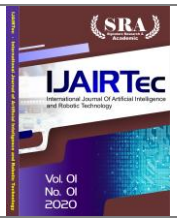

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SYSTEM OF ARTIFICIAL INTELLIGENCE HUMAN SKIN DISEASE DIAGNOSIS USING FORWARD CHAINING METHOD WEB

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Abstract
Skin disease is a disease that is dangerous and easily suffered many circles, due to lack of knowledge of skin disease they thought that all diseases associated with normal skin as a disease, but their assumption is not necessarily true. Or perhaps they suffer from other illnesses that are more dangerous than skin disease in the suffering so with the artificial intelligence system can help the community in gaining the desired information about disease outside especially skin diseases. System that has the ability as an expert to give certainty. Therefore, based on the needs of the physicians and the general public in addressing the shortage of doctors, it can be in the wake of software engineering with forwarding chaining method for diagnosing skin diseases by using a web-based system

I. INTRODUCTION

The development of technology in today's increasingly fast as any in the world of health, along with that, the progression of the disease and sufferers of the disease are also more real, the existence of technological progress and development that accompany human life, also developed technology that is able to process and think like humans Artificial Intelligence technology. Where artificial intelligence is a machine that is able to think, to weigh the actions to be taken, and were able to make such decisions made by humans. And artificial intelligence is divided into several areas of science, one of which is the expert system. An expert system is a science field of artificial intelligence section containing insights and experience entered by one or more experts into a machine or software so that the machine is able to solve problems that require expertise or human expertise[1], such as skin diseases in

humans at this time skin disease including that affects many in the general public, since starting to come his rainy season and flooding skin disease quickly attacks on the community, and as well as the general public to know some skin diseases, so that they can anticipate when experiencing .Only skin diseases because of lack of knowledge will be a skin disease they thought that all diseases associated with normal skin as a disease, even though their assumption is not necessarily true. Or perhaps they suffer from other illnesses are more dangerous than skin disease in the suffering.

Artificial intelligence system can help the community in gaining the desired information about disease outside especially skin diseases so we need a system that has the ability as an expert to give certainty. Therefore, based on the needs of the physicians and the general public in addressing the shortage of doctors, it can be in the wake of software engineering with forward chaining method for diagnosing skin diseases by using a web-based system. With the expectation that the system created to provide proper information to the public about skin diseases suffered by input symptoms and medication management solutions in the form of recommendations.

As some previous researchers have done Juna Eska, and Rika Nofitri (2018) In this study, we will design an expert system to diagnose urinary tract infection using forward chaining method. This expert system is used as an initial diagnosis to determine the type of urinary tract infections that are being suffered by the patient and also as a tool for physicians to be able to identify and be able to take decisions quickly and more accurately[2], Refni (2019). With the application program is expected to laymen who lack knowledge of measles will be more informed. Then the application is ease of use in diagnosing measles without having to go to the doctor, as well as easily accessible wherever and whenever. Tracking method used is a forward chaining reasoning method. The program is designed to use the media in PHP (Hypertext Prepocessor) and use the data base MySQL as data storage objective that can display more attractive and easy to use, can also be accessed internet[3],

Maharani (2018) with her no this study people can understand the importance of health to all of mankind and the growing human being affected by diabetes makes this system very helpful for physicians in the diagnosis of diabetes nefropathy to accommodate uncertainty or web-based physician decision[4]

This research was made an artificial intelligence that will be using the approach with forward chaining method for predicting or seeking the solution of a problem that starts with a set of known facts and then will lower a new fact.

II. METODE RESEARCH

think framework research reveals. A process for making an initial study to collect data, application design, then make the application. Furthermore, if the application is successful immediately implemented, but if the application fails it will be repaired and then further implemented and finishes.

