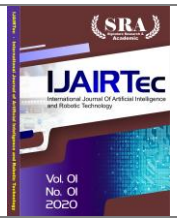

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LOVEBIRD BIRD DISEASE DIAGNOSIS EXPERT SYSTEM

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Abstract
Lovebird birds are one of the chirping birds that are being favored by the public today, apart from their melodious voice and beautiful color patterns. not a few breeders want to try to breed this type of bird, but some breeders who are just starting out tend to not understand what types of diseases can attack lovebirds. Farmers can even lose from this. Therefore, an expert system for diagnosing the disease of lovebird birds was created. The expert system for diagnosing lovebird birds is designed with a web-based application, while in the design it uses a Software Development Life Cycle, by taking a sample of the disease, namely dancing disease and with this disease diagnosis expert system it is hoped that it can help breeders know and deal with lovebirds that are affected by the disease. and also the percentage results that are likely to occur will also be displayed in this expert system.

I. INTRODUCTION

In living things, health is an important thing, especially for lovebirds or love birds which are currently popular in Indonesian society. There are various kinds of diseases that can attack the lovebird. Some of them can cause death. Therefore, to overcome it, we must know the type of disease and how to overcome it[1].

According to an article on chirping birds in Indonesia (Indobird 2012) states that one of the most kept chirping birds is a lovebird compared to other chirping birds. 20 percent in Indonesia in 2012 chose lovebirds as pets compared to other chirping birds, reaching 20% while other birds such as canaries 19%, kacer 17%, stone magpies 11%, pleci 15%, anis 7%, etc. 11%. This proves that there are quite a lot of lovebird breeders in Indonesia[2].

Mahmud & Ali (2014) With the existence of an expert system can provide information to users about the types of diseases that attack their lovebirds (early diagnosis) based on the symptoms given and provide information on how to prevent them[3]. In this expert system for diagnosing lovebird birds, researchers use a web-based application to diagnose types of disease in lovebird birds where one of the disease samples is taken[4], [5]. Researchers will also provide complete and updated symptom data. As well as providing education about the types of lovebird birds.

Based on the description above, this research was conducted to help breeders and to make it easier for lovebird breeders to diagnose the symptoms that occur in lovebirds and breeders to know how to treat them. With the problem of lovebird disease, this study aims to produce an expert system application to diagnose lovebird bird disease, using the Software Development Life Cycle method[6]. hopefully, this can help breeders to find out what diseases attack lovebird birds.

II. RESEARCH METHODS

2.1. Data collection

The steps that will be carried out in working on this journal are as follows:

a. Observation Method
   Observation is a method of collecting data about the lovebird disease by making direct observations. against the object to be studied by analyzing the system that is currently running at the location in Pringsewu Regency. At this time, breeders are experiencing problems related to what diseases attack lovebird birds.
b. Interview Method
   The interview method is a method of collecting information data about diseases in lovebird by face-to-face and direct questions and answers between the researcher and the source. Data is collected and information is manipulated by asking a question verbally to the farmer, asking for explanations and answers to the questions given, and to make notes about things that are disclosed by the farmer. The interview guidelines conducted were semi-structured. By first asking a series of questions, then one by one deepened by asking for further information. According to one farmer in the district. Pringsewu so that the furthest lovebird from various diseases must keep the cage clean every day.
c. Literature Method
   Reference data collection techniques through books and literature study research journals are carried out in accordance with related problems, the literature study is also carried out to find out which information systems will be applied. By studying and reading literature that has to do with the problem that will be the object of research.

2.2. Software Development Life Cycle

The method used for designing an expert system for diagnosing rice pests is the Software Development Life Cycle (SDLC). According to Muslihudin (2016)[7], the SDLC method in systems engineering and software engineering is the process of creating and modifying systems as well as the models and methodologies used to

develop these systems. SDLC is also a pattern taken to develop software systems. In its development, the SDLC method has several successive stages, including:

