Sistem Pakar Diagnosis Penyakit Ayam Broiler Berbasis Web

Riduan Syahri, Debi Gusmaliza & Risnaini Masdalipa

Teknik Informatika, Sekolah Tinggi Teknologi Pagar Alam, Indonesia

Email: syahririduan@gmail.com, debugusmaliza@gmail.com, risnainipga@gmail.com

Abstract

Mr. Jumaldi Jani, SP., MM Broiler Chicken Farm is a chicken farm that was founded in 2013. In carrying out its business processes, handling of raising and developing poultry is only handled by one person who is taken as the farm supervisor. This is very ineffective in handling diseases that attack chickens because the knowledge of the maintenance and handling of chickens that have disease is only owned by one person. The purpose of this study is to create a Web-Based Chicken Disease Diagnosis Expert System, which can be accessed easily, quickly, economically, can be done anytime or anywhere without knowing the distance and time. The method used in this research is web engineering which has stages: customer communication, planning, modeling, construction and deployment. The establishment of a Web-Based Broiler Chicken Disease Diagnosis Expert System is expected to facilitate the public about conducting consultations on Broiler chicken disease easily, quickly, and economically, it can be done anytime and anywhere without looking for distance and time.

Keywords: Web, Chicken Diagnosis and Disease

1. Introduction

Technological advances at this time are growing very rapidly, especially in the field of Computers and Information Technology, making computers not something foreign to humans but has been used as a facility that can help or facilitate all forms of human needs for information and technology. Statistics prove that the increasing use of technology is growing, the ability of computers to process information and knowledge at this time can no longer be doubted, this can be seen with the emergence of many artificial intelligence programs or called Artificial Intelligence which is one form of computer sophistication that can think and solve problems like humans.

Based on the results of observations and interviews at the Broiler Farm, Mr. Jumaldi Jani, SP., MM, which is located in Sandar Angin Rt/Rw.05/05, Rebah Tinggi Village, North Dempo District, Pagar Alam City, South Sumatra Province, it is known that currently the search for disease in chickens is Sickness is still done by guessing or looking on the internet about diseases in chickens, besides if the disease is too much then Mr. Jumadli goes to the veterinarian to consult about chicken diseases experienced in his farm. This method is still considered manual, namely Pak Jumadli must come directly to see a veterinarian (in this study the doctor in charge is Dr. Anhar Junaidi) to be able to consult about chicken diseases experienced in his farm, and even then if the doctor is there, but if the doctor is not If there is, Mr. Jumadli must meet the next day, this method is less effective because it can cause harm to the farm and to consult a veterinarian of course costs money.

With the construction of a Web-Based Broiler Disease Diagnosis Expert System, it is hoped that it will facilitate the general public in conducting consultations about diseases

in broiler chickens easily, quickly, and efficiently, and can be done anytime and anywhere without knowing the distance and time.

2. Literature Review

2.1 System

The system is a set of procedures that are related to one another, and are interconnected in performing a task. A system consists of 3 (three) main components, the three components are software, hardware and brainware. Information is data in the form of events, places or feelings obtained either from print media (newspapers, magazines, books) or electronic media (Internet, television, radio). The system is a combination of 4 (four) main parts, the 4 (four) parts are software (software), hardware (hardware), infrastructure, and trained Human Resources (HR). These four parts are connected to each other so as to create a system that is able to manage an information, so that the information can be useful. (Pratama, 2016)

2.2 Experts

According to Arhami, an expert is a person who has expertise in a particular field, that is, an expert who has special knowledge or ability that others do not know or are capable of in their field. (Rahman A. W., 2018), while according to (Fraud & Susilo) An expert is someone who has a knowledge of an object either in the form of disease, or another that can be used to help others or consult.

2.3 Expert system

An expert system is a computer program that simulates the judgment and behavior of humans or organizations that have expert knowledge and experience in a particular field. Usually, such a system contains a knowledge base that contains accumulated experience and a set of rules for applying basic knowledge to any given situation. Sophisticated expert systems can be enhanced by adding a knowledge base or set of rules. Among the many existing expert systems, the famous ones are chess playing applications and medical diagnosis systems (Widodo & Suhartono, 2017).

3. Research Method

This research will be conducted at the Broiler Farm, Mr. Jumaldi Jani, SP., MM. Address: Sandar Angin Rt/Rw.05/05 Rebah Tinggi Village, North Dempo District, Pagar Alam City, South Sumatra Province

In developing an expert system, it is known as the Expert System Development Life Cycle (ESDLC) (Turban and Aronson, 2005). This cycle is used as a reference from stage to stage to develop an expert system so that it is more structured and directed at its work. One of the important stages in the development of expert systems is the knowledge engineering process. Turban and Aronson (2005) say that the stages in the knowledge engineering process consist of the acquisition or gathering stage of knowledge to create a knowledge base, represent knowledge, create a knowledge base, validate knowledge, inference, and provide an explanation of the results. inference. The stages in this study were adopted from the ESDLC expert system development method, including the stages of project initialization, knowledge engineering process, and implementation.

The data collection method that the author uses in this research are:

1. Observation

This method is done by observing directly the object of research. The data obtained from the results of this field research is about the procedure in the process of diagnosing computer damage.

2. Interview

In this stage the author asks several questions to an expert to find information or data sources to create a new system.

3. Documentation

Documentation is to find data - data related to research. The documentation that the author collects in the form of photos.

4. Literature Study

Literature Studies, namely studying theories from both printed and non-printed books related to the object of research.

4. Findings and Discussions

In this chapter, the researcher will explain the results of the research, namely an expert system for diagnosing broiler chickens based on a web. With the construction of an expert system for diagnosing broiler chickens, it can facilitate the general public in conducting consultations about diseases in broiler chickens easily, quickly, and efficiently, and can be done anytime and anywhere without knowing the distance and time.