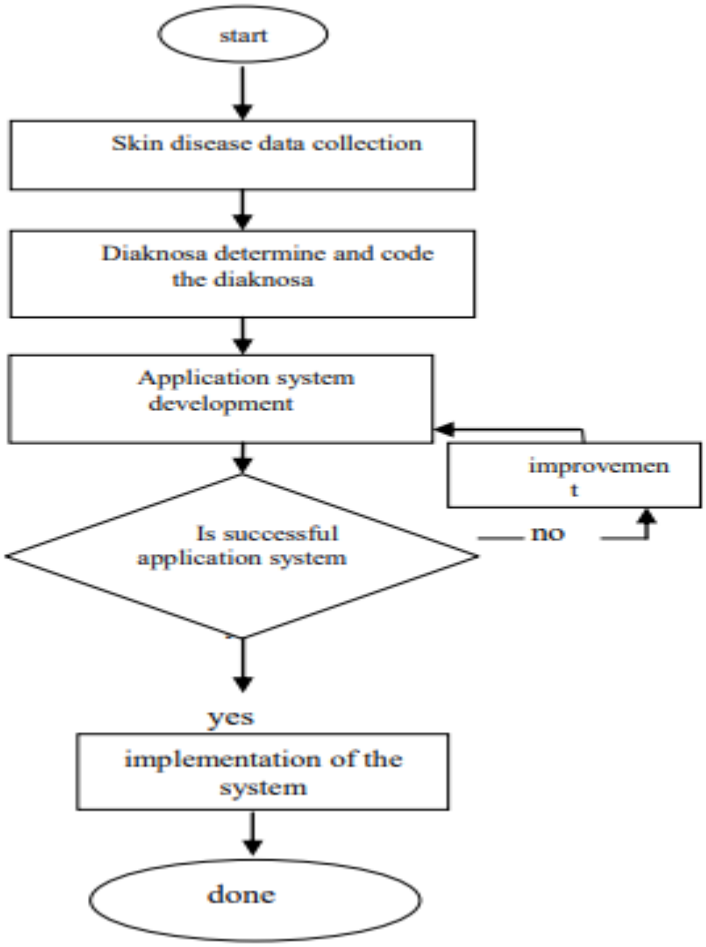

Figure 1 Flowchart lines of inquiry

Explanation of the above study:

1. In the first stage begins with a look for and collected data on skin diseases
2. In the second phase begins with the Determine diagnose and code the diagnosis
3. Making an application system by using vb.net and MySQL
4. The fourth stage is the testing system whether successful or not. if something goes wrong it will be redesignated and if it is up to the next stage.
5. the last stage of implementation

III. DISCUSSION

In the design of this system in the terms of needs and problems faced by patients author designed a system that makes it easy for patients in treating disease in skin diseases. use case diagram a portrait of the relationship between the user and the various user cases involved

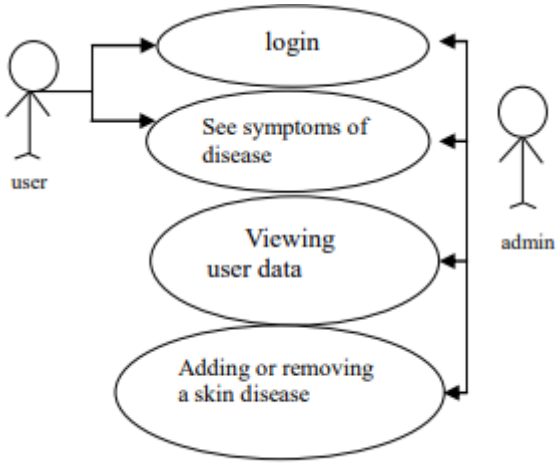

Figure 2 use case diagram

Data disease and the symptoms of disease in Table 1 is explain about code names of diseases and diseases of the skin

Table 1 code disease

Code Disease	Disease
P001	Eczema
P002	Measles
P003	herpes
P004	Pimple
P005	Melanoma
P006	Panu
P007	Impetigo
P008	Water fleas
P009	Boil
P010	Scabies

Data disease symptoms in Table 2 describes the symptoms and symptom code.

