ABSTRACT

IMPLEMENTATION OF NAÏVE BAYES AND CERTAINTY FACTOR METHODS IN EXPERT SYSTEM FOR EARLY DIAGNOSIS OF DENTAL AND ORAL DISEASES BASED ON WEBSITES

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Teeth and mouth are parts of the body that are often poorly maintained. Dental and oral disease itself is often considered trivial by the community, even though if it's not treated immediately it can cause heart disease and stroke. The unequal distribution of dental and oral doctor makes it difficult for people to be able to check their dental and oral health. Therefore, it is hoped that this research can help people especially those who are not reached by a dental and oral expert to be able to find out the initial diagnosis of dental and oral diseases and advice that can be given. This system use a method in the diagnosis process, that is naïve bayes – certainty factor. Naïve Bayes itself is applied to find the probability value of each indication against a disease, while the certainty factor method is used to determine the confidence value of a disease that has been known from the results of the weight values given by the experts and users. This system is built using the PHP programming language and MySQL database. The data used in this system there are 10 types of diseases and 44 indications of dental and oral diseases. From the results of the study, it can be said that an expert system for early diagnosis of teeth and mouth based on a website was successfully created using the Nave Bayes method and the certainty factor. Then the system was tested with 2 stages, namely blackbox testing and system accuracy testing. The results of blackbox testing as a whole system can work well, while for the accuracy test the system uses 20 manual test data carried out by experts to obtain an accuracy of 95% which shows that the application of this expert system is quite effective in the early diagnosis process of dental and oral diseases.

Keywords: ***Dental and oral diseases, expert system, naïve-bayes, certainty factor***