1. This planning stage aims to identify and prioritize what information systems will be developed, the targets to be achieved, the implementation period and, considering the available funds and who is implementing them.
2. System design the benefits of system design are to provide a complete blueprint, as a guideline for programmers in making applications. The design process will translate the full requirements of a software design that can be estimated before coding is made.
3. Coding and testing, coding is the translation of designs in a language commonly recognized on computers. This stage is the stage which is the real stage in working on a system. After the coding is complete, testing of the system that has been created is carried out, aiming to find errors in the system and then repair them.
4. System implementation, careful preparation of hardware, software, rooms, and other supporting facilities.
5. System Maintenance, the system maintenance stage covers all the processes needed to ensure the continuity, smoothness, and improvement of the system that has been operated. The software will definitely undergo changes, these changes can be due to errors, because the software must adapt to the environment (new peripherals or operating systems), or because customers need functional development.

III. DISCUSSION

3.1. System Planning

a. Use Case

Is a description of the functionality of a system, so that users can understand the usefulness of the system to be built.

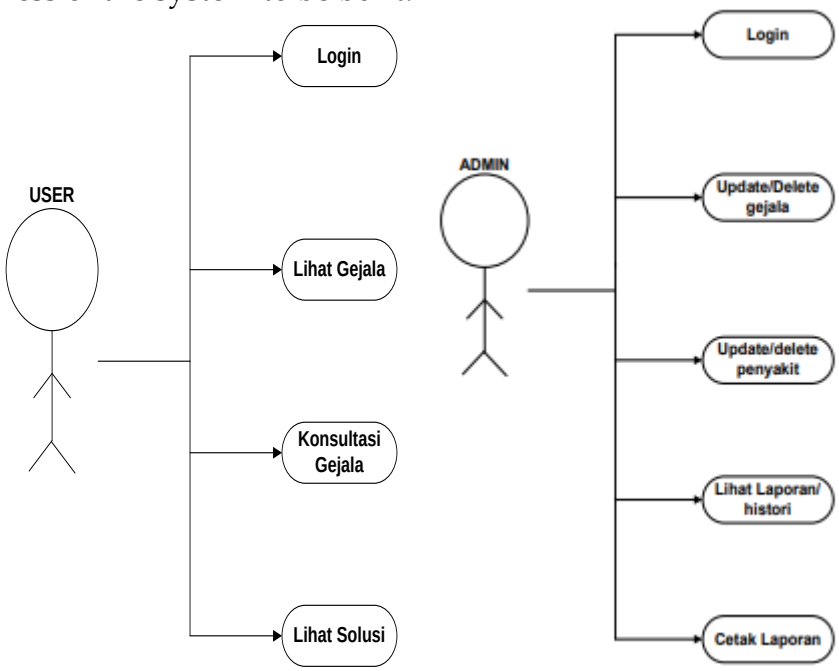

Figure 1. Use Case Diagram

User : the role of the user in this program is to be able to see the disease, consult, and see the solution of the program.
Admin **:** is a programmed processor in an application. The task of the admin here is admin login, insert / delete

b. Class diagram
Class diagrams are for connecting tables to one another which are interconnected

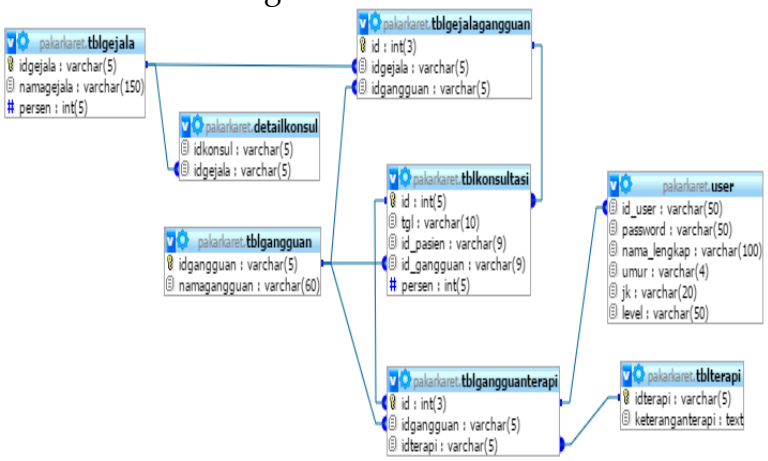

Figure 2. Class Diagram

3.2. Implementation

In implementing this, the researcher will show how the final design or final result of an expert system application for diagnosing lovebird bird disease that has been designed follows the appearance of the application:

a. Login Menu Display

The login menu design will appear at the time of the entry / login process. Before logging in, users are expected to enter the registration menu first. In this menu, the user will enter a username or password to log in to the next menu.

