INFORMATION SYSTEM SUPPORT OF ORGANIZATION

by

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Final Report of the Three-Credit Course CS 6998 System Development Project

Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Computer Information Systems Assumption University

April, 1997
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The Graduate School of Assumption University had 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

Nowadays, in the organization, we need a centralized information system support center to handle the organization’s information needs and to provide data processing and information-related services to every department or all users in the organization. The growth in the use of computing services was so rapid, the new technologies has never easily to learning by users. So that, the information system support of organization must be provided facilities to use a computer system for the end user or provide a user-friendly system and including can control the processes from the starting process until the end or the job has accomplished.

The new proposed system in this system development project will be developed from the existing system that have some process in manual by apply a computerized information system to perform the following activities:

- Control a services to be accomplished in agreement time.
- Keeping record every request from the user and can retrievable.
- Record hardware usage for inventory control.
- Provide a problem management facilities.
- Effective use of information services.

The benefit of a new system have not just only direct to the users but also provides indirect benefit to the organization such as reduce unnecessary paperwork, reduce error of process flow and help management to monitor the progress of jobs and performance of ongoing system.
ACKNOWLEDGEMENTS

This system development project cannot be completed without kindly advice and cooperation of many people. I would like to deserve special thanks to my advisor; Dr. Thotsapon Sortrakul who spend more time for advising me the collect way to developing the existing system, debugged the project and many suggestion to be accomplished the project. And also many thanks to the Project Committee, Members of the Graduate School for their advises. And I would also like to thanks Dr. Jen Seriwattanathamma, Miss Korawan, and many relative staff of Telecom Asia Public Company Co.,Ltd. who kindly cooperates and provides many information during my project work. And I fell indebted to all instructors who taught me in Computer Information System Course and apply this knowledge to use in system development project.
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1. INTRODUCTION

In order for information to be value to management and decision makers and information system center is valuable resource for end users. So that, it must contain several characteristics. Information system should be accurate, complete, economical, flexible, reliable, simple to understand, timely, and verifiable. In this project, It has designed to support the above characteristics and also including produce a variety of reports, user interface screens, and classified processes via several types of structured model.

1.1 Background of the project

In Telecom Asia Corporation Public Company limited, which I used as a case study of this project, have a one department that called MIS Department. The responsibility of this department is to support an internal users in the organization by providing a services related to an information system such as trouble shooting in hardware, software, network problems, provide a new hardware and software installation and set up, and also produces a statistical report about the performance of the system to a management. But the company is rapidly expansion. There are more employees, cause more requests to services from MIS department and the existing system cannot handle a large amount of requests from users for each department that involve in more paperwork, hard to control the process flow from the user request until the request is completed done. And often, the MIS staff forgot to follow up a pending problem which cannot solved the problem from the first time and including the management cannot monitor a performance for each section in MIS department.
Therefore, we need to develop the existing system to make it more efficiently and clarify the problems by the proposed system which we called Information System Support of Organization (ISS) to control the data and process flow from the starting process until the job is completed done.

The working processes procedure of existing systems are; In the first stage, a user had to write a User Request form (UR) to describe the information service needs, identify the priority of the request, send to his or her manager for approval and send its to UR section of MIS department. UR section will assign the UR number that used as the reference number for user, and verify the request is completed information filling, and then preliminary analyze a problem, copy UR form, and send a copied UR to responsible section and recorded the request in the log book. After responsible sections had received a request. They will collect more information by asking from the end users who sent the UR form and solve the problems for them. If the request is needed to purchase new equipment. In case of new product, MIS department will test the new product at Research and Development Section to ensure that product can be used without a problem. And in case of a product is not different from the past, MIS Department will issue the Purchase Request to purchasing department to carry on the process of purchasing a product form vendor. After the completed solving the problem by responsible sections. They will make a copy of UR form and kept one for their own and original UR is sent back to UR section to update a status of request or problem and record the solution in the log book. After UR section had received confirmation from the user, they will be closed the job.
1.2 Objectives

The objectives of the system development project on information system support of organization are described as follows:

- To reduce the error during the process flow from end user to MIS department.
- To reduce unnecessary paperwork.
- Improve work quality and increase productivity.
- To help management in decision making, planning and monitoring the performance of each section in MIS department.
- To use a new system to keep tracking in a pending request/problem.
- To control the job to be accomplished on the agreement.
- To control the hardware usage
- To reduce time of process flow and cost of paperwork.
- Avoidance of communication problem between end user and MIS department.
- To reduce unnecessary procedure in request for a service from MIS department.

1.3 Scope

The project covers major part of the Information System of Organization which are described as follows:

1. Analyze the existing system:
   - To manage a user request through a computer system.
   - To provide an inventory control of hardware usage.
   - To provide an information about the status of request and assigned responsible sections.
- To provide an information about a service level agreement that specifies the response target time and target fix time when received a user request.

2. Design a new system

   The logical design

   - Design an output of computer system (screen output and report).
   - Design an input of computer system through the input screen.
   - Design an processing via using Data Flow Diagram.
   - Design a file and database format.

   The physical design

   - Design the computer hardware configuration.
   - Design a hard copy reports.
   - Determines contents of data dictionary.
   - A comparison of cost and benefit of proposed system.

The deliverable for the project on Information System Support of Organization are described as follow:

1. A software package written in Foxpro for Window Version 2.6
2. Screen layouts for user interfaces.
3. Various hard copy lay outs contain:
   3.1 Status report
   3.2 Pending request report
   3.3 Responsible report
   3.4 Service level agreement report
3.5 Hardware inventory control report

3.6 Meet target job report

3.7 High priority request report

3.8 Medium priority request report

3.9 Low priority request report
2. EXISTING SYSTEM

2.1 Background of the organization

TelcomAsia Corporation Public Company Limited was awarded a concession by the Thai Government to construct and install a network of 2.6 million telephone lines in Greater Bangkok and to operate this network for a period of 25 years. This massive project is in the form of a joint undertaking with the Telephone Organization of Thailand (TOT). The original contract establish the project as a joint venture between the company and the TOT and committing the parties to construction and installation of a network of 2 million telephone lines was authorized and signed on August 2, 1991. An additional 600,000 lines were formally approved thereafter in signing ceremony on September 8, 1995. Initially known as CP Telecommunication Co., Ltd., the company later changed its name to TelecomAsia Co., Ltd. On February 11, 1993, the company was registered with the Stock Exchange of Thailand as a public company and so acquired its present designation, i.e. TelecomAsia Corporation Public Company Limited.