Making this system based on the system design that has been made in the previous chapter, testing in this study was carried out on two (2) actors based on the design in the previous chapter, namely the general public and livestock owners, this test was carried out by means of questionnaires or distributing questionnaires to users. The questionnaires were distributed to 8 respondents. This test is carried out in order to find out the errors and deficiencies that exist in the expert system for diagnosing broiler disease, as well as to find out the user's response to the expert system for broiler disease, and how feasible the expert system for broiler disease in farms is to implement.

How to operate an expert system for diagnosis of broiler chicken disease, namely:

1. Open File Browser or Opera or something else.
2. <https://consultation-disease-chicken-broiler.000webhostapp.com>
3. The main page of the expert system for diagnosis of broiler chicken disease will appear.
4. The computer or laptop needed to access the web is a computer or laptop that has access to the internet and has a browser application. Then to access on localhost, namely a computer or laptop that has an XAMPP application and a browser.

The explanation of the expert system for diagnosing broiler chicken disease is as follows:

1. Main Menu Page

The main menu design is the first page that appears when the admin or user accesses the web. The main page consists of a list button and a login menu.

Figure 1. Main Menu Page

2. Admin Main Page

The main admin page is the page that first appears when the admin successfully logs in, this page consists of profile menus, users, symptoms, diseases, diagnoses, reports and logout.

Figure 2. Admin Main Page

3. Symptom page

This page stores all disease symptom data, on this page the admin can input, edit and delete symptom data.

Figure 3. Symptom page

4. Consultation Data Page

This page is a page that is used to view diagnostic data, on this page the admin can only delete diagnostic data that has been carried out by the user.

Figure 4. Consultation Data Page

5. User Diagnosis Page

The user diagnosis page is the page that appears when the user is about to make a diagnosis, on this page the user can answer any questions given by the user, then after completion the system will provide feedback from the consultation carried out.

Figure 5. User Diagnosis Page

6. Consultation Results Page

The consultation results page is the page that appears when the user wants to see the data on the results of the diagnosis that has been done.

Figure 6. Consultation Results Page

5. Conclusion

In writing this thesis, it has been described how to design and build a Web-Based Broiler Disease Diagnosis Expert System. Then the researcher can conclude:

1. A web-based broiler disease diagnosis expert system can be created using PHP programming and MySQL database.
2. Facilitate the general public in conducting consultations on broiler chicken diseases.

3. Admin can print data reports of anyone who has consulted in the system
4. The results of the system test are using the questionnaire method which is distributed to the user (user) so as to get results according to the needs of the user (user), namely learnability, an average value of 4.00, good information, efficiency average value 3.25, sufficient information, average memorability. the value of 3.50 is sufficient, the average error is 3.5, the information is sufficient, the average satisfaction is the value of 3.00, the description is sufficient

References

- Andi. (2008). Mahir dalam 7 hari: Adobe Dreamweaver CS3 dan PHP. Yogyakarta: C.v ANDI OFFSET.
- Antoni, D., & Akbar, M. (2019). E-supply chain management value concept for the palm oil industry. *Jurnal Sistem Informasi*, 15(2), 15-29.
- Antoni, D., Fikari, D., & Akbar, M. (2018). The readiness of palm oil industry in enterprise resource planning. *Telkomnika*, 16(6), 2692-2702.
- Antoni, D., Herdiansyah, M. I., Akbar, M., & Sumitro, A. (2021). Pengembangan Infrastruktur Jaringan Untuk Meningkatkan Pelayanan Publik di Kota Palembang. *JURNAL MEDIA INFORMATIKA BUDIDARMA*, 5(4), 1652-1659.
- Antoni, D., Jie, F., & Abareshi, A. (2020). Critical factors in information technology capability for enhancing firm's environmental performance: case of Indonesian ICT sector. *International Journal of Agile Systems and Management*, 13(2), 159-181.
- Fathansyah. (2015). Basis DAta. Bandung.
- Fauzi, F., Dencik, A. B., & Asiati, D. I. (2019). Metodologi Penelitian untuk manajemen dan akuntansi. *Jakarta: Salemba Empat*.
- Ichwan. (2011). Pemrograman Basis Data Delphi 7 & MySQL. Bandung: Informatika Bandung
- Iskandar Sulaini, S. M. (2014). Internet Untuk Pemula. Yogyakarta: Deepublish.
- Kuris, D. (2006). Membangun Bersama Rakyat. Palembang: Anugrah Pena Sendiro.
- MADIUN, M. (2016). PEMOGRAMAN PHP DAN MYSQL. YOGYAKARTA. Menjadi Master Website dalam Hitungan Menit2011BekasiDunia Komputer
- Nugroho, B. (2008). Aplikasi Pemrograman Web Dinamis dengan PHP dan MySQL. Yogyakarta: GAVA MEDIA.
- Rosa, & M.Shalahuddin. (2015). Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek. Bandung: Informatika.
- Sangadji, E. M., & Sophia. (2010). Metodologi Penelitian . Yogyakarta: Andi.
- Shalahuddin, R. A. (2015). rekayasa perangkat lunak tersruktur dan beriontaso objek . bandung: informatika.

Tanujaya, E. (2009). Pengembangan Web Kreatif dengan Adobe Dreamweaver CS4. Jakarta: Salemba Infotex.

Taufiq, R. (2013). Iistem Informasi Manajemen. Yogyakarta: Graha ilmu

Triwahyuni, A. K. (2005). Pengenalan Teknologi Informasi. Yogyakarta: Andi.

Utomo, P. E., & Akbar, A. (2011). 1 Menit Bikin Web Sendiri dengan PHP & jQuery. Yogyakarta: MediaKom.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>)