



**REMOTEINFO SYSTEM**

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**This report is submitted in partial fulfillment of the requirements for the  
Bachelor of Computer Science (Networking)**


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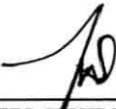
**DECLARATION**

I hereby declare that this project report entitled

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is written by me and is my own effort and that no part has been plagiarized  
without citations.

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## **DEDICATION**

A special dedication goes to my beloved parents Mr. Arumogam A/L Mottayan and Mrs. Kamala A/P Arumogam because giving support in completing my final year project which is entitled RemoteInfo System.

I also would like to dedicate to the people who help and support direct or indirect in finishing my project successfully.

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A note of thanks is dedicated to few lecturers in UTeM in giving me some ideas, information and also for spending their valuable time and effort. Their generosity can only be expressed by me by being thankful for having such kind lecturers who are supportive.

Last but no least, to all might have involved directly or indirectly in developing this system is much appreciated and a note of thanks from me.

## ABSTRACT

This report is about developing RemoteInfo System. The purpose of this project is to develop a system that can monitor nodes in network. This system will be developed using visual C#.NET. This report containing seven chapters named introduction, literature review and project methodology, analysis, design implementation, testing and conclusion. Introduction chapter provides background information about this project such as problem statements, objective, scope and expected output from this project. Next, in literature review and methodology chapter, studies and research done by other people and scholarly journals that are related to this project are explained to get basic ideas about developing this project. Project methodology selected is OOAD to explain progress of project developed phase by phase. All project requirements also identified in this chapter. Next in analysis chapter, problem analysis was done on some existing systems that have similar function as RemoteInfo System. Requirement analysis also was conducted in terms of its data requirement, functional requirement, non-functional requirement and also on others requirement. Analysis of all these requirements has provided detail information to create the system designs. Next in design phase, system architecture, user interface design, navigation design and input design were explained. Implementation chapter explains about the environment where the RemoteInfo System going to be implemented for testing purpose. Followed by testing chapter which describing about the test plan, test strategy, test design, test data, test result and analysis. Lastly in conclusion, the weakness and strength of RemoteInfo System has been stated. Some future development for this system also has been proposed.

## ABSTRAK

Projek ini adalah tentang membangunkan sistem yang bernama RemoteInfo System. Tujuan projek ini adalah untuk membangunkan satu sistem yang boleh *monitor* komputer-komputer dalam satu rangkaian. Projek ini dibangunkan dengan menggunakan Visual C#.NET. Laporan ini mengandungi tujuh bab yang bertajuk pengenalan, '*Literature Review and Methodology*', analisa, rekabentuk, pelaksanaan, ujian dan penutup. Bab pengenalan menerangkan latar belakang projek seperti kenyataan masalah, objektif, skop, serta hasil yang dijangkakan dari projek ini. Bab '*Literature Review and Methodology*' pula membincangkan kajian dan jurnal yang berkaitan dengan projek ini yang boleh memberikan idea untuk membangunkannya. Seterusnya, bab ini juga menerangkan methodologi yang dipilih untuk melaksanakan projek ini iaitu 'OOAD'. Ia akan digunakan untuk membangunkan projek fasa demi fasa. Dalam bab ini juga semua keperluan membina projek ditentukan. Seterusnya, dalam bab analisa, system yang sedia wujud dalam pasaran dianalisis. Dalam bab ini juga analisa keperluan dilaksanakan untuk mengetahui keperluan dari segi data, 'functional' dan 'non-functional'. Maklumat- maklumat yang diperolehi dalam bab analisa seterusnya digunakan untuk membentuk asas sistem ini. Bab rekabentuk membincangkan seni bina sistem yang akan dibangunkan. Seterusnya adalah bab pelaksanaan. Dalam bab ini persekitaraan dimana RemoteInfo System akan diuji diterangkan. Berikutnya adalah bab testing. Bab ini menyentuh tentang kaedah ujian, jadual ujian, data yang akan diuji, keputusan ujian, dan analisis keputusan ujian. Akhir sekali adalah bab penutup. Bab ini menerangkan tentang kelemahan dan kelebihan RemoteInfo System. Beberapa cadangan juga telah dinyatakan untuk membaik pulih system ini.