Within the company, Telecom Asia has chosen the new technology in computerized system to support internal user’s needs within organization. So that the company has established the Management Information System department as an internal information services provider of organization. The computing system consists of variety of computer networking such as mainframe, UNIX, LAN environment and its have many kind of applications that run over each system to support a variety of user’s requirement style in each department and each branch of the company. In MIS department, It also offered the services in problem solving of hardware, software, network problem when received requesting from end user.
We classified the applications into three parts as follows:

PC/LAN Environment

Operating Platforms
- MS-DOS, MS-Window for Workgroup version 3.11
- Novell Netware version 4.0

Software Packages
- MS-Office (Word, Excel, Powerpoint)
- MS-Project
- Foxpro for Window
- Visco
- MS-Mail
- AutoCAD
- SPSS+

Application Supported
- Payroll System
- Project Management System
- Customer Demand Information (CDI)
- Geographical Information System (GIS)
- Fixed Asset Classification Tool (FACT)
- Electronic Library
- Netware for SAA (Gateway)
- Document Image System
- Executive Information System (EIS)

Mini Computer Environments

Various operating Platforms depending on application packages

- Hardware : Sun, HP, DEC, Integraph, AViiON
- Operating System : UNIX, VMS, Magic
- DBMS : Informix, in-house developed software
- Development Tools : Informix 4GL, C/C++, MAGIC, Cobol

Applications Supported

- Engineering Record System (ERS)
- Computerized Directory Assistance System (CDAS)
- Line Test System (LTS)
- Traffic Measurement System
- Video Text System
- Wizards : Subscriber Management System for UTV.
- Mechanized Switch Translation (MST)

Mainframe Environment

Computerized Customer Services System (CCSS)

- Operational Support System for Customer Services
  - Service Order Processing
  - Inside/Outside Plant Records
  - Billing, Payment & Collection
- Fault Administration

SAP Applications

- Financial Systems
  - General Accounting
  - Cost Accounting
  - Capital Project Accounting
  - Fixed Assets Accounting
  - Budgeting
  - Account Payable

- Logistics Systems
  - Material Management
  - Purchasing
  - External Services Management

- Administration Systems
  - Human Resources Management System

The Organization Chart of MIS is shown in Figure 2.1
Figure 2.1 MIS Organization Chart
2.2 Existing Function

In order to providing a services to meet a user requirements and completed job within a service level agreement. MIS department has been established the work procedure as follows :

1. A user is written the User Request Form (UR) in the part of End-user information in UR and identify the priority of the request by definition following :
   - High : For the urgent or very important request. This request is effect to the whole system.
   - Medium : For the important request but can use the other system to do the job temporary.
   - Low : For a normal request.

2. A user send a UR form to his manager for approval and then sent to MIS/User Request section.

3. MIS/User Request section will assign UR number for the request and sent this request to related section such as PC support, Network support to take responsibility.

The description of UR number is described as follow :

UR number description : consists of 8 digits “xx-xx-xxxx”:
- The first 2 digits are year.
- The second 2 digits are month.
- The third 4 digits are running number for each UR per month.

For example : 96-04-023
- It means this request dated on April, 1996 and request number is 023.

4. The responsible section will collect more information related the request and assign their own system number as describing following :
System number description: consists of 7 digits “xxx-xxxx”.

- The first 3 digits are application request.
- The second 4 digits are system running number for each section.

For example: SAP-0002

- It means this request for service of SAP application and system running number is 0002.

5. The responsible section follow up the problem and solving for user.

6. If the request is required to purchasing. We can separated this request into two cases as follow:

6.1 Request for new product. UR section will forward the request to Research and Development section to test a new product. If the result is passed, MIS will issues the purchase request to the Purchasing department to issue purchase order and sent to vendor. If the result is not passed, R & D will deny this request and inform back to the user with recommendation how to use a new one instated.

6.2 The product is not different from the past. MIS will issue the purchase request to Purchasing department to carry on the purchasing process.

7. After the responsible sections solved the problem. They will make a copy of UR form, one for their own and original UR sent back to User Request section to update the status of the request and record solution in the log book.

8. At the end of week, MIS department/User Request section will collect data from the log book and input the summarized data on the spreadsheet package software to create a report to management.
Figure 3.1 User Request Form of existing system
### Purchase Order

**Telecomasia Corporation Public Company Limited.**

**PURCHASE ORDER**

<table>
<thead>
<tr>
<th>NO.</th>
<th>MATERIAL DELIVERY DATE</th>
<th>QUAN.</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>AMOUNT/BATH</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>00002641 22.11.96</td>
<td>1 PIECE</td>
<td></td>
<td>60.00</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>00002640 22.11.96</td>
<td>1 PIECE</td>
<td></td>
<td>60.00</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>00002639 20.11.96</td>
<td>1 PIECE</td>
<td></td>
<td>30.00</td>
<td>30.00</td>
</tr>
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<td></td>
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<td>004</td>
<td>00002641 20.11.96</td>
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<tr>
<td>005</td>
<td>00002640 25.11.96</td>
<td>1 PIECE</td>
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<tr>
<td>007</td>
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<td></td>
<td>30.00</td>
<td>30.00</td>
</tr>
</tbody>
</table>

**Figure 3.2 Purchase Order of existing system**

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**KARN PIM SANG SAWANG**

**TELECOMASIA CORPORATION PUBLIC COMPANY LIMITED.**

**PURCHASE ORDER**

WE, TELECOMASIA CORPORATION PUBLIC COMPANY LIMITED, THE SELLER, HEREBY CONFIRM HAVING AGREED TO BUY FROM YOU THE UNDESMENTIONED MERCHANDISE ON THE TERMS AND CONDITIONS STATED HEREBEFORE.

**KARN PIM SANG SAWANG**

**TELECOMASIA CORPORATION PUBLIC COMPANY LIMITED.**

**PURCHASE ORDER**

WE, TELECOMASIA CORPORATION PUBLIC COMPANY LIMITED, THE SELLER, HEREBY CONFIRM HAVING AGREED TO BUY FROM YOU THE UNDESMENTIONED MERCHANDISE ON THE TERMS AND CONDITIONS STATED HEREBEFORE.

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WE, TELECOMASIA CORPORATION PUBLIC COMPANY LIMITED, THE SELLER, HEREBY CONFIRM HAVING AGREED TO BUY FROM YOU THE UNDESMENTIONED MERCHANDISE ON THE TERMS AND CONDITIONS STATED HEREBEFORE.
2.3 Current Problems and Areas for Improvements

2.3.1 More paperwork and cost is high for maintain documents because its done by manually.

2.3.2 The process flow is sophisticated and error can take place easily.

2.3.3 Hard to tracking the pending status of request. Because if we want to check the status of request, we can do by seeking from the starting until the end of the book to find out the pending status.

