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(HURUF BESAR)

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Information and Communication Technology (Computer Networking)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2004
ADMISSION

I admitted that this project title name of

SIMPLE QUERY NETWORK

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STUDENT : _______________________________ Date : 23 OKT 2004
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TESIS APPROVAL STATUS FORM</td>
<td>i</td>
</tr>
<tr>
<td>PROJECT TITTLE</td>
<td>ii</td>
</tr>
<tr>
<td>ADMISSION</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF TABLE</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF FIGURE</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF APPENDIX</td>
<td>ix</td>
</tr>
</tbody>
</table>

## INTRODUCTION

1.1 Introduction

1.1.1 Problem statement

1.2 Project objectives

1.3 Project scopes

1.4 Project priority

1.5 Conclusion

## LITERATURE REVIEW

2.1 Introduction

2.2 Case study
2.2.1 IP monitor 4.1
2.2.2 IP-tools
2.3 Conclusion

PROJECT PLANNING AND METHODOLOGY
3.1 Introduction
3.2 Methodology
3.3 Justification of methodology selection
3.4 High-level project requirements
  3.4.1 Software requirement
  3.4.2 Hardware requirement
3.5 Project solving suggestion
3.6 Task planning
  3.6.1 Work task
3.7 Conclusion

ANALYSIS
4.1 Introduction
4.2 Analysis of current system
  4.2.1 Business process
  4.2.2 Problem analysis
  4.2.3 Problem statement
4.3 Analysis of to be system
  4.3.1 Functional requirement
  4.3.2 Technical requirement
  4.3.3 Hardware/firmware requirement
  4.3.4 Implementation/deployment requirement

DESIGN
5.1 Introduction
5.2 Raw input/data
8.1.1 Weakness 61
8.1.2 Strengths 62
8.2 Propositions for improvement 62
8.3 Conclusion 63

BIBLIOGRAPHY
REFERENCES 64

APPENDIX
USER MANUAL 65
SOURCE CODE 77
ACKNOWLEDGMENT

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ABSTRACT

This project has been called Simple Query Network. Purpose this project is to simplify Network Administrator job. Where, Network Administrator can observe all of IP address in network although it's on difference network. These projects have part for login, PMSG, IP manager, network query and log file. Network Administrator can use all of part to avoid from IP conflict from happen. All of part in this project can help Network Administrator to handle and manage the network. These projects are successfully because this project has achieved their objectives and goals.
ABSTRAK

**LIST OF TABLE**

<table>
<thead>
<tr>
<th>TABLE NO</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>Utilities for IP-Tools</td>
<td>9</td>
</tr>
<tr>
<td>6.0</td>
<td>Characteristic of database</td>
<td>28</td>
</tr>
<tr>
<td>9.0</td>
<td>Characteristics for figure 5.5</td>
<td>30</td>
</tr>
<tr>
<td>13.0</td>
<td>Hardware requirement</td>
<td>45</td>
</tr>
<tr>
<td>14.0</td>
<td>Network Device Requirement</td>
<td>45</td>
</tr>
<tr>
<td>15.0</td>
<td>Implementation Status of Modules</td>
<td>47</td>
</tr>
<tr>
<td>16.0</td>
<td>Test Cycles and Duration</td>
<td>51</td>
</tr>
<tr>
<td>17.0</td>
<td>Test cases and expected result for module/function</td>
<td>55</td>
</tr>
<tr>
<td>18.0</td>
<td>Login System Specification</td>
<td>56</td>
</tr>
<tr>
<td>19.0</td>
<td>IP Manager Specification</td>
<td>57</td>
</tr>
<tr>
<td>20.0</td>
<td>PMSG Specification</td>
<td>57</td>
</tr>
<tr>
<td>21.0</td>
<td>Test case for Login system</td>
<td>58</td>
</tr>
<tr>
<td>22.0</td>
<td>Test case for IP Manager System</td>
<td>59</td>
</tr>
<tr>
<td>23.0</td>
<td>Test case for PMSG system</td>
<td>60</td>
</tr>
<tr>
<td>24.0</td>
<td>Components upgrade</td>
<td>63</td>
</tr>
</tbody>
</table>
# LIST OF FIGURE

