BORANG PENGESAHAN STATUS TESIS^

JUDUL: Computer and Network Troubleshoot Helper Tool

SESI PENGAJIAN: 2005/2006

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COMPUTER AND NETWORK TROUBLESHOOT HELPER TOOL (CNTH TOOL)

CHE NORFAZILAH BINTI CHE MAN

This report is submitted in partial fulfillment of the requirements for the

Bachelor of Computer Science (Computer Network)

FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY KOLEJ
UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2005

DECLARATION

I hereby declare that this project report entitled

INTELLIGENT CONSULTATION SYSTEM

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

STUDENT : _____ Date: 25-11-2005
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DEDICATION

Firstly, special dedicated to my beloved parents because more helped me, at the same time give me a spirit and always pray to me to success in my studies. Not forgetting to my lecturers and friends who have encouraged, guided and inspired me throughout my journey of education.

ACKNOWLEDGEMENTS

First of all, I would like to give a special thanks to the Kolej Universiti Teknikal Kebangsaan Malaysia especially for faculty of information technology and communication (FTMK) for giving me such a great opportunity to carry the project.

Taking this opportunity, I would like to thank my supervisor, Mrs Haniza Nahar. Thanks for giving me the concern, support me, full trust of my ability and willing to pass me the projects and tasks.

The next appreciation goes to my parents that being together in for better and continual support in the process of complete this final year project proposal.

ABSTRACT

Computer Network Troubleshooting Helper tool is developing to solve the problem between user (student or staff) and IT Technician in an organization. This tool can detect the problem's symptom, and users automatically know what the problem is and how to solve it. The pop up message will be automatically displayed when the problem's symptom have been detected. User need to read the message and try to solve it based on problem's solution. After the problem has successfully managed, a pop up message will inform user and ask whether they want to save or close. The symptom and solution will be saved in database and will be automatically removed after 10 days. User can solve the simple problem by itself and they don't need to call the IT Technician to solve that problem. This way is easy to use and can save a lot of time for IT Technician. Users can find a solution in this tool, and then try to solve the problem by itself. User can directly communicate with IT Technician. Write down a message and send to IT Technician and they give a solution.

ABSTRAK

Computer Network Troubleshooting Helper tool dibangunkan untuk menyelesaikan masalah di antara pengguna (pelajar atau pekerja) dan juruteknik IT di dalam organisasi. Alat ini dapat mengesan gejala-gejala yang ada pada masalah, secara terus pengguna dapat mengetahui apakah masalah yang timbul dan bagaimana untuk menyelesaikannnya. Pop up maklumat akan dipaparkan secara terus apabila gejala pada masalah dikesan. Pengguna perlu membaca maklumat yang tertulis pada pop up maklumat dan cuba menyelesaikan masalah berpandukan penyelesaian pada masalah yang ada. Apabila masalah berjaya diselesaikan, pop up maklumat akan memberitahu pengguna dan bertanya kepada pengguna sama ada ingin menyimpan maklumat tersebut atau terus keluar. Gejala pada masalah dan penyelesaiannya akan disimpan di dalam pengkalan data dan akan dipadam secara terus selepas 10 hari. Pengguna boleh menyelesaikan masalah secara sendiri tanpa perlu memanggil juruteknik IT untuk menyelesaikannya. Cara ini mudah untuk digunakan dan dapat menjimatkan masa juruteknik IT. Pengguna boleh mencari penyelesain di dalam alat ini dan cuba menyelesaikan masalah dengan sendiri. Pengguna boleh berkomunikasi secara lansung dengan juruteknik IT. Pengguna perlu menulis pesanan dan dihantar kepada juruteknik IT, mereka akan memberikan cara penyelesaian untuk pengguna.

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ITH	-	Computer Network Troubleshooting Helper
JTKM	-	Kolej Universiti Teknikal Kebangsaan Malaysia
	-	Information Technology
AN	-	Local Area Network
E	-	Entity Relationship
ED	-	Entity Relationship Diagram
FD	-	Data Flow Diagram
AM	-	Read Access Memory
OM	-	Document Object Model
TML	-	HyperText Markup Languages
	-	IDentity
PU	-	Computer Processor Unit
B	-	MegaBytes
C	-	Network Interfaces Card
TP	-	Unshielded Twisted Pair
GM	-	Logical Data Model

CHAPTER I

INTRODUCTION

1.1 Introduction

In this chapter will be explaining about project background, problem statement, objective, scopes and project significant. The project background is introduction section which describes project as a whole but briefly. The problem statement is description of problems that directly influence the motives of the project.

The objective is identification of anticipated outcomes of the project in clearly specified terms and must be achievable also realistic. The scopes is what are the project deliverables, where, when and to whom are the deliverables provided such as specific user, platform, domain and size of project, and may includes the boundaries and constraints of the product. Lastly, project significant is describe who or what may benefits from the project and how, and spells out why this project is important also why the approach proposing is the best one to take.