2.3.4 Inefficiency in hardware inventory control because the existing system is not have a record keeping of hardware usage.

2.3.5 It is difficult to produce a summary report to management. Nowaday, we can generate the report by collect the data from the log book and typing in spreadsheet software and print out to management.

2.3.6 It is difficult for MIS management to monitor the workload of each section in MIS department and also hard to predict the future trend of information system in organization.

2.3.7 It spends more time to organize the documents.

2.3.8 The existing system needed more people to control all documents.

2.3.9 Easy to loss of control in the process flow from starting at user sent request form until the request is completed done.

2.3.10 The MIS staff may be forgot to follow up a pending request/problem because it not have a system to tracking the pending request/problem.
3. PROPOSED SYSTEM

3.1 User Requirement

3.1.1 Output Requirements

1) To produce a reports by request or by tracking as follows:
   - Summary of all status of request report
   - Pending report
   - Summary request logging report
   - Hardware inventory control report
   - Service level agreement listing

2) Inquiry the information
   - Status of request in progress
   - Showing a request by tracking from a priority
   - Showing an assigned responsible section
   - Showing a hardware usage.

3.1.2 Input Requirements

- User Request Form
- Purchase Request Form
- Purchase Order Form

3.2 Hardware/Software Requirement

The proposed system will be connected to the Local Area Network of existing system and cooperate with Microsoft Mail. Because its provided facility to users that can
access from their workstations to a new proposed database server. And a users can use Microsoft Mail when need to forward the request to whom it may be concern. And we need one workstation for system administrative of the proposed system.

**Hardware Specification**

1. **File Server**
   
   AST Bravo MS P/166
   
   CPU Intel Pentium - 166 MHz
   
   Memory 32 MB
   
   Cache Memory - primary 16 KB
   
   - secondary 256 KB
   
   FDD one 1.44 MB
   
   Hard Disk 24 GB
   
   CD-ROM 8x
   
   Expansion slots - EISA = 4
   
   - PCI = 6
   
   Keyboard Enhance 101 keys keyboard
   
   Monitor 14" SVGA color monitor

2. **Workstation**

   AST Bravo MS P/100
   
   CPU Intel Pentium 100 MHz
   
   Memory 16 MB
   
   FDD one 1.44 MB
Hard Disk 1.2 GB
Keyboard Enhance 101 keys keyboard
Monitor 14” SVGA color monitor

3. Printer
   1
   EA

   HP LaserJet 5L

4. Network Interface Card
   2
   EA

   3Com EtherlinkIII adapter mode 3C509 Combo

Remark: Warranty term: 3 years for AST CPU.
1 year parts and labor free.

Software Specification

1. Network Operating System : Novell Netware V.3.12 for 50 users
2. Microsoft Windows for Workgroup V.3.11
3. Foxpro for Window V.2.6

For the application, We used in-house developed which written in Foxpro for
Window V.2.6
Figure 3.3 System Configuration
3.3 Security and Control

In MIS department establish tight system controls to maintain data security and protection against crime and fraud. These controls tough all aspects of the Management Information System department (MIS) as described below:

Input Control

This control’s objectives are to maintain input integrity and security and include eliminating data entry errors by using tight password and identification of user’s rights.

Processing Control

It deals with all aspects of control processing and storage. MIS department will set up the procedures that ensure processing is being conducted in as error-free a way as possible.

Output Control

To ensure that output is handled correctly by checking of system administration of MIS department.

Database Controls

To prevent unauthorized access to database. We control the database by limit user’s access view of information and include the use of identification numbers and passwords and also backup a critical data daily.

Personnel and Environment Control

We used a smart cards to prevent unauthorized people entering the computer room by define the ID badges and passwords.
3.4 System Design

The approach of system design is to break or partition a large, difficult system into smaller subsystems and it have the same components and interrelationships among the components as the existing system have, but each module is simple enough to manage and clarify independently. These modules are then reusable in new and different programs. And it is easier to modify and update over time.

The dataflow diagrams are shown in Appendix B and the data dictionary are described in Appendix E.

3.4.1 Database Design

The database models consist of three common models:
- Hierarchical or Tree Model
- Network Model
- Relational Model

In this system development project, we designed based on relational model because it is a conceptually simple and understanding easily for system analyst and end-user. All data elements are placed in two-dimensional tables that are logical equivalent of files. The files used in this proposed system are described as follows:

- ISS User Request file
- Status of all request file
- Summary logging file
- Purchase Request file
- Purchase Order file
- Hardware Inventory Control file
3.4.2 Input Design

The main objectives of designed input are providing easier to input data and reduce unnecessary paperwork via using a screen input of computing system as shown in Appendix C.

3.4.3 Output Design

The outputs of this project are shown in two ways; screen and report which illustrated in Appendix C.
3.5 Cost / Benefit Analysis

**Proposed system start-up cost**

**Equipments purchase**

- File Server 65,000 Baht
- Workstation 40,000 Baht
- Printer 14,500 Baht
- Ethernet Card 3,000 Baht
- FoxPro for Window 2,500 Baht

**Total 125,000 Baht**

**Remark:** All prices are based on specifications in hardware/software requirement.

**Proposed system operation cost**

- Salary one person (12,000 Baht/month) for one year 144,000 Baht
- Bonus two months 24,000 Baht

**Total 168,000 Baht**

**Grand total investment costs 293,000 Baht**

**System Benefit**

A. Intangible benefits

- Better end-user satisfaction.
- Better monitoring and evaluation the system.
- Centralized Information System (Easier to control).
- Reduce unnecessary operations and procedures.

B. Tangible benefits

1.) Reducing the number of employee to control paperwork of existing system.

- Salaries for 3 persons (12,000 Baht/month)

  for one year 432,000 Baht

- Bonus for 3 persons (2 months)

  72,000 Baht

  Total saving employment costs 504,000 Baht / year

2.) Reducing the number of paperwork.

We calculated the paper cost by:

For 1 request = 4 pages

40 requests / day = 160 pages

1,200 requests / month = 1,200 * 4 = 4,800 pages

14,400 requests / year = 4,800 * 12 = 57,600 pages

IF 1 ream (500 pages) = 95 Baht

57,600 pages = 116 reams = 11,020 Baht / year.