## TABLE OF CONTENTS

<b>CHAPTER</b>	<b>SUBJECT</b>	<b>PAGE</b>
	<b>DECLARATION</b>	<b>ii</b>
	<b>DEDICATION</b>	<b>iii</b>
	<b>ACKNOWLEDGEMENTS</b>	<b>iv</b>
	<b>ABSTRACT</b>	<b>v</b>
	<b>ABSTRAK</b>	<b>vi</b>
	<b>TABLE OF CONTENTS</b>	<b>vii</b>
	<b>LIST OF TABLES</b>	<b>xi</b>
	<b>LIST OF FIGURES</b>	<b>Xiii</b>
	<b>LIST OF ABBREVIATIONS</b>	<b>xv</b>
	<b>LIST OF ATTACHMENTS</b>	<b>xvi</b>
<b>CHAPTER I</b>	<b>INTRODUCTION</b>	
	1.1 Project Background	1
	1.2 Problem Statements	2
	1.3 Project Objective	2
	1.4 Scope	3
	1.5 Project Significance	4
	1.6 Expected Output	5
	1.7 Conclusion	5



## **CHAPTER II LITERATURE REVIEW AND PROJECT METHODOLOGY**

2.1	Introduction	7
2.2	Facts and Finding	8
2.2.1	Domain	8
2.2.2	Existing System	8
2.2.2.1	AdvanceRemoteInfo	8
2.2.2.2	Remote Task Manager	9
2.2.2.3	Remote Process Viewer	10
2.2.2.4	Dude	11
2.2.2.5	Windows Managements Instrumentation (WMI)	13
2.2.3	Technique	13
2.3	Project Methodology	14
2.4	Project Requirements	15
2.4.1	Software Requirements	15
2.4.2	Hardware Requirements	16
2.4.3	Network Requirements	16
2.5	Project Schedule and Milestone	17
2.6	Conclusion	18

## **CHAPTER III ANALYSIS**

3.1	Introduction	19
3.2	Problem Analysis	19
3.2.1	Analysis of Current System	20
3.3	Requirement Analysis	21
3.3.1	Data Requirement	22
3.3.2	Functional Requirement	25
3.3.3	Non-Functional Requirement	26
3.3.4	Other Requirement	27

3.3.4.1	Software Requirement	27
3.3.4.2	Hardware Requirement	31
3.3.4.3	Network Requirement	32
3.4	Conclusion	32

## **CHAPTER IV DESIGN**

4.1	Introduction	33
4.2	High-Level Design	33
4.2.1	System Architecture	34
4.2.2	User Interface Design	34
4.2.2.1	Navigation Design	39
4.2.2.2	Input Design	40
4.2.2.3	Output Design	41
4.3	Conclusion	41

## **CHAPTER V IMPLEMENTATION**

5.1	Introduction	43
5.2	Software Development Environmental Setup	43
5.2.1	Hardware Setup	43
5.2.2	Hardware Configuration	44
5.2.2.1	Firewall Setting	45
5.2.2.2	DCOM Setting	47
5.2.2.3	Namespace Security	50
5.2.2.4	Security Setting	52
5.2.3	Network Setup	53
5.3	Software Configuration Management	53
5.3.1	Version Control Procedure	53
5.4	Implementation Status	55
5.5	Conclusion	56

**CHAPTER VI TESTING**

6.1	Introduction	57
6.2	Test Plan	57
	6.2.1 Test Organization	58
	6.2.2 Test Environment	58
	6.2.3 Test Schedule	58
6.3	Test Strategy	59
	6.3.1 Classes of Tests	60
6.4	Test Design	62
	6.4.1 Test Description	62
	6.4.2 Test Data	65
6.5	Test Results and Analysis	67
6.6	Conclusion	86