<table>
<thead>
<tr>
<th>FIGURE NO</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Interface for IP Monitor 4.1</td>
<td>6</td>
</tr>
<tr>
<td>2.0</td>
<td>Interface for IP-Tools</td>
<td>7</td>
</tr>
<tr>
<td>4.0</td>
<td>Level of SDLC</td>
<td>13</td>
</tr>
<tr>
<td>5.0</td>
<td>Important section in project (Login pages)</td>
<td>27</td>
</tr>
<tr>
<td>7.0</td>
<td>Interface designing for Login Interface</td>
<td>30</td>
</tr>
<tr>
<td>8.0</td>
<td>Example interface designing for IP Manager</td>
<td>30</td>
</tr>
<tr>
<td>10.0</td>
<td>System Architecture of project</td>
<td>32</td>
</tr>
<tr>
<td>11.0</td>
<td>Example logical designing of project</td>
<td>34</td>
</tr>
<tr>
<td>12.0</td>
<td>Example physical designing for project</td>
<td>35</td>
</tr>
</tbody>
</table>
## LIST OF APPENDIX

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>User manual</td>
<td>65</td>
</tr>
<tr>
<td>Source code</td>
<td>77</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

1.1 Introduction

Normally, project like this has developed using Visual C++. But for this project, it was developed by using PHP, MYSQL and Apache Web Server. Listed below are the information for PHP, MYSQL and Apache Web Server:-

- PHP version 4.0 for source code and programming language.
- Apache Web Server version “apache_1.3.20-win32-no_src-r2” for web server platform.
- MSQL version “mysql-3.23” for database.

This project has 7 parts query. Among of project query is a login, ping, net send, log files, telnet, PMSG and IP manager. Listed below are the queries of the project:-

- **Login** – This query will provide interface for check username and password. With the right username and password, Network Administrator can access into system. If Network Administrator lost the password, Network Administrator can get the password with send the username at “lost password” page. Then system will send password to Network Administrator email.

- **Ping** – This query will provide interface to display information about reply time from client. All of time reply from client is measured in milliseconds
(ms). Purpose of this query is to give information about reply time to
Network Administrator to know the client still valid or not.

- **Net send** – This query will provide interface to send message. Where,
  Network Administrator can send message to client using net send command.

- **Log files** – This query will provide interface log. This interface will display
  information about IP address and time user that login before.

- **Telnet** – This query will provide tool for access into other system. This
  query has limitation where this query just used for LINUX/UNIX platform.

- **PMSG** – This query will provide interface for users to send message to
  Network Administrator. All of message will save into database then Network
  Administrator can read and delete this message.

- **IP manager** – This query will provide interface to manage IP address in
  network. Besides that, IP manager can manage many range of IP address.
  Network Administrator can check the status whether the IP address is still
  valid or not. For IP address switches or router, Network Administrator can
  click button “Telnet” and automatically will telnet to switches or router.
  Network Administrator can print out each process.

1.1.1 **Problem statement**

Before this, project like this have used in an Information Technology
company. Purpose of this project is to manage and handle all of IP address in the
network. Besides that, this project to help Network Administrator to record all of IP
address in order to avoid from IP conflict.

Problem for already project is Network Administrator can’t communicate
with client to know client still valid or not. So, this project will be solution for entire
problem. Where, this project has tools or function to help Network Administrator to
observe all IP address in the network. Besides that, Network Administrator can
communicate with client using net send and PMSG query. This project is a re-
creation project because this project has combined with old system.
1.2 **Project objective**

This project can be used by any organization(s) which require monitor and observe the IP address in the network. Listed below are the objectives of the project:-

- This project will be solution for already problem.
- This project will provide tools for Network Administrator to manage and handle network.
- This project will simplify Network Administrator job to observe all IP address on difference network.