1.2 Project Background

The computer and networking troubleshoot helper (CNTH) tool is developing to detect automatically and analysis the problem's symptom in the computer and provide the solution to solve the problem. User can directly communicate with other people to get a solution. This tool will be applied in the KUTKM's organization.

This tool detect automatically problem's symptom and users will be inform the problem is and try to solve it in the computer. The pop up message will be automatically displayed when the problem's symptom have been detected. User need to read the message and try to solve it based on problem's solution in this tool. After the problem has successfully managed, a pop up message will appear to inform user. The symptom and solution will be saved in database and automatically removed after 10 days.

It also provides a solution and assist user how to solve the problem's symptom. Users use a keyword of problem's symptom and search it in this tool. If that problem can't be solved by itself, users need the helps from IT Technician. User can directly communicate with IT Technician and doesn't need to approach. Write down the problem's symptom and send a message to IT Technician in the local LAN, also user can use the mail account to communicate with other people.

It's provided more benefits to user and also directly communicates to IT Technician. In this tool, user have a three way to solve their problem, the first is find a solution in this tool, second is send message to other people and the third is directly communicate with IT Technician. This chapter will give the acknowledgement about the project that will be developed.

1.3 Problem statements

They are several problem statements for this tool. In this section, it will be explain in detail, describe the problems exists in current situation and describe the solution. Firstly, there are no tools like this tool outside the market. So, it to difficult to detect the symptom problem's in the computer. When the problem occurred, users usually refer to IT Technician.

User also lack of IT knowledge and doesn't know what the problem is and how to solve the problem. At the same time, user has a little bit information about the troubleshooting. This tool will be recover that problem by develop one tool, that

automatically detect the problem's symptom and inform to user what the problem is, cause and solution. User just needs to follow the solution to solve the problem. Secondly, is IT Technician does need to come up to the user when the problem occurred. It will be take a lot of time and energy. This tool is easy to use because users directly communicate with IT Technician by sending a message to personal computer, after the message will be receive, IT Technician will be reply and gives a solution and doesn't need to move forward to the user. It will take a short time and can save an energy.

Thirdly, is the current helper tool can't directly communicate with other people. It's doesn't provide directly communication with other people. User can read the solution and use it but can't share the solution or get solution from other people. It doesn't have a two way communication between IT technician and other user. The solution is added two functions in this tool such as message and mail. Message function will be use for IT Technician in the local LAN and mail function will be use for other outside people.

Fourthly, is user's knowledge about computer's troubleshooting still less. Users don't have enough knowledge how to solve the problem occurred. This tool provides solution based on troubleshooting, user can read, learn and try to solve by itself. Its easy way and doesn't need a lot of time to learn. It also will be increasing their knowledge, skill and self confident for every user to try solving the problem by itself without the helps from IT Technician.

1.4 Objective

In this section, it will describe the objective in detail, the main objectives such as below;

- To detect the problem's symptom.

  This tool can help users to determine what the problem occurred, what the cause and how to solve it. Users can find the solution in this tool. This system will

be detect automatically the problem in computer especially hardware's problem, after detect the hardware's problem, this system will be analysis and identify what the symptom occurred and inform to user what a cause and solution to solve the problem.

- To improve the knowledge and skill for every user in an organization.

  With this helper system, user will learn something new about computer or networking from this tool and at the same time it will be improve the knowledge and skill. One day, in this university can bringing out many quality students. This is easy way how to learn something new with easy way. User does need to select which topic to read the information and the information will be displayed.

- To applied the hands-on learning.

  This tool can be used to learning and get more knowledge or skills about computer or networking troubleshooting, users doesn't need to search at web site or other references. To do that, it will take along time to get the information. With helper system, it's easy to use. User will be applying the hands-on learning while the solving the problem and system automatically inform to user these problem was successfully managed.

- To increase a self confident for every user.

  While the user try to solve the problem, the self confidence and spirit will be appear. User try to solve the problem by itself based on solution in this system. This way can help the user more confidence how to solve the problem by itself and doesn't need helps from IT Technician.

- User can directly communicate with other people.

  Users can send a message to other people in the local LAN or outside. It can improve the communication skills in an organization. User use easy way to get solution from other people in local LAN. IT Technician doesn't need to approach

the user in many places. It will take a lot of time to finish the entire problem with user.

1.5 Scopes

In this section it will describe the scope in detail, it has two main categories for this tool, its computer troubleshooting and networking troubleshooting. The detailed of scope such as below;

- The first category is computer troubleshooting.

  This category can help the user how to do the troubleshooting about computer. In this category list a topic about computer's problem such as hardware problem (hard disk and floppy disk failure, mouse can't detect and etc). For example, mouse connection fault. The pop up will display the messages "Mouse not detected windows error message" and the solution is reconnect the mouse.

- The second category is networking troubleshooting.