**CHAPTER VII PROJECT CONCLUSION**

7.1	Observation on Weakness and Strengths	87
	7.1.1 Weaknesses	87
	7.1.2 Strengths	87
7.2	Proportions for Improvement	88
7.3	Contribution	89
7.4	Conclusion	89

<b>REFERENCES</b>	90
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<b>BIBLIOGRAPHY</b>	91
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<b>APPENDICES</b>	92
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## LIST OF TABLES

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	<b>System requirements for Windows XP Professional</b>	<b>16</b>
2.2	<b>Project Schedule and Milestone</b>	<b>17</b>
3.1	<b>Data Requirement for Each User Control Interfaces</b>	<b>22</b>
3.2	<b>Attributes of Win32_service</b>	<b>22</b>
3.3	<b>Attributes of Win32_Process</b>	<b>23</b>
3.4	<b>Attributes of Win32_OperatingSystem</b>	<b>23</b>
3.5	<b>Attributes of Win32_ComputerSystem</b>	<b>23</b>
3.6	<b>Attributes of Win32_processor</b>	<b>23</b>
3.7	<b>Attributes of Win32_service</b>	<b>24</b>
3.8	<b>Attributes of Win32_timezone</b>	<b>24</b>
3.9	<b>Attributes of Win32_LogicalMemoryConfiguration</b>	<b>24</b>
3.10	<b>Attributes of Win32_VideoController</b>	<b>24</b>
3.11	<b>Input Data from User</b>	<b>25</b>
4.1	<b>Navigation Component Table</b>	<b>40</b>
4.2	<b>Input Design table</b>	<b>40</b>
4.3	<b>Output Design Table</b>	<b>41</b>
5.1	<b>Basic Computer Configuration</b>	<b>44</b>
5.2	<b>Version Control Procedures V1.0</b>	<b>54</b>
5.3	<b>Version Control Procedures V2.0</b>	<b>54</b>
5.4	<b>Implementation Status Table</b>	<b>55</b>
6.1	<b>Test Schedule</b>	<b>58</b>

<b>6.2</b>	<b>Test Case Form for Main Interface</b>	<b>62</b>
<b>6.3</b>	<b>Test Case Form for Process Interface</b>	<b>64</b>
<b>6.4</b>	<b>Test Case Form for Service Interface</b>	<b>65</b>
<b>6.5</b>	<b>Test Data for Main Interface</b>	<b>66</b>
<b>6.6</b>	<b>Test Result for Test Cases in the Main Interface</b>	<b>67</b>
<b>6.7</b>	<b>Test Result for Test Cases in the Process Interface</b>	<b>78</b>
<b>6.8</b>	<b>Test Result for Test Cases in the Service Interface</b>	<b>81</b>

## LIST OF FIGURES

DIAGRAM	TITLE	PAGE
2.1	AdvanceRemoteInfo	9
2.2	Remote Task Manager	10
2.3	Remote Process Viewer	11
2.4	Graphical Interface of Dude	12
3.1	Activity diagram of RemoteInfo System	21
4.1	RemoteInfo System Architecture	34
4.2	Main Interface of RemoteInfo System	35
4.3	System Info Tab Control Interface	36
4.4	Process Tab Control Interface	37
4.5	Services Tab Control Interface	38
4.6	Alert Interface	38
4.7	RemoteInfo System Navigation Design	39
5.1	Hardware Setup Architecture	44
5.2	Group Policy Window	46
5.3	Windows Firewall Window	47
5.4	Registry Editor Window	48
5.5	Component Service Window	48
5.6	My Computer Properties Window	49
5.7	Windows Management Infrastructure (WMI) Window	50
5.8	WMI Control (Local) Properties Window	51
5.9	Advanced security settings for Root Window	52
5.10	Local security Settings Window	53
6.1	Interface to Access Remote Machine	68

