

**EXPERT SYSTEM FOR PC MAINTENANCE AND
TROUBLESHOOTING**

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This thesis is submitted to the Graduate Department of Information Technology College of Arts and Sciences (Applied Science) in partial fulfillment of the requirement for the degree of Master of Science (Intelligent System) Universiti Utara Malaysia

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ABSTRACT

Over the last decade expert systems have been applied in many different domains with varying degrees of success. Much has been learned about techniques for knowledge representation, inference engines and user interfaces. Another important factor in the success of an expert system is to take into consideration at the design stage the person for whom the final system is intended. Innovation and invention of cost effective and mobile computing changed community life style. The community and surrounding had moved together to have a better life and sophisticated. Inventing an application for a remote and expert system for PC maintenance and troubleshooting that can assist the users. This application has to be able to provide useful general solution to the predicament and issue when determining the feasibility of an expert system.

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CHAPTER 1

INTRODUCTION

In today's world, almost everybody is using a computer to do their job, and there are some of the organization is providing each of their staff with a pc or laptop. This is showing a computer is very important in running a business. Computers have simplified our working life to be more efficient and productive for example communication can be done through mail and instant messaging, presentation can be shared through NetMeeting and meeting minutes can be stored in workspace or shared drive.

Computers, especially notebook or laptop are very synonym with mobile lifestyle as it is very convenience. Broadband and wireless facility which allow user to access borderless information at anywhere and at any time, turn computer to be a need and not a luxury anymore. However, life not always easy, this gadget sometime is failing to operate properly. And not every computer owner is a troubleshooter or able to find out the root cause of the failure. Here is where the expert system is needed for help (Holger et. al, 2005).

Expert system is the human knowledge captured in a computer system to solve problem that ordinarily require human expertise (Turban & Aronson, 2001). The purpose of this is to capture the specialized and experience of the experts engineer and apply them to the individual problem. All the knowledge are stored and will be manipulated by the system to provide a specific solution, hint, advice, conclusion, recommendation and explanation in reaction to input by the users.

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6.4 Future Work

More studies and enhancement can be done by using artificial intelligence application in human judgments area especially using the hybrid technique or machine learning technique such as clustering or even fuzzy logic to define or include the important of probability or percentage of importance of each of the cues that contribute towards certain change in behavior or situations.

Graph or generating the report and statistic can be added as extra features to provide clearer information and easy to understand as visual interaction. The web interface will keep more information and will prompt the user to provide more information on the problem related and other description of the problem arise that might also contribute toward making the judgment and therefore use this information to come out with better diagnosis and decision.

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