Total saving paperwork cost = 11,020 Baht / year

Grand total saving cost = 515,020 Baht / year
3.6 Payback Period

We computed how long to get the benefit from the proposed system by using a basic formula which after-tax payback of:

\[ P = \frac{I}{(1 - T) \cdot R} \]

Where 
- \( P \) = Payback
- \( I \) = Investment or capital expenditure
- \( T \) = Corporate tax rate (use 15%)
- \( R \) = Annual saving realized by invest

\[
\begin{align*}
\text{Payback} &= \frac{293,000}{(1-0.15) \cdot 51,5020} \\
&= 0.67 \text{ year} \\
&= 7 \text{ months}
\end{align*}
\]
4. PROJECT IMPLEMENTATION

4.1 Overview of Project Implementation Schedule and Resources Utilized

4.1.1 Program Implementation

The application programmers are developed from the structure chart which described the relationship of processing modules or program modules within the system and shown in Appendix D. And then, we perform written each module via using Foxpro for Window version 2.6.

4.1.2 Hardware Purchasing and Installation

We selected the vendor who provide and install a hardware by consider from quality of equipments, post-sales services and amount of time to shipping and installation equipments because we need a lead time to prepare a staff who operate the system.

4.1.3 Program Installation and Testing

After completed hardware installation from the vendor. We will install and set up an in-house application program by internal staff of the company for the case of security and reduce cost of installation. And its easier to debug a programs by the staff who developed this in-house application program.

The project plan is shown in Table 4.1
<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
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<tbody>
<tr>
<td>1</td>
<td>Activities</td>
<td>0d</td>
<td>01/11/96</td>
<td>01/11/96</td>
</tr>
<tr>
<td>2</td>
<td>System Analysis-existing system</td>
<td>17d</td>
<td>31/10/96</td>
<td>22/11/96</td>
</tr>
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<td>Identify existing system</td>
<td>7d</td>
<td>31/10/96</td>
<td>09/11/96</td>
</tr>
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<td>4</td>
<td>Gather requirements</td>
<td>6d</td>
<td>04/11/96</td>
<td>11/11/96</td>
</tr>
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<td>5</td>
<td>Context Diagram</td>
<td>11d</td>
<td>04/11/96</td>
<td>18/11/96</td>
</tr>
<tr>
<td>6</td>
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<td>10d</td>
<td>11/11/96</td>
<td>22/11/96</td>
</tr>
<tr>
<td>7</td>
<td>Detail analysis &amp; design-new system</td>
<td>27d</td>
<td>22/11/96</td>
<td>30/12/96</td>
</tr>
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<td>8</td>
<td>Develop the DFDs</td>
<td>16d</td>
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<td>13/12/96</td>
</tr>
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<td>10d</td>
<td>09/12/96</td>
<td>20/12/96</td>
</tr>
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<td>10d</td>
<td>09/12/96</td>
<td>20/12/96</td>
</tr>
<tr>
<td>11</td>
<td>Screen Layout</td>
<td>10d</td>
<td>16/12/96</td>
<td>27/12/96</td>
</tr>
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<td>12</td>
<td>Report Layout</td>
<td>11d</td>
<td>16/12/96</td>
<td>30/12/96</td>
</tr>
<tr>
<td>13</td>
<td>Implementation</td>
<td>35d</td>
<td>01/01/97</td>
<td>18/02/97</td>
</tr>
<tr>
<td>14</td>
<td>Pseudocode/system specification</td>
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<td>01/01/97</td>
<td>20/01/97</td>
</tr>
<tr>
<td>15</td>
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<td>15d</td>
<td>09/01/97</td>
<td>24/01/97</td>
</tr>
<tr>
<td>16</td>
<td>Testing</td>
<td>9d</td>
<td>29/01/97</td>
<td>08/02/97</td>
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<tr>
<td>17</td>
<td>Documentation</td>
<td>10d</td>
<td>05/02/97</td>
<td>18/02/97</td>
</tr>
</tbody>
</table>

| Project: PROJECT PLAN | Date: 20/03/97 |

| Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress |

Table 4.1 Project Plan
4.2 Test Plan and Results

We need a testing of system to ensure that no any errors in a programs, and output of the system are met the target of Information System Support of organization project.

We classified testing into three level as follows:

4.2.1 Program Testing

We performed testing each module independently of one another to detect an errors in coding and logic that are contained within that module alone. These resulting from the interaction between modules and initially avoided.

For example, an Information System Support of Organization consists of modules to handle user request data, service level agreement, request tracking, summary report, hardware inventory control, purchase request form, purchase order form, ISS user request form, and so on. For each, it provides the ability to enter, change, and retrieve data and response to inquiries or print reports to screen or to printer. And for the iteration module such as request tracking for a pending problem module. We tested by selected the menu that used for seeking in data files. The results of this module must be found correct data (such as display all pending problems) or examine the result back to screen correctly. (such as display "cannot be found any pending records"). Also with exit form the loop when it cannot be found any seeking data.

4.2.2 System Testing

After completed testing each module. We begin to testing the whole system modules to find discrepancies between the system, outputs are met original objectives, and compatibility of each module to ensure that the system is consistency.
For example, we selected a ISS User Request form choice from Main Menu. The system must be shown the ISS User Request screen layout, Top button, Previous button, Next button, End button, Locate button, Add button, Edit button, Delete button, Print button, and Close button at the bottom of screen. If we selected Add button, the system must be shown a filelds to input data and can exit without errors when completed input data.

4.2.3 Special System Testing

Peak Load Testing: To ensure that the system ability to handle many users one at a time without incident, hang up or access denies from the system.

Recovery Testing: By assume that the system is failed. The system must be reloaded and recovered from a backup copy files and continuos running without re-installation of the whole system.
4.3 Training Users

4.3.1 Purpose

- To develop staff’s capability in operate and control the proposed system.
- To provide staff in basic knowledge of the proposed system and can apply the knowledge in daily working.
- To prepare a staff for supporting a new requirement of company when the system needed to revised or modified.

4.3.2 Procedure

- A training center set up a course and training schedule by cooperate working with MIS staff.
- A training center distributed a course agenda and schedule to all department.
- In the department which interested the course will assign staff to attend a course.
- Training to a users by vendor and in-house application developer committee.

For the system operator, He must be known such basic as operate on the system, what to do when common error occur, basic troubleshooting, and how to entry data.

For the end-users, they must be known how to using the new proposed system, what job can be done by system and done by themselves.

- MIS department follow up and evaluate results of training from the users and adjust course description to meet user’s needs.
5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

In the organization, the information system is more importance because it can improve profitability of company and provide the all-important competitive advantage. Therefore, we need to developed the existing system by replacing the manual procedure with computing system. In this project, we mention on Information System Support of Organization which designed to support end-users in the organization for a request for services about information system.