<b>6.2</b>	<b>System Info interface for Local Machine</b>	<b>70</b>
<b>6.3</b>	<b>System Info Interface for Remote Machine</b>	<b>71</b>
<b>6.4</b>	<b>Services Interface for Local Machine</b>	<b>73</b>
<b>6.5</b>	<b>Services Interface for Remote Machine</b>	<b>74</b>
<b>6.6</b>	<b>Process Interface for Local Machine</b>	<b>76</b>
<b>6.7</b>	<b>Process Interface for Remote Machine</b>	<b>77</b>
<b>6.8</b>	<b>Process Termination on Local Machine</b>	<b>78</b>
<b>6.9</b>	<b>Process Termination on Remote Machine</b>	<b>80</b>
<b>6.10</b>	<b>Starting Service on Local Machine</b>	<b>81</b>
<b>6.11</b>	<b>Starting Service on Remote Machine</b>	<b>82</b>
<b>6.12</b>	<b>Stopping Service on Local Machine</b>	<b>83</b>
<b>6.13</b>	<b>Stopping Service on Remote Machine</b>	<b>84</b>
<b>6.14</b>	<b>Start/Stop Service Failure Message</b>	<b>85</b>

## LIST OF ABBREVIATIONS

LAN	Local Area Network
ID	Identity
ICT	Information and Communication Technology
HTML	Hypertext Markup Language
PC	Personal Computer
RTM	Remote Task Manager
PID	Process Identifier
WMI	Windows Management Instrumentation
CIM	Common Information Model
WBEM	Web-Based Enterprise Management
OOAD	Object-Oriented Analysis and Design
OOA	Object Oriented Analysis
OOD	Object Oriented Design
RIS	Remote Installation Service
IIS	Internet Information Services



**LIST OF ATTACHMENTS**

<b>ATTACHMENT</b>	<b>TITLE</b>	<b>PAGE</b>
<b>1.1</b>	<b>User Manual</b>	<b>92</b>
<b>1.2</b>	<b>Log Book</b>	<b>97</b>
<b>1.3</b>	<b>Gantt Chart</b>	<b>101</b>

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Project Background**

This project is about developing a simple network monitoring tool for a LAN. It is named as RemoteInfo System. RemoteInfo System is a system which can be used in any LAN environment to give an administrator an opportunity to manage their network efficiently. Unlike other Network Browser, this system will be included with special features. This system can performs functions such as listing services and process running by each computer in the same LAN network on demand. Besides that, it also able to terminate any services or process that running in any remote machine in a same LAN. In addition, this system also capable to display information about any machine connected to the same LAN network. The information that can be viewed using this system are such as computer system info, operating system info, system processor, system Bios, system time zone, logical memory configuration, network connection and video controller.

As a conclusion, RemoteInfo System become as a solution to reduce the workload of the network administrator. Network administrator does not need to move from one machine to another around their office to perform this function. The detail explanation about the system in terms of its problem, objectives, scope, and its significant will be discussed in the following parts of this chapter.

## 1.2 Problem Statement(s)

- Currently there is no any specific system to monitor the services and process running in any remote machine in the same LAN network. Although, there are some systems with this function already exist but it is congested with some other functions. So, the network administrator with less experience finds that it is difficult to use that system.
- Collecting network devices information in the network becomes difficult when the network is in large scale. The network administrators have to move from one node to another to collect the information. This is time consuming and troublesome.
- The network performance become slowly when some unused services running in the network. It degrades the performance of network and makes the end user feel uncomfortable.

## 1.3 Objectives

The objectives to be achieved by developing this system are:

- To produce a system that can have an access to other remote machine in the same LAN environment. This objective is the main target to be achieved since all the other two objectives depends on it. The system must capable to connect to other remote machine in the same LAN network once the remote machine name/IP, user ID, and password are supplied.
- To display information about any machine in the same LAN network. The information to be displayed are regarding the operating system, computer system, system processor, system bios, system time zone, logical memory configuration, network connection and video controller

- To monitor the services and process running in any machine in the same LAN network from the machine where the system will be installed. Firstly, the system will detect and list down the services and process running by the particular machine. Then, the administrator can start, stop or terminate any selected services or process in the remote machine.