Figure 3. Display the Login menu

b. Symptom Menu Display

In the second menu is a display of some of the symptoms that will be diagnosed.

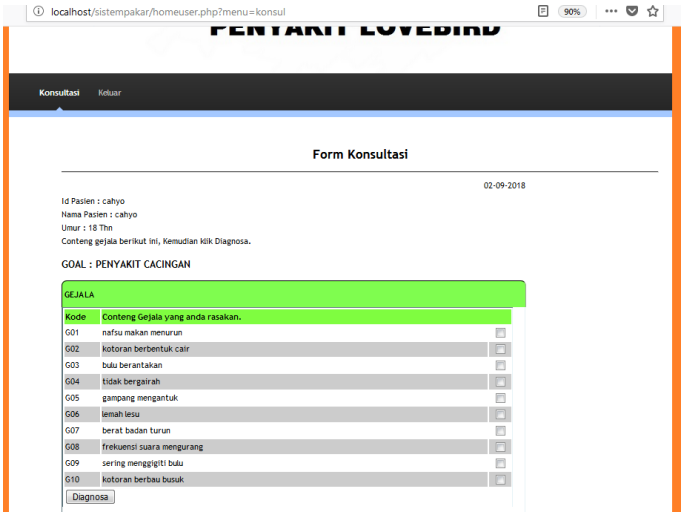

Figure 4. Display Symptom Menu

c. Diagnostic Process Display

The first step to diagnose worms in lovebird birds, the user will check the symptoms, then click the diagnosis command. After the diagnosis, the results will come out with a solution / prevention of the disease.

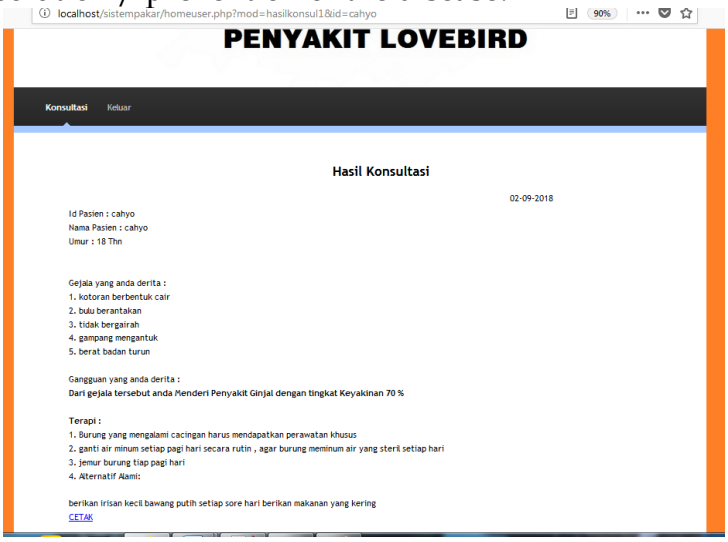

Figure 5. Display Diagnostic Process

3.3. Analysis of Research Results

The result of this research is a web-based application, which has been made to see how to use it. In addition, the results of this study did not escape the data obtained in the way described in the previous chapter, namely observation, interviews, literature study. The results of this application are for the process of diagnosing lovebird bird disease which can be run as we want. The study also analyzed the implementation of the application by giving a questionnaire containing several questions to 30 people. Of the 30 respondents who have filled out the questionnaire and tested the application that has been made, 70% of people or 21

people answered "yes" and were satisfied. Meanwhile, 9 other people answered "no" and were not satisfied with this application.

IV. CONCLUSION

From the results of the research and discussion carried out, it can be concluded that the expert system for diagnosing lovebird bird disease is made as a tool to determine the disease suffered by the user. Ordinary people can use this system easy to find out the possibility of diseases that attack lovebird birds. This lovebird disease expert system can easily be added or updated based on the knowledge of an expert.

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