00    | 18/ST/8150/99  | 120 days sight          |               | 20/09/99 |
| 3  | 1011E100665-002  | L922272 | Term         | 23-Sep-99    | USD   | 16,830.00   | DPCNDH992223   | 90 days from ship. date | 15/12/99      | 16/09/99 |
| 4  | 1011E100881-002  | L922601 | Sight        | 23-Sep-99    | USD   | 52,000.00   | 1079742        | At sight                |               | 25/09/99 |
| 5  | 1011E097273-009  | L922119 | Sight        | 23-Sep-99    | USD   | 63,500.00   | LLC07800017283 | At sight                |               | 15/09/99 |
| 6  | 1011X208301-005  | L922341 | Term         | 22-Sep-99    | USD   | 25,450.00   | 873-2000-814   | 45 days after B/L date  | 01/11/99      | 17/09/99 |
| 7  | 1011E100912-002  | L922540 | Term         | 23-Sep-99    | USD   | 8,100.00    | 18/ST/8150/99  | 120 days Sight          |               | 27/09/99 |
| 8  | 1011X208464-020  | L922311 | Approved     | 23-Sep-99    | USD   | 21,000.00   | S-584-2000287  | At sight                |               | 25/09/99 |
| 9  | 1011E100665-004  | L922510 | Term         | 29-Sep-99    | USD   | 18,560.00   | DPCNDH992223   | 90 days from ship. date | 21/12/99      | 22/09/99 |
| 10 | 1011E098773-016  | L922118 | Sight        | 23-Sep-99    | USD   | 15,460.00   | LI/711276      | At sight                |               | 23/09/99 |
|    | TOTAL :          | 10      |              |              | USD   | 305,903.00  |                |                         |               |          |

Figure H.1. Export Bill Report Classify by Ref.No.

**Master Bank Public Company Limited**

**Overdue Report**

Date: September 30, 1999

| ID      | Reference Number | Due Date | Curr. | Bill Amount | Company Name             |
|---------|------------------|----------|-------|-------------|--------------------------|
| 1       | 1011E100881-001  | 30/09/99 | USD   | 79,800.00   | Transamut Co.Ltd.        |
| 2       | 1011E100665-001  | 30/09/99 | USD   | 16,830.00   | HMC Polimers C.L.        |
| 3       | 1011X208464-020  | 30/09/99 | USD   | 21,000.00   | S.J.I. Marketing Co.Ltd. |
| 4       | 1011E098773-016  | 30/09/99 | USD   | 15,460.00   | Chai Wattana Tanery...   |
| Total : |                  | 4        | USD   | 133,090.00  |                          |

Figure H.2. Overdue Report Classify by Ref.No.



## Master Bank Public Company Limited

### Performance Report

Date: September 30, 1999

| ID | Company Name       | Reference Number | Amount (THB)  | A/C No.       |
|----|--------------------|------------------|---------------|---------------|
| 1  | Asia Cement PCL.   | 1011E100443-001  | 1,800,000.00  | 101-6-44378-2 |
| 2  | Asia Cement PCL.   | 1011X221746-011  | 724,800.00    | 101-6-44378-2 |
| 3  | Asia Cement PCL.   | 1011X196796-003  | 1,031,600.00  | 101-6-44378-2 |
|    | Total :            | 3                | 3,556,400.00  |               |
| 4  | HMC Polimers PCL.  | 1011E100881-001  | 3,192,000.00  | 101-4-67244-5 |
| 5  | HMC Polimers PCL.  | 1011E100881-002  | 2,180,000.00  | 101-4-67244-5 |
| 6  | HMC Polimers PCL   | 1011X208464-020  | 840,000.00    | 101-4-67244-5 |
|    | Total:             | 3                | 6,212,000.00  |               |
| 7  | Saha Union PCL(PK) | 1011X225147-001  | 1,545,000.00  | 101-3-15047-3 |
| 8  | Saha Union PCL(LP) | 1011X221746-011  | 724,800.00    | 101-3-17879-5 |
| 9  | Saha Union PCL(BC) | 1011X196782-005  | 1,031,600.00  | 101-3-24469-1 |
| 10 | Saha Union PCL(PK) | 1011E100116-001  | 774,690.64    | 101-3-15047-3 |
|    | Total:             | 4                | 14,783,033.16 |               |

Figure H.3. Performance Report Classify by Company Name.

