EXPERT SYSTEM OF CHILD DISEASES CAUSED BY VIRUSES DIAGNOSIS WEB BASED

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ABSTRACT

Childhood diseases caused by viruses are highly vulnerable occur in children, that caused by the immune system that are in the child's body has not been built properly. Most of the parents also often do not recognize the symptoms of disease in the child's body that arises due to virus infection.

This expert system developed to diagnose diseases caused by viral infection of children. From this expert system can provide information about the disease, by definition, treatment and prevention. This expert system uses forward chaining method and the method of Certainty Factor.

Test results of consultation with this system showed that the system is able to determine the disease and its treatment and early treatment should be done, based on the symptoms that previously selected by the user.

***Keywords** : expert system, fordward chaining, certainty factor*

1. INTRODUCTION

Childhood diseases caused by viruses are highly vulnerable occur in children, that caused by the immune system that are in the child's body has not been built properly. Most of the parents also often do not recognize the symptoms of disease in the child's body that arises due to virus infection. Information on disease symptoms in the child's body is very important to know the parents, it is to avoid errors or delays in identifying the types of childhood diseases caused by viral infection.

2. PROBLEM IDENTIFICATION

Based on preliminary descriptions above, we can formulate the problem is how to make an expert system in diagnosing childhood illnesses caused by viral infection.

3. PURPOSE AND OBJECTIVIED

The purpose of writing this paper is to create Expert System Diagnosis of Diseases Caused by Virus-Based Child Web.
The goal of the writing of this research are:

1. Make it easy for parents to recognize the symptoms of childhood diseases in the body that arises due to a viral infection.
2. Facilitate parents in identifying the types of childhood diseases caused by viral infection.
3. Facilitate parents in making medical treatment quickly and appropriately on the child's illness caused by a viral infection.
4. With the existence of this expert system helps the users in the identification of childhood illnesses caused by viral infection.

4. ANALYSIS, DESIGN, AND IMPLEMENTATION

Source of knowledge for this expert system consists of data that the child's illness is caused by a viral infection and its definition, treatment, prevention and cause symptoms or information obtained from various sources such as books, e-books, internet, and from the interview with a doctor from the Hospital Hasan Sadikin.

4.1 ANALYSIS

With the current economic conditions, the cost for a consultation about the child's illness with a pediatrician is not cheap, besides the limited number of a pediatrician to consult about the disease causes the difficulty of this child. Basic knowledge about childhood diseases caused by viral infection is less understood by the parents, so that often happened delay or error in diagnosing and treating diseases of the child.
Therefore, based on the analysis problem, so the system is expected to be an alternative choice of consultation and information for parents about childhood illnesses caused by viral infections, and problems are analyzed on various childhood diseases caused by viral infection or cause symptoms beserta and treatment of disease.

Table 1. Relations Disease With Symptoms

GEJALA	PENYAKIT				
	P001	P002	P003	P004	P005
G001	*	*	*	*	*
G002	*				*
G003		*			*
G004		*	*		
G005			*	*	
G006	*				
G007	*				
G008	*				
G009	*				
G010	*				
G011		*			
G012		*			
G013			*		
G014			*		
G015				*	
G016				*	
G017				*	
G018					*
G019					*
G020					*
G021					*

Tracking tree that is used to diagnose the disease is the best method-first-search, can be seen in Figure 1:

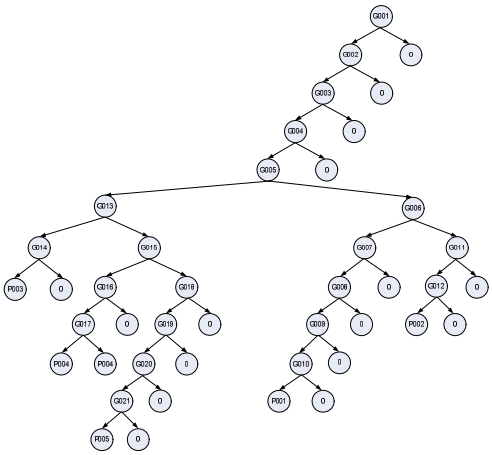


Figure 1. Tree Disease Diagnosis Expert System Tracking Child Who Caused By Virus-Based Web

4.2 DESIGN

Designing menus and menu structure contains submenus that allow a user to function within the system. Here is an overview of the menu structure Diagnosis Expert System Diseases Caused by Virus-Based Child Web.