The proposed system is provided a real-time information that is easily accessible at any time of day by general users, the computer expertise is not required. And also its help to reduce a paperwork, save cost, reduce delay times by allows users to interact with information system through their computer screens. This project is described each of activity associated with developing a computer-based information system. Starting at examine the existing system, analyze the existing system and design by using various methods based on System Development Life Cycle, until the producing of outputs as reports and display screens.

5.2 Recommendation

The one importance criteria in Information System Support of Organization is people. The people who control and operate the computing system which support all requests for services from end-users. They must be good knowledge in computer environment because they will provide an information by which users can request for advising on any facet of computing system. And they should have a basic analyze skill to
classified a problem for forwarding to responsible section to solving problems for users. And also they should have a service-mind. Because the system cannot operate efficiently without a good staff. These criterias can be done by provided a training for them. And after Information System Support of Organization has been installed. We do not stop at this phase. As a system analyst, we plan to improve the system that not only support for end user but also it can monitor MIS staff performance by adding more database related to a job after the PC or Network staff solved the problem for end-user such as record in their activities, time usage in solving problem, the name of MIS staff who solved the problem that help MIS management to evaluate their staff performance.

And to ensure that the new system is used maximum capability by evaluate a performance of new system after running at a period of time by make an enquiry with end-users stratification, management stratification and comparison of error reducing between the old system and the new system. To do this ways, Its results will show the trend to adopted information system to meet the organization needs and organization targets.
REFERENCES


Figure A.1 Context Diagram
APPENDIX B
DATA FLOW DIAGRAM
Figure B.1 Data Flow Diagram - level 0
Figure B.2 Data Flow Diagram - level 1 of process 1.0
Figure B.3 Data Flow Diagram - level 1 of process 2.0
Figure B. 4 Data Flow Diagram - level 1 of process 4.0
Figure B.5 Data Flow Diagram - level 1 of process 5.0
Figure B.6 Data Flow Diagram - level 1 of process 6.0
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Figure B.8  Data Flow Diagram - level 1 of process 8.0
APPENDIX C

SCREEN AND REPORT DESIGN
Figure C.1 Main menu screen
Figure C.2 Add a request information screen
Figure C.3  ISS User Request Form Screen
Figure C.4 Responsible screen
Figure C.5 Sort UR by priority screen
Figure C.6 Service level agreement screen
Figure C.7 Request tracking menu screen
Figure C.8 Request logging submenu screen
Figure C.9 Hardware inventory control screen
Figure C.10 Purchase request screen
Figure C.11 Purchase order screen
<table>
<thead>
<tr>
<th>Request Form</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UR NUMBER</strong></td>
<td>96040001</td>
</tr>
<tr>
<td><strong>PRIORITY</strong></td>
<td>low</td>
</tr>
<tr>
<td><strong>FIRST NAME</strong></td>
<td>sunda</td>
</tr>
<tr>
<td><strong>LAST NAME</strong></td>
<td>Chantawart</td>
</tr>
<tr>
<td><strong>DEPARTMENT</strong></td>
<td>co.</td>
</tr>
<tr>
<td><strong>ISSUE DATE</strong></td>
<td>28/04/96</td>
</tr>
<tr>
<td><strong>TEL NUMBER</strong></td>
<td>2839</td>
</tr>
<tr>
<td><strong>DATE REQUIRED</strong></td>
<td>12/05/96</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Install LANs</td>
</tr>
<tr>
<td><strong>AMOUNT</strong></td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Request Form</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UR NUMBER</strong></td>
<td>96040002</td>
</tr>
<tr>
<td><strong>PRIORITY</strong></td>
<td>low</td>
</tr>
<tr>
<td><strong>FIRST NAME</strong></td>
<td>Somchai</td>
</tr>
<tr>
<td><strong>LAST NAME</strong></td>
<td>Oboom</td>
</tr>
<tr>
<td><strong>DEPARTMENT</strong></td>
<td>nw</td>
</tr>
<tr>
<td><strong>ISSUE DATE</strong></td>
<td>30/04/96</td>
</tr>
<tr>
<td><strong>TEL NUMBER</strong></td>
<td>2912</td>
</tr>
<tr>
<td><strong>DATE REQUIRED</strong></td>
<td>28/04/96</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Need a LAN cable</td>
</tr>
<tr>
<td><strong>AMOUNT</strong></td>
<td>4</td>
</tr>
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</table>

<table>
<thead>
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<th>Details</th>
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<tr>
<td><strong>UR NUMBER</strong></td>
<td>96050003</td>
</tr>
<tr>
<td><strong>PRIORITY</strong></td>
<td>low</td>
</tr>
<tr>
<td><strong>FIRST NAME</strong></td>
<td>Suphot</td>
</tr>
<tr>
<td><strong>LAST NAME</strong></td>
<td>Sasuwon</td>
</tr>
<tr>
<td><strong>DEPARTMENT</strong></td>
<td>West reg.</td>
</tr>
<tr>
<td><strong>ISSUE DATE</strong></td>
<td>01/05/96</td>
</tr>
<tr>
<td><strong>TEL NUMBER</strong></td>
<td>1763</td>
</tr>
<tr>
<td><strong>DATE REQUIRED</strong></td>
<td>19/05/96</td>
</tr>
<tr>
<td><strong>DESCRIPTION</strong></td>
<td>Install SAP/R3 program</td>
</tr>
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<td><strong>AMOUNT</strong></td>
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Figure C.12  ISS user request form
<table>
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<tr>
<th>Priority</th>
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<th>Fname</th>
<th>Lname</th>
<th>Department</th>
<th>Tel.No.</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
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<tr>
<td>high</td>
<td>96050004</td>
<td>suchat</td>
<td>sangarn</td>
<td>personnel</td>
<td>2016</td>
<td>server down</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>96080010</td>
<td>nakorn</td>
<td>taweelap</td>
<td>utv</td>
<td>1934</td>
<td>cannot access to server at Phenjatti Bldg.</td>
<td>1</td>
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</table>

Total 1

Figure C.13  High priority user request report
## Medium Priority User Request

**21/02/97**

<table>
<thead>
<tr>
<th>Priority</th>
<th>UR Number</th>
<th>Name</th>
<th>Department</th>
<th>Tel. No.</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>medium</td>
<td>96060006</td>
<td>pathai</td>
<td>purchase</td>
<td>1-26</td>
<td>slow response when access to sap server</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>96070009</td>
<td>vichean</td>
<td>admin</td>
<td>1815</td>
<td>PC cannot load LAN card driver</td>
<td>1</td>
</tr>
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</table>