# Master Bank Public Company Limited

## Confirm Due Date Report

Month: September 1999

| Due Date | Reference Number | Term of Payment               | Amount         | Issuing Bank                                | Remark    |
|----------|------------------|-------------------------------|----------------|---|-----------|
| 1/11/99  | 1011E100454-001  | 60 days after sight           | USD 51,600.00  | Fibi Bank (UK) PLC, London, UK.             | Remit No  |
| 3/11/99  | 1011X223206-010  | 30 days from B/L date         | USD 48,646.08  | First Union National Bank, Charlotte.       | Remit No  |
| 7/11/99  | 1011E100588-001  | 60 days after sight           | USD 51,600.00  | Fibi Bank (UK) PLC, London, UK.             | Remit No  |
| 8/11/99  | 1011X237146-001  | 30 days after B/L date        | USD 83,700.00  | Bank of Nova Scotia, Montreal Canada        | Remit Yes |
| 8/11/99  | 1011X237147-001  | 30 days after B/L date        | USD 72,992.70  | Bank of Nova Scotia, Montreal Canada        | Remit Yes |
| 8/11/99  | 1011X231842-001  | 30 days after B/L date        | USD 12,600.00  | Banca Commercial Italiana SPA, Ravenna.     | Remit No  |
| 14/11/99 | 1011X234539-001  | 30 days after B/L date        | USD 31,703.01  | Bank of Tokyo-Mitsubishi Ltd., Duesseldorf. | Remit No  |
| 15/11/99 | 1011X233430-003  | 30 days after the date of B/L | USD 10,920.00  | Bank Polska Kasa Opieki S.A., Poland.       | Remit No  |
| 16/11/99 | 1011X239769-001  | 45 days from B/L date         | USD 156,427.44 | Banca Monte Dei Pashi Di Siana, Italy       | Remit No  |
| 17/11/99 | 1011X241270-001  | 30 days after shipment date   | USD 4,593.98   | UBS. AD., Opfikon., Switzerland.            | Remit No  |

Figure H.4. Confirm Due Date Report.



**Master Bank Public Company Limited**  
Daily Summary Performance classified by Company Name.

At 20 September 1999

Group of Bill : H.O.

(Amount : Baht)

| ID.<br>No. | Company<br>Name        | Number<br>of Bill | Bill<br>Amount | Income Amount        |                  |           | Total<br>Amount |
|------------|------------------------|-------------------|----------------|----------------------|------------------|-----------|-----------------|
|            |                        |                   |                | Foreign Bank Charged | Interest Charged | Others    |                 |
| 1          | Asia Cement PCL.       | 5                 | 4,550,800.00   | 25,000.00            | 2,400.00         | 1,500.00  | 28,900.00       |
| 2          | Chai Wattana Tanery... | 12                | 28,570,900.00  | 60,000.00            | 14,000.00        | 3,600.00  | 77,600.00       |
| 3          | HMC Polimers C.L.      | 8                 | 18,540,250.00  | 40,000.00            | 9,000.00         | 2,400.00  | 51,400.00       |
| 4          | S.J.I. Marketing C.L.  | 6                 | 15,445,500.00  | 30,000.00            | 7,500.00         | 1,800.00  | 39,300.00       |
| 5          | Transamut Co.,Ltd.     | 25                | 45,500,000.00  | 125,500.00           | 35,000.00        | 9,500.00  | 170,000.00      |
|            | Total                  | 56                | 94,067,200.00  | 280,500.00           | 67,900.00        | 18,800.00 | 367,200.00      |

Figure H.5. Daily Summary Performance classified by Company Name Report.

**Master Bank Public Company Limited**  
**Daily Summary Performance classified by Company Name.**  
**At 20 September 1999**

(Amount : Baht)

| Group of Bill : Restrict (B) |                       |                |                |                      |                  |              |
|------------------------------|-----------------------|----------------|----------------|----------------------|------------------|--------------|
| ID. No.                      | Company Name          | Number of Bill | Bill Amount    | Income Amount        |                  | Total Amount |
|                              |                       |                |                | Foreign Bank Charged | Interest Charged | Others       |
| 1                            | Asia Cement PCL.      | 2              | 2,500,255.00   | 10,000.00            | 800.00           | 600.00       |
| 2                            | Chai Wattana Tanery   | 5              | 4,500,500.00   | 25,000.00            | 2,400.00         | 1,500.00     |
| 3                            | HMC Polimers C.L.     | 6              | 12,148,000.00  | 30,000.00            | 7,500.00         | 1,800.00     |
| 4                            | S.J.I. Marketing C.L. | 4              | 955,000.00     | 20,000.00            | 6,000.00         | 1,200.00     |
| 5                            | Transamut Co.,Ltd.    | 5              | 3,500,000.00   | 25,000.00            | 2,400.00         | 1,500.00     |
|                              | Total                 | 22             | 23,603,755.00  | 110,000.00           | 19,100.00        | 6,600.00     |
|                              | Grand Total           | 78             | 117,670,955.00 | 390,500.00           | 87,000.00        | 25,400.00    |
|                              |                       |                |                |                      |                  | 502,900.00   |

Figure H.6. Daily Summary Performance classified by Company Name Report(Continue).