  This category can help the user how to do the troubleshooting about networking. In this category list a topic about network's problem such as hardware problem (unplug cable, network card failure and etc). For example, unplug cable. The pop up will display the messages "A network cable is unplugged", and the solution is plug in the cable.

- To detect the problem's symptom and users automatically know what the problem is and how to solve it.

  The pop up message will be automatically displayed when the problem's symptom have been detected. With helper system, the problem's symptom will be analyze and identify and the pop up message will be inform to user what the cause and the troubleshooting for that problem. Users read the message and know what to do to solve based on problem's solution.

- Find a solution from this tool.

  Type the keyword at the text box '*Search by Keyword*' and than click button *'Search'*. The list of topic will be display, user need to select which topic related with problem occurred. User also can select the solution by category such as computer or networking troubleshooting.

- The solution can share with other people.

  This tool allows to sending message by e-mail account. It's easy to communicate with other people. The information in this system will be share by sending to e-mail address. The helper system will identify the e-mail address and do the transmission file. User also can send the message to other user with use the same e-mail address.

- The solution allows saving in the personal computer for reference if the problem occurred again.

  The helper system allow user to save the solution in the computer and doesn't find the solution again. It's short time to get a solution and solved the problem. User can create own folder and file in the computer to save the information. User will be find the file or folder to display the information of problem's symptom.

- User can directly communicate with IT Technician.

  The IT Technician doesn't need to approach the user and reply the message and give a solution to user to manage the problem. User write the message in this system and send to IT Technician, this system will identify the IP address or computer name and send the message. After the IT Technician receive the message, need to reply and provide a solution to user.

- End user will be used this tool are students and staffs in an organization (KUTKM).

  It help them to learn how to do the troubleshooting of symptom's problem in own computer. This tool applies the hands on learning. Users do the practices based on solution and implement the solution in computer.

1.6 Project significance

The benefits of this project are especially for user and IT Technician in an organization. It's easy to use and more helpful to every user in an organization. Firstly, user can improve the knowledge and skills in learning. Try to learn something new, understand the solution and solve the problem by itself from this tool. Second is IT Technician easy to manage the works and make less decrease a load of work for IT Technician, also more focuses to important works for finish immediately. It's also can save a lot of time and energy.

Third is easy to directly communicate with IT Technician or other people to get a solution. User can send a message, discuss how to solve the problem and IT Technician or other people reply the solution. Users also allow sharing information with other people by e-mail account. Lastly, it can detect automatically the problem's symptom in the computer and inform to user what the problem is and how to solve the problem. Users quickly know and take action based on troubleshooting solution in this tool.

1.7 Summary

The conclusion for this chapter is explained the introduction, problem statement, objective, scope and project significant. The next chapter is needed to complete the literature review and project methodology. The literature review is searching, collecting, analyzing and drawing conclusion from all debates and issues raised in relevant body of literature. The project methodology is a way to use all available technique, tools and approaches used to achieve predetermined objectives. It can be a qualitative method, quantitative method and combined method. In the next chapter, need to describe in detail about project requirement.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

In this chapter will be explaining about literature review, project methodology, project requirement such as software and hardware, and project schedule milestone.

The literature review is searching, collecting, analyzing and drawing conclusion from all debates and issues raised in relevant body of literature. It can be complete through, first searching, collecting, scanning, studying and analyzing relevant sources such as books, journals, reports and many more. Second is extraction, analysis, drawing, conclusions from relevant sources. And third is presenting the result of literature review, either in the form direct quotation or by references from related sources.

The project methodology is a way to use all available technique, tools and approaches used to achieve predetermined objectives. It can be a qualitative method, quantitative method and combined method.

2.2 Fact and finding

The current helper tools provide context-sensitive help with windows applications and also have a top quality help file for software. Windows users expect to receive detailed documentation quickly. In this helper tool has a functions such as table of contents, keyword index, search topic and favorite's topics. In the topics have hyperlinked documents and one file need to distribute that can be read on any computer running Windows. It also have are collection of linked pages. The helper tool provide documentation in several forms, it's also can print a manual.

With helper tool, it easy to find information or get solution to solved the problem. The users also use this tool to understand how to use the application in window. It does provide general information. In networking level has many tools. It's easy to use and more helpful for user to finish their work. It does also improve the user's knowledge.

"The primary goal for an application help system is to provide the capability for the end user to get useful help information and get back on task as quickly and successfully as possible (Dex Smith, 2000)".

The design and implementation of online help systems continues to evolve along with the systems and technologies that they support. In helper system, the example from the product, more concepts and idea can be applied. The goal of this helper system is the application's response to the user's request for help is appropriate.

These systems want the user to work with useful information. It emphasizes that the design must provide the flexibility and power for developers to integrate help that is capable of responding at the user expects. In helper form, the interaction of a help system is a request/response transaction model. A request is made that represents a ness for information and the system responds by providing information the meets the need.