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Design and Build Information System of the Joper Chicken Plasma Core at PT. Barokah

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ABSTRACT

Breeding joper chickens with a partnership system is a form of business that is currently on the rise, breeding in partnership is a form of cooperation between breeders (plasma) and companies (nucleus). The yields will be divided according to the percentage agreed upon in the contract agreement that has been made between plasma and nucleus. It takes approximately 12 weeks for the farmer to raise the chickens until harvest. During this period, breeders must take care of the chickens maximally so that it is hoped that the harvest will be profitable for both the farmer as the plasma and the company as the nucleus. There needs to be extra careful management in the process of cultivating joper chickens because chicken farming can be said to have a high enough risk. Therefore, this system was built in order to overcome problems such as irregular feeding or vaccines, manual recording of daily chicken development, disease management and lack of insight into diseases that chickens often get, as well as weighing calculations that are still being carried out. Manually. So that by overcoming these problems the crop yields will increase and the level of productivity of chickens is controlled. The tools used in making this system are Visual Basic. Application design method using ProtoTyping method.

INTRODUCTION

The need for animal protein is very important in human life, therefore at this time many entrepreneurs carry out production efforts on livestock, one of which is raising hens. Joper chicken or better known as super jowo chicken is a chicken that can be harvested in a relatively short time.

The concept of a partnership with a contract system or better known to the community with a partnership system is that the core company is obliged to provide sapronak (feed, DOC, and OVK) and technical advisors, while breeders who act as partners are obliged to provide cages, equipment, operations and manpower. This cooperation is set forth in a contract document agreed by both parties. The contents of the contract documents include contract prices for livestock production facilities (sapronak), selling prices for chickens, performance bonuses, and rules of the game of cooperation. The partnership system with a chicken farm partnership system is one strategy to increase production efficiency. Breeders prefer to work with partnership companies because the price of food against the selling price of meat is fluctuating.

This partnership system combines the effective management of the farm and the means of livestock production as described. A common

problem is that bookkeeping is still done manually, making it more prone to data loss and human error. Another problem is the management of feed stocks or vaccines that are not regular, which can lead to miscalculations in the estimated income at harvest time. The next problem is when recording the development of chickens every day, which does not get written attention from the cage, even being forgotten. Then rather than that, the way to deal with chicken disease which can confuse the coop employees is also a fundamental problem in raising these joper chickens, and at harvest time, the counting process is still manual, so it is prone to miscalculations, and the calculation process is carried out manually. manual so it's not efficient. To assist in designing this system the authors use the prototyping method, this method has characteristics that are able to approach the user, so that the system to be made more quickly accepted by the user. From some of the descriptions of the problems above, the author feels the need for a web-based broiler management system to support productivity and efficiency in raising broiler chickens, so as to produce maximum yields. Objectives: The objectives of this final project are: 1) Implementing the prototyping method for the design of the Joper chicken management system. 2) Build a system that can evaluate the development of broilers and increase effectiveness in raising chickens. 3) Provide warehouse stock information in order to estimate the feed that will be used. 4) Provide information related to diseases, handling methods and drugs or vaccines against hens. 5) Provides information on profit income after harvest.

Based on the background as described above, researchers can identify any problems at PT. Barokah which has the status as a core company, namely:
a. Difficulty in monitoring population development, especially feeding and vaccination schedules
b. Recording the development of chickens every day which is still done manually

MATERIALS AND METHODS

Prototyping can also be called rapid application design (RAD) because it simplifies and speeds up system design. The reason researchers took the prototyping method as a system design method was because they had made comparisons of several methods such as the waterfall and spiral methods. The prototyping method involves the user in the analysis and design of the system so that it saves time in system development, and its implementation is easier because the user knows what he expects.

The prototype model is suitable for developing a device that will be redeveloped (Pressman, 2012: 51). This model begins with the collection of user or user requirements. Then make a design quickly which will then be re-evaluated before carrying out the development process correctly.