**Master Bank Public Company Limited**  
**Daily Summary Payment Bills classified by Currencies**  
**At 20 September 1999**

Group of Bill : H.O.

| Curr. | Sight   |                | Term    |               | Claim   |               | Approved |               | Total   |                |
|-------|---------|----------------|---------|---------------|---------|---------------|----------|---------------|---------|----------------|
|       | # Bills | Amount         | # Bills | Amount        | # Bills | Amount        | # Bills  | Amount        | # Bills | Amount         |
| USD   | 80      | 40,000,000.00  | 15      | 6,500,000.00  | 30      | 15,000,000.00 | 15       | 15,000,000.00 | 140     | 76,500,000.00  |
| JPY   | 15      | 65,000,000.00  | 5       | 15,000,000.00 | 10      | 30,000,000.00 | 0        | 0             | 30      | 110,000,000.00 |
| HKD   | 10      | 5,000,000.00   | 0       | 0             | 0       | 0             | 0        | 0             | 10      | 5,000,000.00   |
| SGD   | 10      | 5,000,000.00   | 5       | 2,500,000.00  | 0       | 0             | 0        | 0             | 15      | 7,500,000.00   |
| Total | 115     | 115,000,000.00 | 25      | 24,000,000.00 | 40      | 45,000,000.00 | 15       | 15,000,000.00 | 195     | 199,000,000.00 |

Figure H.7. Daily Summary Payment Bills classified by Currencies.



## **APPENDIX I**

### **MODULE SPECIFICATION**

## MODULE SPECIFICATION

### Payment Follow-up Information System.(Module)

**Module Description:** The system that provides Export services for users by using the computerized system.

**Location:**

#### Structure Chart

**Calls:** Input New Record (Module 1)

**Returned Couple:**

Export New Record (Data Couple)

**Calls:** Display & Follow-up Document (Module 2)

**Returned Couple:**

Follow-up Records (Data Module)

**Calls:** Update Payment Bills (Module 3)

**Returned Couples:**

Payment Record (Data Couple)

Update Record (Data Couple)

**Calls:** Entries Passed & Settlement (Module 4)

**Passed Couple:**

Payment Record (Data Couple)

**Returned Couple:**

Storing Record (Data Couple)

**Calls:** Make the Report (Module 5)

**Passed Couples:**

Export Bill Records (Data Couple)

Payment Records (Data Couple)

Update Records (Data Couple)

Storing Records (Data Couple)

Returned Couple:

Reports (Data Couple)

#### Interactive Programs (Interactive Module)

Module Description: Retrieve information of members who request the services.

Location:

Expanded Payment Follow-up System

Called by: Update Export Bills Record (Module 1.0)

Returned Couple:

Export New Records (Data Couple)

Called by: Update Follow-up Date Record (Module 2.0)

Returned Couple:

Follow-up Records (Data Couple)

Called by: Update Payment Record (Module 3.0)

Returned Couples:

Payment Records (Data Couple)

Update Records (Data couple)

Called by: Update Store Record (Module 4.0)

Passed Couple:

Payment Records (Data Couple)

Returned Couple:

Storing Records (Data Couple)

Called by: Update Form (Module 5.0)



