

AN EXPERT SYSTEM FOR DIAGNOSES AND TREATMENT OF TROPICAL DISEASES

A. E. Agbo, T. A. Nwodoh

Department of Electronic Engineering, University of Nigeria, Nsukka

ABSTRACT

This paper presents the development of an expert system, based on the Microsoft Windows Operating System, Structured Query Language (SQL) Server, and Visual Studio.NET. The system is intelligent, interactive, user-friendly, and performs a stepwise analysis of patients' complaints, filtering cognitive and emotional elements to be able to make inferences. It is intended to preserve medical expert knowledge on the diagnoses and treatment of tropical diseases. It can be very useful in areas where expert medical knowledge is scarce. Facts that constituted the knowledge base are gathered from expert medical personnel, peer review journals, and online resources. The expert system carries out its diagnostic investigations using a method referred to as Symptom Count Model (SCM). Here, the system uses library of symptom-related questionnaires to investigate the patient, and perform the symptom count to decide the likely disease. The technology can be very useful to institutions with clear objectives, rules and problems to provide consistent answers for repetitive decision-making, processes and tasks. The expert system would need to be updated periodically to cater for the new discoveries, and to enhance benefits by addressing the new changes in the medical diagnoses and treatment.

KEYWORDS: Expert system, SQL server, Visual Studio.NET, Tropical diseases, Symptom count model.