1.3 **Project Scopes**

All of the origin code has created for UNIX/LINUX platform. So, this project has manipulated all of code to windows platform using PHP version 4.0. Listed below are scopes for this project:-

- **Login** – This project has login system. This part will process a right user that can access into system. If Network Administrator lost the password, Network Administrator can get the password with send the username at “lost password” page. Then, password will send to email.

- **Message** - Client can send message to Network Administrator to inform about network problem. Network Administrator can read and delete this message.

- **Log files** - This project will be log all of transaction and activities login, where all of IP address and time will be save into log files in order to Network Administrator can know who are has login before.

- **Net send/Telnet/Ping** – Network Administrator can send message to client using net send query and Network Administrator can access to other system using telnet query. Also, Network Administrator can know client still valid or not using ping query.
• **IP manager** – Facilities for Network Administrator to handle network and all of queries will help Network Administrator.

1.4 **Project priority**

This project provides a Network Administrator with one system to manage and handle the network. This project has developed to observe all IP address on network although on difference network.

This project also provides a list of IP address which client is still valid or not in network and has queries to help Network Administrator to manage the network. Therefore the Network Administrator can determine information about IP address such as PC name and IP address and also can communicate with client using net send or PMSG query.

This project is very suitable not only for Network Administrator but also to those who are involved in network management and monitoring.

1.5 **Conclusion**

PSM project give the student the chance to implement what they have premeditated at KUTKM. This project is one of the PSM project and it consists of monitoring function for all IP address on network.

This project also has the additional features to help Network Administrator especially to observe all IP address. It develops to the LAN environment and perhaps, can also be implemented on any network environment.

This project also helps anybody who is involved in IP monitoring and it is compatible to network environment hopefully.
CHAPTER II

LITERATURE REVIEW

2.1 Introduction

IP manager are mostly develop using Visual C++ language programming to observe all IP address on network. Purpose of IP Manager is to manage and handle all of IP address on the network and avoid from IP conflict.

The research is very important to this project; it can help to build up the IP manager. Before build up project, the research about IP manager must been done and try to find any example of IP monitoring tools from internet and try to learn how the function, what methodology is use, language programming and many more.

2.2 Case Study
2.2.1 IP monitor 4.1

![IP Monitor Interface](image)

**Figure 1.0: Interface for IP Monitor 4.1**

From researched this tools has provided information about client include Computer Name, Local IP Address, Public IP Address Last Update and Status. This tool has developed using MFC application. IP Monitor displays a computer's name and IP address in a window. If notification features are turned on, when the IP address changes, it can be sent to an email address and/or an FTP server to notify of the changes.

This is useful for computers that have dynamically assigned IP addresses, but need to be accessed remotely. Full SMTP email and FTP support to send notification of changes. This tool can work under Win ME, 2000 and XP.
2.2.2 IP-tools

![Image: IP-Tools interface]

**Figure 2.0: Interface for IP-Tools**

From researched this tools has provided tools for handle and manage network. IP-Tools offer many TCP/IP utilities in one program. This tool can work under Windows 95/98/ME / NT4.0/2000/XP and is indispensable for anyone who uses the Internet or Intranet. For information about this tool, this tool has provided 19 utilities for client. Among of their utilities is a:-