**Passed Couple:**

**Form Code (Data Couple)**

**Returned Couple:**

**Form (Data Couple)**

**Called by: Generate Report (Module 6.0)**

**Passed Couples:**

**Export Bill Records (Data Couple)**

**Payment Records (Data Couple)**

**Update Records (Data Couple)**

**Storing Records (Data Couple)**

**Returned Couple:**

**Reports (Data Couple)**

**Update Forms (Module)**

**Module Description:** The process, which updates forms of each bill before users will provide follow-up service.

**Location:**

**Structure Chart**

**Called by: Update Sight Form (Module 5.1)**

**Passed Couple:**

**Sight Form Code (Data Couple)**

**Returned Couple:**

**Sight Record (Data Couple)**

**Called by: Update Term Form (Module 5.2)**

**Passed Couple:**

**Term Form Code (Data Couple)**

**Returned Couple:**

**Term Record (Data Couple)**

**Called by: Update Claim Form (Module 5.3)**

**Passed Couple:**

**Claim Form Code (Data Couple)**

**Returned Couple:**

**Claim Record (Data Couple)**

**Called by: Update Re-Claim Form (Module 5.4)**

**Passed Couple:**

**Re-Claim Form Code (Data Couple)**

**Returned Couple:**

**Re-Claim Record (Data Couple)**

**Called by: Update Receipt Form (Module 5.5)**

**Passed Couple:**

**Receipt Form Code (Data Couple)**

**Returned Couple:**

**Receipt Record (Data Couple)**

**Called by: Update M1FRM Record (Module 5.1.1)**

**Passed Couple:**

**M1 Code (Data Couple)**

**Returned Couple:**

**M2 Form (Data Couple)**

**Called by: Update M2FRM Record (Module 5.1.2)**

**Passed Couple:**

**M2 Code (Data Couple)**

**Returned Couple:**

**M2 Form (Data Couple)**

**Called by: Update F1FRM Record (Module 5.2.1)**

**Passed Couple:**

**F1 Code (Data Couple)**

**Returned Couple:**

**F1 Form (Data Couple)**

**Called by: Update F2FRM Record (Module 5.2.2)**

**Passed Couple:**

**F2 Code (Data Couple)**

**Returned Couple:**

**F2 Form (Data Couple)**

**Called by : Update F3FRM Record (Module 5.2.3)**

**Passed Couple:**

**F3 Code (Data Couple)**

**Returned Couple:**

**F3 Form (Data Couple)**

**Called by: Update F4FRM Record (module 5.2.4)**

**Passed Couple:**

**F4 Code (Data Couple)**

**Returned Couple:**

**F4 Form (Data Couple)**

**Called by: Update 742FRM Record (Module 5.3.1)**

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Passed Couple:

742 Code (Data Couple)

Returned Couple:

742 Form (Data couple)

Called by: Update CLM1 Record (Module 5.3.2)

Passed Couple:

CLM1 Code (Data couple)

Returned Couple:

CLM1 Form (Data couple)

Called by: Update CLM2 Record (Module 5.3.3)

Passed Couple:

CLM2 Code (Data Couple)

Returned Couple:

CLM2 Form (Data couple)

Called by: Update R1FRM Record (Module 5.4.1)

Passed Couple:

R1 Code (Data Couple)

Returned Couple:

R1 Form (Data Couple)

Called by: Update R2FRM Record (Module 5.4.2)

Passed Couple:

R2 Code (Data Couple)

Returned Couple:

R2 Form (Data Couple)

Called by: Update R3FRM Record (Module 5.4.3)

**Passed Couple:**

**R3 Code (Data Couple)**

**Returned Couple:**

**R3 Form (Data Couple)**

**Called by: Update CRFRM Record (Module 5.5.1)**

**Passed Couple:**

**CR Code (Data Couple)**

**Returned Couple:**

**CR Form (Data Couple)**

**Called by: Update DRFRM Record (Module 5.5.2)**

**Passed Couple:**

**DR Code (Data Couple)**

**Returned Couple:**

**DR Form (Data Couple)**

## **Generate Reports (Module)**

**Module Description:** The process, which generates all needed, reports that involves the Export services transaction after providing service to users.

**Location:**

### **Structure Chart**

**Called by: Export Bill Report (Module 6.1)**

**Passed Couple:**

**Export Bill Information (Data Couple)**

**Returned Couple:**

**Export Bill Report (Data Couple)**

**Called by: Overdue Report (Module 6.2)**

Passed Couple:

Overdue Information (Data Couple)

Returned Couple:

Overdue Report (Data Couple)

Called by: Performance Report (Module 6.3)

Passed Couple:

Total Information (Data Couple)

Returned Couple:

Performance Report (Data Couple)

Called by: Form1 (Module 6.1.1)

Passed Couple:

Export Bill Form1 Code (Data Couple)

Returned Couple:

Export Bill Report1 (Data Couple)

Called by: Form2 (Module 6.1.2)

Passed Couple:

Export Bill Form2 Code (Data Couple)

Returned Couple:

Export Bill Report2 (Data Couple)

Called by: Form1 (Module 6.2.1)

Passed Couple:

Overdue Form1 Code (Data Couple)

Returned Couple:

Overdue Report1 (Data Couple)

Called by: Form2 (Module 6.2.2)