**Total**: 2

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*Figure C.14* Medium priority user request report
## Low Priority User Request

<table>
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<th>Department</th>
<th>Tel.No.</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>96040001</td>
<td>suda</td>
<td>chantawat</td>
<td>2329</td>
<td>install LANs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>96040002</td>
<td>somchai</td>
<td>oboon</td>
<td>2912</td>
<td>Need a LAN cable</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>96050003</td>
<td>suphot</td>
<td>sauswan</td>
<td>1763</td>
<td>install SAP/R3 program</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>96050005</td>
<td>somsri</td>
<td>trijit</td>
<td>2019</td>
<td>cannot access to LAN</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>96060007</td>
<td>vichai</td>
<td>kusawan</td>
<td>2327</td>
<td>remove PC to 27 FL</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>96070008</td>
<td>somsak</td>
<td>wicthaidst</td>
<td>2616</td>
<td>slow response when access to UTV server</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>96090011</td>
<td>john</td>
<td>martin</td>
<td>2372</td>
<td>PC has found virus</td>
<td>1</td>
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**Total**: 13

Figure C.15  Low priority user request report
<table>
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<th>Problem Type</th>
<th>Response Target</th>
<th>Target Fix</th>
<th>Priority</th>
</tr>
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<tbody>
<tr>
<td>slow response</td>
<td>30 min</td>
<td>2 day</td>
<td>medium</td>
</tr>
<tr>
<td>server down</td>
<td>10 min</td>
<td>1 hrs</td>
<td>high</td>
</tr>
<tr>
<td>new h/w request</td>
<td>30 min</td>
<td>2 day</td>
<td>low</td>
</tr>
<tr>
<td>link down</td>
<td>10 min</td>
<td>1 hrs</td>
<td>high</td>
</tr>
<tr>
<td>install s/w</td>
<td>30 min</td>
<td>1 day</td>
<td>low</td>
</tr>
<tr>
<td>install new eqpt.</td>
<td>30 min</td>
<td>2 day</td>
<td>low</td>
</tr>
<tr>
<td>hardware problem</td>
<td>15 min</td>
<td>3 hrs</td>
<td>medium</td>
</tr>
<tr>
<td>eqpt move/change</td>
<td>30 min</td>
<td>2 day</td>
<td>low</td>
</tr>
<tr>
<td>application error</td>
<td>15 min</td>
<td>3 hrs</td>
<td>medium</td>
</tr>
<tr>
<td>access problem</td>
<td>15 min</td>
<td>3 hrs</td>
<td>medium</td>
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Figure C.16  Service level agreement report
<table>
<thead>
<tr>
<th>Status</th>
<th>Responsible of</th>
<th>Date required</th>
<th>UR Number</th>
<th>Priority</th>
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<tbody>
<tr>
<td>pending</td>
<td>network</td>
<td>28/04/96</td>
<td>96040002</td>
<td>low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>09/06/96</td>
<td>96060006</td>
<td>medium</td>
</tr>
<tr>
<td>pc support</td>
<td></td>
<td>11/06/96</td>
<td>96060007</td>
<td>low</td>
</tr>
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</table>

Figure C.17 Pending request report
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<tr>
<th>UR NUMBER</th>
<th>96040001</th>
<th>96050002</th>
<th>96050003</th>
<th>96050004</th>
<th>96050005</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECEIVED DATE</td>
<td>04/04/96</td>
<td>06/04/96</td>
<td>01/05/96</td>
<td>05/05/96</td>
<td>11/05/96</td>
</tr>
<tr>
<td>RESP. OF</td>
<td>network</td>
<td>network</td>
<td>network</td>
<td>pc support</td>
<td>pc support</td>
</tr>
<tr>
<td>ACTION</td>
<td>install Netware Client software and NIC driver</td>
<td>wait for purchase a cable</td>
<td>Install program</td>
<td>restart server</td>
<td>clean virus in Netware driver program.</td>
</tr>
<tr>
<td>STATUS</td>
<td>completed</td>
<td>pending</td>
<td>completed</td>
<td>completed</td>
<td>completed</td>
</tr>
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</table>

Figure C.18 Status report
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<tr>
<th>ReSV. date</th>
<th>Responsible of</th>
<th>Problem / Request</th>
<th>User name</th>
<th>Tel.</th>
<th>Action</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/04/1996</td>
<td>network</td>
<td>install LANs</td>
<td>sudha</td>
<td>2839</td>
<td>install Netware Client software and NIC driver</td>
<td>completed</td>
</tr>
<tr>
<td>06/04/1996</td>
<td>network</td>
<td>Need a LAN cable</td>
<td>somchai</td>
<td>2912</td>
<td>wait for purchase a cable</td>
<td>pending</td>
</tr>
<tr>
<td>01/05/1996</td>
<td>network</td>
<td>install SAP/R3 program</td>
<td>suphot</td>
<td>1763</td>
<td>Install program</td>
<td>completed</td>
</tr>
<tr>
<td>05/05/1996</td>
<td>pc support</td>
<td>server down</td>
<td>suchat</td>
<td>2016</td>
<td>restart server</td>
<td>completed</td>
</tr>
<tr>
<td>11/05/1996</td>
<td>pc support</td>
<td>cannot access to LAN</td>
<td>somsri</td>
<td>2019</td>
<td>clean virus in Netware driver program</td>
<td>completed</td>
</tr>
<tr>
<td>03/06/1996</td>
<td>network</td>
<td>slow response when access to sap server</td>
<td>pathai</td>
<td>1426</td>
<td>Use Sunnet Manager monitor a traffic and error at 14th Floor</td>
<td>pending</td>
</tr>
<tr>
<td>05/05/1996</td>
<td>pc support</td>
<td>remove PC to 27 FL</td>
<td>vichai</td>
<td>2327</td>
<td>wait for furniture are complete installed</td>
<td>pending</td>
</tr>
<tr>
<td>10/07/1996</td>
<td>pc support</td>
<td>slow response when access to UTV server</td>
<td>somsak</td>
<td>2616</td>
<td>clean unused files in c:\temp of PC</td>
<td>completed</td>
</tr>
<tr>
<td>14/09/1996</td>
<td>network</td>
<td>PC cannot load LAN card driver</td>
<td>vichean</td>
<td>1818</td>
<td>Found the problem come from Lan card is demaged. Then change a new one, the PC back to normal</td>
<td>completed</td>
</tr>
<tr>
<td>10/09/1996</td>
<td>pc support</td>
<td>PC has found virus</td>
<td>jolin</td>
<td>2872</td>
<td>Clean virus at user's PC</td>
<td>completed</td>
</tr>
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</table>