Table 2 code symptoms and symptoms

Code	symptoms of the disease
G001	Itchy
G002	Eritime (berwarah skin redness)
G003	Edema (fluid in the body swelling)
G004	Fever
G005	painful
G006	Body feels lethargic
G007	Dry and scaly skin
G008	lump enlarged
G009	Bloody
G010	purulent
G011	Sneeze-sneeze

G012	Fluid-filled blisters form scabs
G013	encountered in the whole body
G014	Putinh subtly colored patches until Hitan
G015	Spotting the color is not homogeneous, brown, black, red
G016	Aesthetic (in the form of blackheads, papules, pustules, nodes.
G017	Itching at night
G018	Itching or heat in the fingers
G019	irritation (blisters sometimes filled with pus
G020	Blister

Rules in designing Forward Chaining method. production rules written in the form of IF statement [premise] THEN [conclusion]. the premise is the symptom and the conclusion is a type of skin disease. In this expert system in a rule can have more than one symptom. And the symptoms associated with the use of logic and. The following statement in Table 3 describes the rule of rules on skin diseases

Table 3 rules if and then

No.	Rule
1	G002 G001 AND THEN IF P001
2	G004 G003 AND THEN IF P002
3	G006 G005 AND THEN IF P003
4	G008 G007 AND THEN IF P004
5	G010 G009 AND THEN IF P005
6	G012 G011 AND THEN IF P006
7	IF G013 G 014 AND THEN P007
8	IG G015 G016 AND THEN P008
9	G018 G017 AND THEN IF P009
10	G020 G019 AND THEN IF P010

Is the stage where the system is ready for use on the real situation, so they will know who created the system can actually produce an achievable goal.

A. Main page

On the main page there are some navigation systems such as Home and login each having a different function. And have also provided a link on the menu list Login for new users to register as a user on this website.

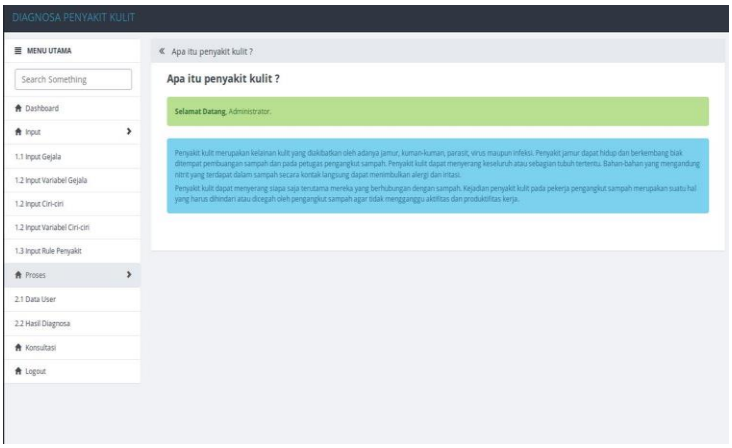

Figure 3 the main display

B. Registration of user

On this website, users must register as a user on the website to be able to perform diagnostics. Here, the user is prompted to fill in some of identity, and if it has filled all, users can simply press the save button, if all the data is valid, the system will store user data into the data base and the user can login with the user name and password that have been fed previous.

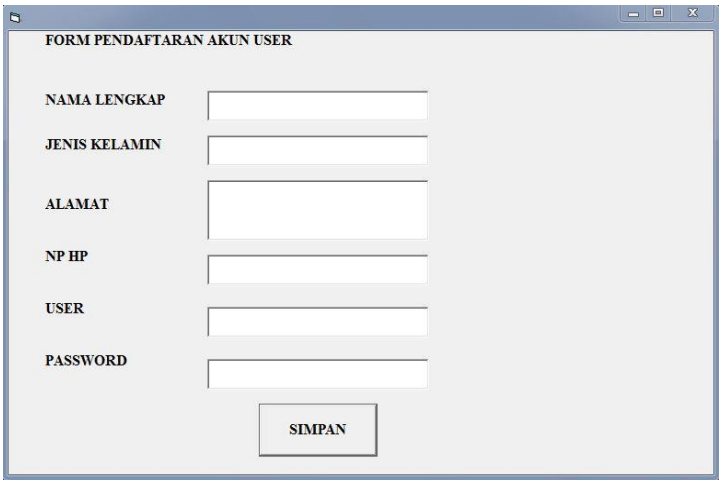

Figure 4 Display user account registration form

C. The login page

On the login page, users who have registered simply enter the username and password that has been registered previously. After that, simply press the Login button.