**Passed Couple:**

**Overdue Form2 Code (Data Couple)**

**Returned Couple:**

**Overdue Report2 (Data Couple)**

**Called by: Form1 (Module 6.3.1)**

**Passed Couple:**

**Performance Form1 Code (Data Couple)**

**Returned Couple:**

**Performance Report1 (Data Couple)**

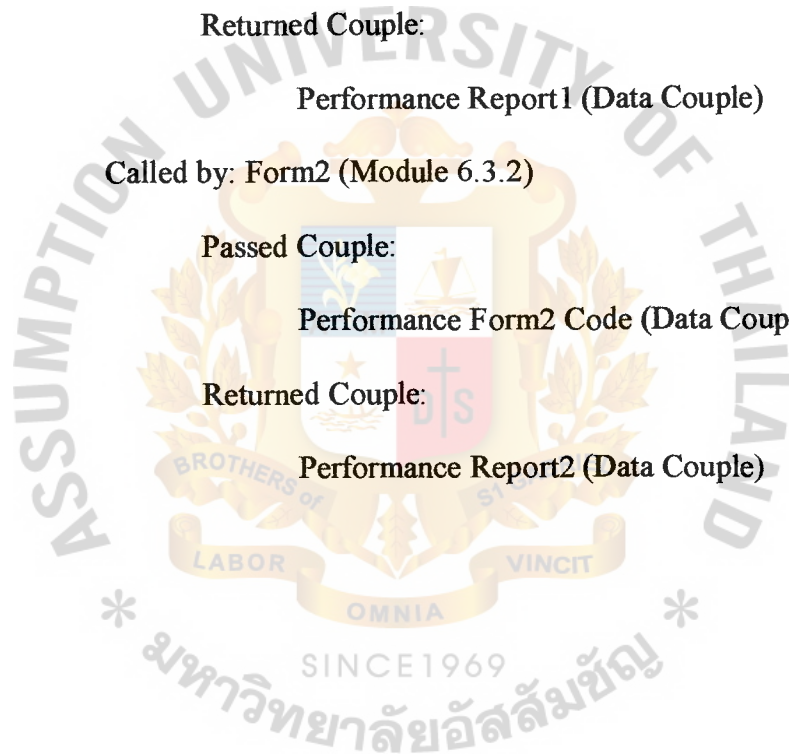
**Called by: Form2 (Module 6.3.2)**

**Passed Couple:**

**Performance Form2 Code (Data Couple)**

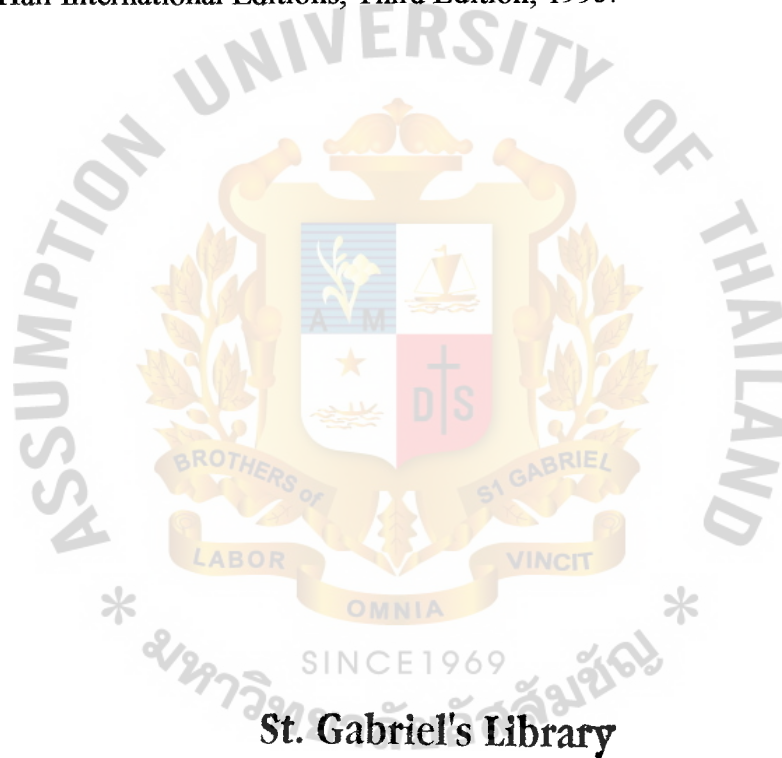
**Returned Couple:**

**Performance Report2 (Data Couple)**



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