Prototyping is a software development method, which is a physical model of the system's work and functions as an early version of the system. This prototyping method will produce a system prototype as an intermediary for developers and users in order to interact in the process of information system development activities (Ogedebe, 2012).
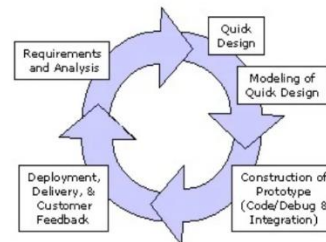

Fiugre 1.The prototype paradigm

The prototype is not something complete, but something that must be re-evaluated and modified. Any changes can occur when the prototype is made to meet user needs and at the same time allow developers to better understand user needs.

According to Pressman (2010: 43), the stages in prototyping are as follows:
1. Collecting customer and developer requirements together to define the format of the entire software, identify all requirements, and an outline of the system to be made.
2. Build a prototype. Build prototypes by making temporary designs that focus on serving customers (for example by creating input and output formats).
3. Evaluation of the prototype. This evaluation is carried out by the customer whether the prototype that has been built is in accordance with the customer's wishes. If it is appropriate then step 4 will be taken. Otherwise the prototype is revised by repeating steps 1, 2, and 3.
4. Encoding the system. This stage is the prototype that has been agreed upon is translated into the appropriate programming language.
5. Test the system. After the system becomes a ready-to-use software, it must be tested before using it. Testing is done with White Box, Black Box, Basis Path, architectural testing and others.

6. System evaluation. Customers evaluate whether the finished system is as expected. If yes, step 7 is done, if not, repeat steps 4 and 5.
7. Using the system. Software that has been tested and accepted by customers is ready to use.

Information system is defined by RobertA. Leitch and Roscoc Davis in the book Teguh Wahyono (2004), are as follows: "An information system is a system within an organization that meets the needs of daily transaction processing to support information, is managerial and strategic activities of an organization, and provides certain outsiders with the necessary reports."

This research is a Research and Development (R&D) research. The R&D research model includes a strategy or research method that is powerful enough to improve practice (Sukmadinata, 2005: 164). R&D research to find or create new products that have advantages in terms of effectiveness, efficiency and productivity (Putra, 2012: 67).

The approach that will be used in this research is to use the prototyping model, in which the prototyping model is a suitable model for system development. Prototyping is a software development method, in the form of a physical model of the system work and functions as an initial version of the system (Ogedebe, 2012).

The data collection technique is the most strategic step in research, because the main purpose of research is to get data. Without knowing the data collection techniques, the researcher will not get data that meets the set standards (Sugiyono, 2013).

The data that has been collected will be analyzed to determine the system requirements to accommodate all operational activities.

1. Identify the Use Case

   Use case diagrams describe the actors involved with software or systems that are built and the processes that are in it. The use case diagram of the broiler culture management system is as follows :
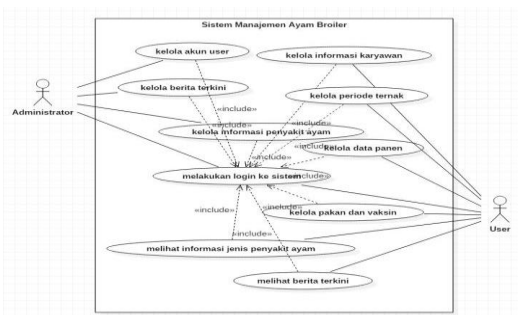

Figure 2. Use Case Sistem

2. Identifikasi E-ERD

   On this occasion, several entities will be needed to build the desired management system, as for the arrangement and relations of each required table that uses the ERD standardization previously described, shown in the following figure:
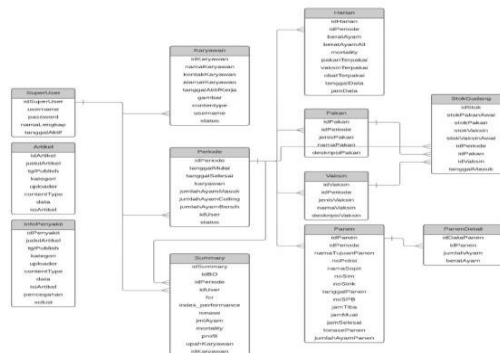

Figure 3. E-ERD Sistem

3. System Prototype

   Prototype is a stage aimed at transforming the abstract properties of an idea into a more tangible one. This stage is not only a process of visualizing ideas but also of developing ideas.