Figure C.19 Responsible report
### Summary Request Logging

**17/04/97**

<table>
<thead>
<tr>
<th>Received date</th>
<th>Priority</th>
<th>First name</th>
<th>Last name</th>
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<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/04/96</td>
<td>low</td>
<td>suda</td>
<td>chantawart</td>
<td>co.</td>
<td>2</td>
</tr>
<tr>
<td>06/04/96</td>
<td>low</td>
<td>somchai</td>
<td>oboom</td>
<td>nw</td>
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</tr>
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<td>low</td>
<td>suphot</td>
<td>sasuan</td>
<td>west reg.</td>
<td>1</td>
</tr>
<tr>
<td>05/05/96</td>
<td>high</td>
<td>suchat</td>
<td>sangarm</td>
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<td>1</td>
</tr>
<tr>
<td>11/05/96</td>
<td>low</td>
<td>somsri</td>
<td>trijit</td>
<td>personnel</td>
<td>1</td>
</tr>
<tr>
<td>03/06/96</td>
<td>medium</td>
<td>pathai</td>
<td>chanachai</td>
<td>purchase</td>
<td>1</td>
</tr>
<tr>
<td>10/07/96</td>
<td>low</td>
<td>somsak</td>
<td>wchaidist</td>
<td>sale</td>
<td>1</td>
</tr>
<tr>
<td>14/08/96</td>
<td>high</td>
<td>nakorn</td>
<td>taweelap</td>
<td>utv</td>
<td>1</td>
</tr>
<tr>
<td>10/09/96</td>
<td>low</td>
<td>john</td>
<td>martin</td>
<td>co</td>
<td>1</td>
</tr>
</tbody>
</table>

Total amount: 17

---

Figure C.20  Summary request logging report
<table>
<thead>
<tr>
<th>Date</th>
<th>Responsible</th>
<th>Amount</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/01/96</td>
<td>network</td>
<td>2</td>
<td>Install Netware Client software and NIC driver</td>
</tr>
<tr>
<td>01/05/96</td>
<td>network</td>
<td>1</td>
<td>Install program</td>
</tr>
<tr>
<td>03/05/96</td>
<td>pc support</td>
<td>1</td>
<td>Restart server</td>
</tr>
<tr>
<td>11/05/96</td>
<td>pc support</td>
<td>1</td>
<td>Clean virus in Netware driver program</td>
</tr>
<tr>
<td>14/05/96</td>
<td>network</td>
<td>1</td>
<td>Found the problem come from Lan card is damaged. Then change a new one, the PC back to normal.</td>
</tr>
<tr>
<td>10/09/96</td>
<td>pc support</td>
<td>1</td>
<td>Used dialup line instead of fiber link that disconnected for temporary using.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clean virus at user's PC.</td>
</tr>
</tbody>
</table>

Figure C.21 Meet target job report
**Figure C.22 Hardware inventory control report**

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Product Name</th>
<th>Serial Number</th>
<th>Model</th>
<th>Manufacturer</th>
<th>Amount</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printer</td>
<td>ISS Printer</td>
<td>e5u011.p4b11</td>
<td>LaserJet III</td>
<td>HP</td>
<td>1</td>
<td>FL.27</td>
</tr>
<tr>
<td>Server</td>
<td>ISS Server</td>
<td>g76ad334</td>
<td>Netserver_LF</td>
<td>HP</td>
<td>1</td>
<td>FL.12</td>
</tr>
<tr>
<td>Network</td>
<td>Router</td>
<td>769974c0</td>
<td>7000</td>
<td>Cisco</td>
<td>1</td>
<td>FL.13</td>
</tr>
<tr>
<td>PR Number</td>
<td>Requester</td>
<td>Description</td>
<td>Quantity</td>
<td>Estimate unit price</td>
<td>Estimate total price</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>-------------------------------</td>
<td>----------</td>
<td>--------------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>12029701</td>
<td>Sonnot</td>
<td>3Com Etherlink III Bay</td>
<td>1</td>
<td>1500</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rakdee</td>
<td>10BASE-T Hub</td>
<td>1</td>
<td>6500</td>
<td>6500</td>
<td></td>
</tr>
<tr>
<td>13029701</td>
<td>John</td>
<td>HP Laser Jet 431</td>
<td>1</td>
<td>15000</td>
<td>15000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thomson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14029702</td>
<td>Jim</td>
<td>3Com Etherlink III</td>
<td>3</td>
<td>1500</td>
<td>4500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure C.23  Purchase Request Form
**Purchase Order**

**Issue date**: 21/03/07

<table>
<thead>
<tr>
<th>P.O Number</th>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit price</th>
<th>Total price</th>
</tr>
</thead>
<tbody>
<tr>
<td>01019701</td>
<td>1</td>
<td>3Com Etherlink III</td>
<td>2</td>
<td>1,500</td>
<td>3,000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3Com SuperStack II Switch Hub</td>
<td>1</td>
<td>7,500</td>
<td>7,500</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Cisco 2500</td>
<td>1</td>
<td>100,000</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Grand Total: 110,500

---

Figure C.24 Purchase Order Form
APPENDIX D

STRUCTURE CHART
Figure D.1 Structure Chart of process 1.0
Figure D.2 Structure Chart of process 2.0
Figure D.3 Structure Chart of process 3.0
Figure D.4 Structure Chart of process 4.0
Figure D.5 Structure Chart of process 5.0
Figure D.6 Structure Chart of process 6.0
Figure D.7 Structure Chart of process 7.0
Figure D.8 Structure Chart of process 8.0
USER = * An end-user who request for service form MIS department *

request = * A request for service to MIS department *

invalid request = * An incompleted request or duplicated request to MIS department *

network-pblm = * A problem is realted to network support section to take responsible *

pc-pblm = * A problem is related to PC support section to take responsible *

NETWORK SUPPORT = * A section within MIS department who support user about the network problem and network request *

p.r.request = { Purchase Request }

= * issued by MIS department to request for buying new equipment *

p.r. response = { Purchase Request Response }

= * The information about the process status of P.R that taken by Purchasing department *

p.o deatils = * A details of equipment and vendor that issued to Purchasing department to buy a new equipment *
PURCHASE = * A department who responsible to buy a new wquipment from vendor *

new eqpt-details = { equipment-details }

= * The information about new equipment that needed to test before purchasing *

@equipment name + description + equipment function

equipment name = * An information to identify the name of product *

description = * A details of equipment such as specification *

equipment function = * An information to identify the main objective to used of equipment *