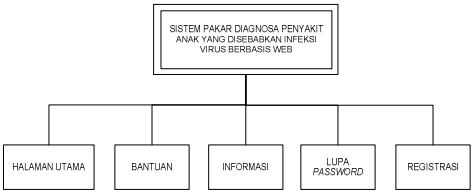


Figure 2. Main Menu Structure

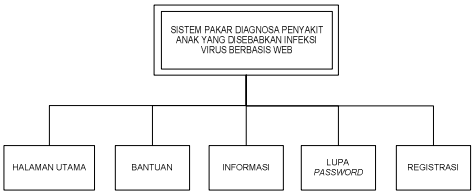


Figure 3. Expert Menu Structure

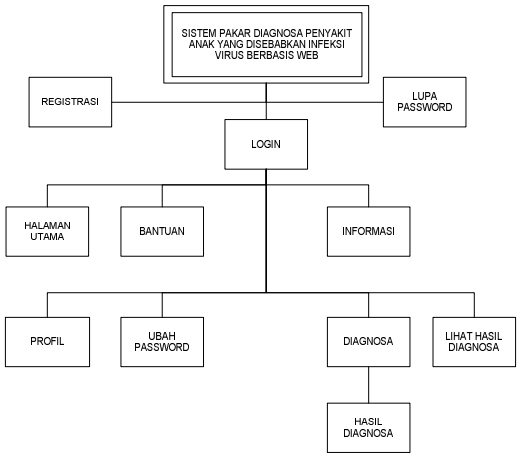


Figure 4. User Menu Structure

4.3 IMPLEMENTATION

Implementation stage is the stage where the processes that exist in the design stage which is implemented in software. Main page views Disease Diagnosis Expert System for Children Who Caused This Web-based viruses can be seen in figure 5.



Figure 5. Main Display

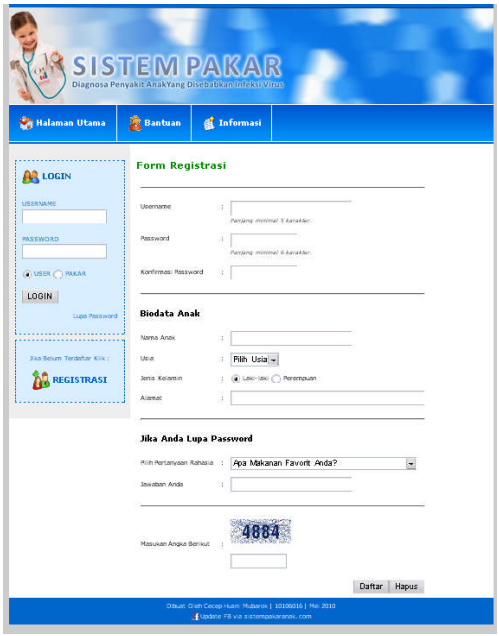


Figure 6. View Users Registration



Figure 7. Main Menu Display Specialists



Figure 8. Main Display User



Figure 9. View User Diagnostics

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis and testing that has been done, it can take several conclusions, among others:

1. In accordance with the percentage in the questionnaire, diagnostic expert system application that caused the child's illness was a viral infection, can perform initial diagnosis of a disease and provide information on the definition, treatment and prevention, which can facilitate users, especially the parents in recognizing symptoms and illness child caused by a virus, but for the processing function and structure of disease symptoms is still done manually by experts, resulting in an expert role in this function is so great that experts should be extremely careful in processing the structure and disease symptoms.

2. Application of expert system diagnoses the child's illness was caused by viral infections could be accessed online at www.sistempakaranak.com address, so that it can facilitate the public in obtaining information regarding the handling of initial treatment or prevention of disease caused by a viral infection of children.

To improve the performance of this expert system authors propose suggestions, including:

1. Processing functions and structure of disease symptoms in these systems so as not to be done manually by experts, but it is done automatically by the system or even to be done manually by experts, the display settings to display a tree structure as well as symptoms of disease directly.

2. Display interface system to be built more attractive to users.

3. Application of expert system diagnoses the child's illness was caused by a viral infection to be more socialized to the general public, so that the benefits of expert system diagnosis of the disease caused by a viral infection of children is more accepted by the general public.

4. The contents of the results of diagnostic conclusions to be made clearer to the ordinary people have no difficulty in making treatment or early treatment of pediatric diseases caused by viral infection.

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