<table>
<thead>
<tr>
<th>No</th>
<th>Utilities</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Local Info</td>
<td>examines the local host and shows info about processor, memory, Winsock data, etc.</td>
</tr>
<tr>
<td>2</td>
<td>Connection Monitor</td>
<td>displays information about current TCP and UDP network connections</td>
</tr>
<tr>
<td>3</td>
<td>NetBIOS Info</td>
<td>gets NetBIOS information</td>
</tr>
<tr>
<td>No.</td>
<td>Tool</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>NB Scanner</td>
<td>shared resources scanner</td>
</tr>
<tr>
<td>5</td>
<td>SNMP Scanner</td>
<td>scans network(s) for SNMP enabled devices</td>
</tr>
<tr>
<td>6</td>
<td>Name Scanner</td>
<td>scans all hostnames within a range of IP addresses</td>
</tr>
<tr>
<td>7</td>
<td>Port Scanner</td>
<td>scans network(s) for active TCP based services</td>
</tr>
<tr>
<td>8</td>
<td>UDP Scanner</td>
<td>scans network(s) for active UDP based services</td>
</tr>
<tr>
<td>9</td>
<td>Ping Scanner</td>
<td>pings a remote hosts over the network</td>
</tr>
<tr>
<td>10</td>
<td>Trace</td>
<td>traces the route to a remote host over the network</td>
</tr>
<tr>
<td>11</td>
<td>Who Is</td>
<td>obtains information about a Internet host or domain name from the NIC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Network Information Center)</td>
</tr>
<tr>
<td>12</td>
<td>Finger</td>
<td>retrieves information about user from a remote host</td>
</tr>
<tr>
<td>13</td>
<td>Look Up</td>
<td>looks for domain names according to its IP address or an IP address from its</td>
</tr>
<tr>
<td></td>
<td></td>
<td>domain name</td>
</tr>
<tr>
<td>14</td>
<td>Get Time</td>
<td>gets time from time servers (also it can set)</td>
</tr>
<tr>
<td></td>
<td>Utilities</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>15</td>
<td>Telnet</td>
<td>correct time on local system)</td>
</tr>
<tr>
<td>16</td>
<td>HTTP</td>
<td>telnet client</td>
</tr>
<tr>
<td>17</td>
<td>IP-Monitor</td>
<td>http client</td>
</tr>
<tr>
<td></td>
<td></td>
<td>shows network traffic in real time (as a set of charts)</td>
</tr>
<tr>
<td>18</td>
<td>Host Monitor</td>
<td>monitors up/down status of selected hosts</td>
</tr>
<tr>
<td>19</td>
<td>Trap Watcher</td>
<td>allows you to receive and process SNMP Trap messages</td>
</tr>
</tbody>
</table>

**Table 3.0: Utilities for IP-Tools**

This tool allows multi tasking operation. Where, client can use all utilities at the same time. Many utilities can obtain information from a single host, from all hosts within a range of IP addresses (ex. 195.128.74.1 - 195.130.200.5) or work with list of hosts and IP addresses. IP-Tools can save obtained information into text file or create cool HTML reports. This tool easy to Install / Upgrade / uninstall program and this tool must registered to enable all features in IP-Tools utilities. This tool can work under Microsoft Windows 95, 98, ME, NT 4.0 (SP3), Windows 2000, Windows XP, or Windows Server 2003. Requirement for this tool is Internet connection or TCP/IP enabled LAN, 3Mb free disk space and Minimum screen resolution: 800 x 600.
2.3 Conclusion

Basically, a tool like this has developed to collect and analyze information about IP address. Example for IP monitoring is IP Monitor 4.1 and IP-Tools. Simple Network Management Protocol (SNMP) is a communication protocol that defines information about IP address.

The literature review will help developer to develop this project. All the information is can be used for referenced and carry on to implement this project.
CHAPTER III

PROJECT PLANNING AND METHODOLOGY

3.1 Introduction

Project Methodology is an important part to design and develop project especially in IP monitoring system. It will show what the methodology and method will use in network design to build up the system.

Before choose what the methodology for the project, developer is consider made a research related with the project. For IP monitoring project, research of IP monitoring tool is has been done. Mostly IP monitoring are using remote monitoring and using SNMP (Simple Network Monitoring Protocol) to observe IP address on the network.

System Development Life Cycle (SDLC) is the overall process of developing information systems or application through a multi step process from investigation of initial requirements through analysis, design, implementation and maintenance. Nowadays, systems are so big and complex that teams of architects, analysts, programmers, testers and users must work together to create the millions of lines of custom-written code that drive our enterprises.

To manage this, a number of system development life cycle (SDLC) models have been created: waterfall, fountain, spiral, build and fix, rapid prototyping, incremental, and synchronize and stabilize. Systems Development Life Cycle (SDLC) takes a holistic view of Information Systems by breaking the entire life cycle into phases of System Definition, Requirements Gathering, System Analysis,