INTELLIGENT WEB BASED SYSTEM FOR DIAGNOSING DIGESTIVE CANCER SYSTEM

A thesis submitted to the Graduate School in partial
fulfillment of the requirements for the degree
Master of Science (Intelligent Knowledge Based System)
By

Marliza Binti Abdul Malik

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ABSTRACT (BAHASA MALAYSIA)

Kanser merupakan sejenis penyakit merbahaya yang boleh membawa maut kepada penghidapnya. Angka kematian yang tinggi di kalangan pesakit kanser adalah berpunca daripada lambatnya penyakit ini dikesan. Justeru untuk mengatasi masalah ini, satu prototaip sistem telah dibangunkan untuk berfungsi seperti mana pakar yang boleh mendiagnos kanser sistem penghadaman manusia iaitu esofagus, usus, perut, hati, pankreas serta buah pinggang. Sistem pakar berasaskan web yang dinamakan Digest-Ex ini berupaya mengesan jenis kanser yang dihidapi oleh pengguna menerusi beberapa sesi soal jawab dengan pengguna. Selain melakukan diagnosis awal penyakit kanser, pengguna juga boleh mendapatkan maklumat umum mengenai sistem penghadaman manusia dan maklumat khusus mengenai kanser dan rawatannya. Keistimewaan utama Digest-Ex ialah ianya boleh dicapai oleh sesiapa sahaja yang mempunyai capaian Internet dari sebarang lokasi dan pada sebarang masa kerana ianya adalah sistem berasaskan web.

ABSTRACT (ENGLISH)

Cancer is one of the dangerous diseases which can contribute to a high death rate among the patients. This is due to failures to detect the symptoms of the disease as early as possible. This project proposed a prototype which function is to help the users to perform early diagnosis in a similar way of an expert. Human's digestion system has been chosen as a domain for the developed prototype. The system comprises of six parts, namely as stomach, colon, liver, bladder, pancreatic and esophagus. Digest-Ex has a capability to detect symptoms of cancer in any of these parts through a series of question and answer session. Apart from performing early cancer diagnosis, Digest-Ex also provides the users with general information on human's digestion system as well as specific information on each type of digestive system cancer and their treatment procedures. As a web based system, the prototype can be accessed through Internet by everybody at anytime, regardless of wherever he or she is.

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CHAPTER ONE

INTRODUCTION

1.1 The context of the study

Today's most frequently asked question about the Internet is "who is using it, and for what?". This question is almost as old as the Web itself. For the evolution of the Internet to continue, information providers must understand the user's needs.

The latest HON survey (1998) confirmed persistently high levels of user satisfaction, given that 95% agreed with the statement "I have found useful medical and health information on the Internet" (93% in the previous survey). Despite concerns about language barriers to widespread Internet usage, given the predominance of English, 82% claim to find information in their mother-tongue. This could support anecdotal evidence of the growth in the number of non-English language healthcare Web sites and other Internet resources, in particular in Europe.

The survey also shows an impressive shift of opinion about user-friendliness. While still not ideal user-friendliness appear to be growing: 83% of May-June

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