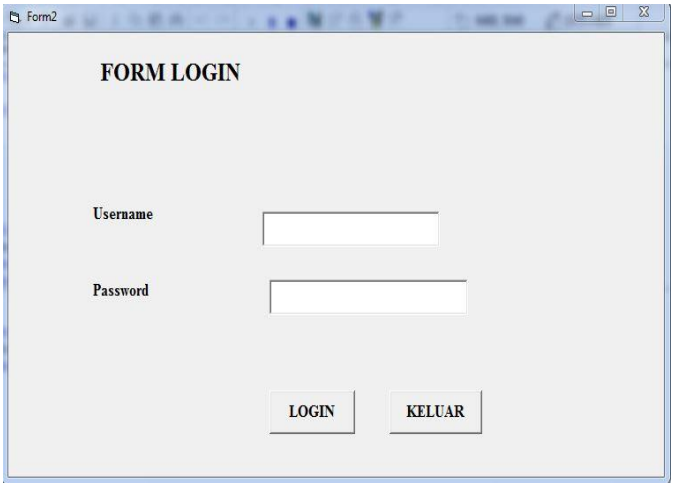

Figure 5. Display login

D. Diagnosis

When the user has logged in, the user can make the diagnosis by answering Yes or No, and then press up until the last question and it will appear the diagnosis

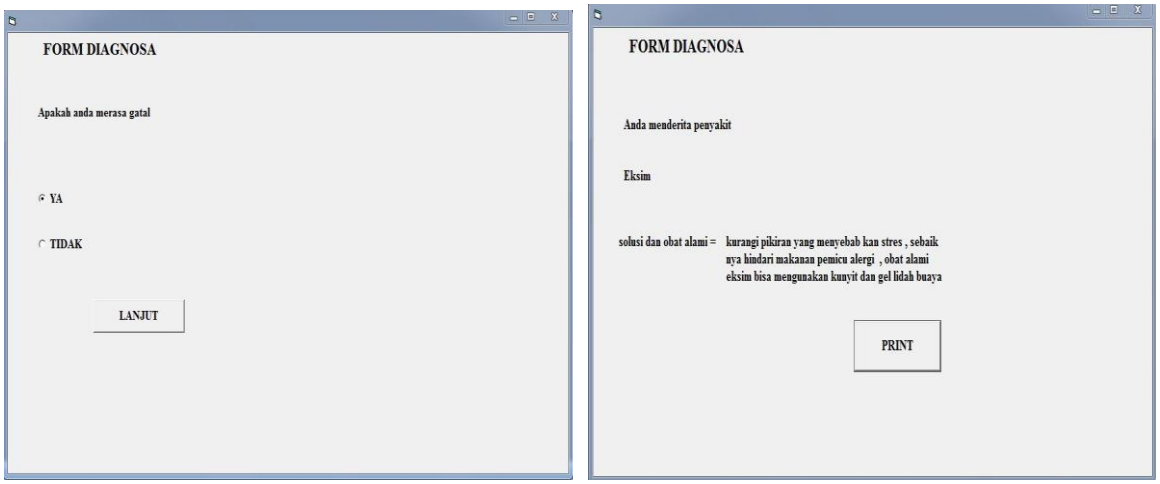

Figure 6. Diagnostic display

After the user answers all questions diagnosis, then the user will be shown the results of the diagnosis of the symptoms that the user selected previously. And there is a print button if the user wants to print the diagnostic results

IV. CONCLUSIONS

After analysis and direct observations are the object of research the authors can draw the conclusion that the system of intelligence Artificial diagnose diseases in makeable to provide more information about skin diseases with this system can help the user in dealing with a disease that suffered when a doctor or a limited or when a user does not have the cost of medicine.

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