#### **1.4 Scope**

RemoteInfo System can be used by any network administrator that intend to make their network monitoring and administration tasks easier. This system will be running on Windows platform and applicable only in Local Area Network environment. The features that will be included in this system are as below:

- Able to access remote machine in the same LAN network by supplying the machine's name/IP, user ID and password.
- Able to detect and list down services and process running by any machine in the same LAN network on demand.
- Able to start or stop any services running in any machine in the same LAN network.
- Able to terminate any process running in any machine in the same LAN network.
- Able to display any machine's information in the same LAN network. The information that must be displayed are regarding operating system, computer system, system processor, system bios, system time zone, logical memory configuration, network connection and video controller.

## 1.5 Project Significance

This project will produce a system named as RemoteInfo System which can be used by any network administrator to monitor and manage their network efficiently. By using this system, the administrator can perform many functions in once without wasting their time and energy. That's means, they does not have to configure machines in their network by moving from one to another machine. It is because, since the system provides remote access function to other machine in the network, the network administrator can performs their function as though they are working on that machine while sitting at the monitoring node where the RemoteInfo System will be installed.

This system also allows network administrator to view what are the services and process running on each machine in the network. Network administrator must supply the correct machine name, user ID and password to have access to the remote machine. Once the connection has established between monitoring node and client computer, all the process and services running in that remote machine will be listed out. From the list, the network administrator can change the status of each service or process. This function is very useful when a network administrator intend to reduce the traffic in the network. Some unused services might be running in the network without knowledge of the network administrator. Sometimes it involves transformation of big amount of packet. This sometime causes network congestion which then degrades the network performance. So, RemoteInfo System can be said as a useful tool to keep track on what services running on each machine and can be terminated if it is not needed.

Besides that, RemoteInfo System also capable to display certain important information about each machine in the network. The information that will be displayed is such as operating system, computer system, system processor, system bios, system time zone, logical memory configuration, network connection and video controller. All this information is important in case of any changes would like to be made in the machine for network upgradation process. Network administrator does not have to collect all this information by going one to another machine. RemoteInfo

System can aid by displaying all this information in one click of button for each machine in the network

## **1.6 Expected Output**

At the end of this project, production of complete RemoteInfo System with its functions as stated in the scope is expected. Network administrator can view both local and remote machine information using this system. To access the remote machine, network administrator requires supplying the correct machine name, user ID, and password. The connection with the specific machine will be established once all the data supplied has been authenticated. Then, the network administrator can view services and process running on that machine. Besides that, information such as operating system, computer system, system processor, system bios, system time zone, logical memory configuration, network connection and video controller also will be displayed. From the machine where the RemoteInfo System is installed, the network administrator can change the status of each service running in the remote machine. Besides that, any process running in the remote machine also can be terminated. Other than that, the network administrator also can collect some important information about each machine in the network using this RemoteInfo System.

## **1.7 Conclusion**

RemoteInfo System is a system planned to be developed as a tool to aid network administrator. Network administrator can save their time and energy by using this system. Besides that, it also helps to maintain the network in stable condition. Unlike other system in market, this system has remote access capabilities. All machines in a network can be monitored from a single monitoring node. Remote access function let the administrator to view all the services and process running by

each machine in the network and then change its status as intended. In addition, collecting information about all machines in the network also becomes easier.

The next step to be taken in developing this RemoteInfo system is to research on the similar existing system. The suitable methodology to be used in developing the system also will be analyzed. The system requirements in terms of its software requirement and hardware requirement also will be found out.

## **CHAPTER II**

### **LITERATURE REVIEW AND PROJECT METHODOLOGY**

#### **2.1 Introduction**

Literature review is a body of text that aims to review the critical points of current knowledge on a project topic. The literature review usually precedes a research proposal, methodology and results section. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as the justification for future research in the area.

Methodology is a particular procedure or set of procedures to be performed in developing a system. Software engineering methodologies span many disciplines, including project management, analysis, specification, design, coding, testing, and quality assurance. All of the methodologies guiding this field are collations of all of these disciplines.

Project requirement in this chapter refer to what are the tools needed by the project for accomplishing the project. In this case, Project requirement can be divided in two terms which are software requirements and hardware requirements. The software and hardware requires to conduct this project will be defined in this chapter.