R & D = { Research and Development Section }

= * A section within MIS department who responsible to testing a new equipment which required form the end-users *

test result = * A result of testing a new equipment from R&D section *

[ "pass" | "reject" ]

approve-req = { approved request }

= * A request has been approved by manager of user *

req-details = { request details }

= * The information about a request for services from MIS department *

@ user name + dept. + telephone + date required + description + amount + priority
user name = first-name + last-name
first-name = * A user's first name *
last-name = * A user's last name *
department = { department }
date required = * The date that user expected to receive a service form
                MIS *
                dd / mm / yyyy
description = * The information about the details of service need of user *
amount = * A number of items in each request *
priority = * A level of request that identify importance level in each request *
            [ "high" | "medium" | "low" ]
eqpt-request = { equipment-request }
            * The new equipment that need to purchasing *
problem = * An information about the problem that need to be solved
                      by responsible section *
pending = * The unsolved problem or status in UR record = pending *
problem-status = { problem-status }
            * The information that identify the status of user request *
user = * The information which got form user to confirm the job is completed done *
acceptance

82
print-id = * To identify the printer that need to print out report and specify the selected report *

report = * A document that described the summarized of request and its generated by printer.*
PROCESS 1.2 : OPEN JOB

BEGIN

CHECK  request details in USER REQUEST RECORD

IF  find fname,lname,dept,date required,description,amount
   THEN accepted UR

ELSE  display message “Invalid request”

ENDIF

DO WHILE accepted UR = “yes”

CREATE  open job

INPUT  request details

END DO

END

PROCESS 1.3 : CREATE UR NUMBER

BEGIN

DO WHILE  received open job = “yes”

READ  assigned number from UR NUMBER RECORD

INPUT  UR number in UR form

UPDATE  UR NUMBER RECORD

END DO

END
PROCESS 1.4 : DEFINE PRIORITY

BEGIN

DO WHILE there are no more PRIORITY in UR RECORD

READ user request description from UR RECORD

DO CASE

CASE request is impact to the whole system
SET priority = "high"

CASE request can be done by other system temporary
SET priority = "medium"

CASE request is a normal request.
SET priority = "low"

END CASE

UPDATE UR RECORD

END DO

END

PROCESS 1.5 : ENTER REQUEST DATA

BEGIN

DISPLAY SCREEN for accept request from REQUEST RECORD

ACCEPT ( UR number, priority, fname, lname, department, description, amount )

WRITE REQUEST RECORD

END
PROCESS 2.2 : RECORD SOLUTION

BEGIN

DISPLAY status screen

INPUT ur number

FIND problem with matching to current ur number

IF There are no such a record

THEN display "No such a record"

ELSE display screen to update solution details

INPUT solution details

ENDIF

END

PROCESS 2.3 : DISTRIBUTE PENDING REQUEST

BEGIN

SELECT status from UR RECORD

and status = “pending”

READ description from UR RECORD

DO CASE

CASE description related to pc problem

FORWARD to pc support

CASE description related to network problem

FORWARD to network support

ENDDO
IF status = “pending” cannot be found

THEN  DISPLAY message “No such a pending request”

ENDIF

BEGIN

PROCESS 4.1 : REQUEST FOR NEW PRODUCT

GET new equipment request

READ p.o data form P.O RECORD

IF FIND previous data of supplier who supply this product request

THEN DISPLAY p.o screen

INPUT products details

GOTO purchasing process

ELSE

GOTO testing process

DO CASE

CASE testing result = “false”

REJECT request

CASE testing result = “pass”

ACCEPT request

PROCESS verify budget

END CASE

END IF

END
PROCESS 4.3 : ORDER PRODUCT

BEGIN
  FIND pr number in PR RECORD
  GET supplier name, address, product description
  WRITE purchase order details
  SEND to purchasing department
END

PROCESS 5.1 : SELECT JOB

BEGIN
  GET UR RECORD
  FIND priority in UR RECORD
  IF there are no more priority in UR RECORD
     THEN DISPLAY " Not found any record "
  ELSE
     DO CASE
       CASE priority = high
          GOTO solve problem process
       CASE priority = medium
          APPEND in high priority queue
       CASE priority = low
          FIND priority = medium in UR RECORD
          IF there are no more priority = medium

THEN APPEND in high priority queue
ELSE APPEND in medium priority queue
ENDIF
END CASE
ENDIF
END

PROCESS 5.2 : SOLVE PROBLEM
BEGIN
GET selected job
READ problem description from UR RECORD
GOTO solve problem
IF a problem can be solved
THEN DISPLAY UR screen
    EDIT status in UR RECORD with status = "completed"
ELSE DISPLAY UR screen
    EDIT status in UR RECORD with status = "pending"
    GOTO contact vendor process
ENDIF
END
PROCESS 5.3 : UPDATE STATUS

BEGIN

READ UR RECORD

DISPLAY status

GET action in RESPONSIBLE RECORD

IF incompleted job

THEN SET status = \"pending\"

ELSE SET status = \"completed\"

ENDIF

WRITE UR RECORD

END

PROCESS 6.1 : RETRIVE PENDING RECORD

BEGIN

READ UR RECORD

FIND status in UR RECORD and status = \"pending\"

IF there are no more pending status

THEN EXIT

ELSE READ problem description, responsible section

GOTO solve a problem process

ENDIF

END
PROCESS 6.2: SOLVE PENDING PROBLEM

BEGIN

READ problem description, status in UR RECORD

DO WHILE status = "pending"

solve a problem

RETURN solution details

REPLACE status = “pending” with status = “completed”
in UR RECORD

END DO

END

PROCESS 7.1: GET COMPLETED JOB

BEGIN

GET completed job details

DISPLAY UR screen

PUT action, description, status in UR RECORD

WRITE UR RECORD

END
PROCESS 7.2 : CLOSE USER REQUEST JOB

BEGIN

    FIND status in UR RECORD and status = "completed"

    IF found a completed status record

        THEN SET status = "close"

    ENDIF

END

PROCESS 8.1 : SELECT REPORT TYPE

BEGIN

    FIND report type in REPORT RECORD with matching to report-id

    IF record can be found

        THEN PUT report type to request for printing process

    ELSE EXIT

    END IF

END

PROCESS 8.2 : REQUEST FOR PRINTING

BEGIN

    GET report type, report details

    DEFINE printer name, queue name

    IF printer is available

    END
THEN print out a report

ELSE select a new queue name

ENDIF

END

PROCESS 8.3 : SEND TO MANAGEMENT

BEGIN

DO WHILE there are more reports in REPORT RECORD

GET next reports

REPEAT UNTIL there are no more reports

RETURN to management

END DO

END