   In general, Prototypes fall into two categories: low-fidelity and high-fidelity. The prototyping process used in Design Thinking is low-fidelity or Rapid Prototyping. This process emphasizes the creation of a fast, easy, inexpensive and basic manufacturing process

4. Blackbox Testing Analysis

   Based on the results of the blackbox testing that has been tested on clients or breeders where the case study for this final project is Mr. Surfani, SE., Functional testing has been carried out using a test case, so the result is that this joper chicken management system has been running according to mutual agreement and is running. well.

RESULTS AND DISCUSSION

The components used for this system are the purchase of DOC (Day Of Chicken), feed and OVK (Vaccine Medicine), the grower cycle, the harvest of chickens, the sale of chickens, the mutation between cages and the administration of drugs.

The purchase of a hen from the seller is made by calling. The farm owner places an order with the seller. The seller records all purchase orders that have been placed by the owner of the farm. After an agreement is made between the owner of the farm and the seller, the seller

provides a copy of the DOC purchase note to the owner of the farm. Payment is made in cash on the spot or with a payment deadline according to the agreement between the owner of the farm and the seller. After payment is made, the seller sends the DOC. The original purchase note is exchanged for a copy of the purchase note when the DOC is sent.

The cage clerk checks the feed supply. When the chicken feed is running out, the cage officer will give a report to the farm owner. The farm owner places an order for feed purchases. Purchase of feed from sellers is made by calling The seller records all purchase orders. After an agreement occurs between the owner of the farm and the seller, the seller provides a copy of the purchase note. Payment is made in cash on the spot or with a payment deadline according to the agreement between the owner of the farm and the seller. After payment is made, the seller sends the feed. The original purchase note is exchanged for a copy of the purchase note when the chicken feed is sent. The system for purchasing drugs and vitamins is the same as for the purchasing system for feed.

This cycle records the development of day-old chickens (DOC) until they grow into large chickens (pullets) that are ready to be harvested and sold. All costs incurred during this grower cycle will be capitalized into the cost of producing large chickens

Sales can be made by calling or during a round order. Each buyer asks how many chickens he wants. After that, the buyer makes a payment. In that instant, the employee gives the buyer the original sales note.

Health checks on this farm are carried out by officers. This examination is carried out if there are signs of unhealthy chickens. If there are no signs of chickens, then the examination is not necessary. If a chicken is sick, an injection will be given.

Data Flow Diagram (DFD) level 0 can be seen in Figure 2. In the purchase process, there are 4 processes, namely purchase entry, delivery, payment, and purchase returns. The following is an explanation of each process:

1. Purchase entry

    This process begins with ordering goods from suppliers and recording supplier data into the database.
2. Shipping

    This process begins with the delivery of the goods by the supplier, then the goods are received along with the purchase note. Then the goods are checked and matched with the purchase note.
3. Payment

    In this process, purchase payments are made to the supplier in accordance with the purchase note. After making a payment, the warehouse table will be updated.
4. Purchase returns

    In this process, purchase checks are carried out for items purchased in accordance with the purchase note. If it is not suitable or defective, a purchase return will be made.

CONCLUSIONS AND SUGGESTIONS

Breeding hens in partnership is a form of cooperation between the farmer (plasma) and the company (nucleus) and has been regulated in a contract agreement that has been made between plasma and nucleus. The time it takes for 12 weeks for the farmer to raise chickens from doc to large hens to harvest. There needs to be extra careful management in the process of cultivating joper chickens because chicken farming can be said to have a high enough risk. Desktop-based information systems that are designed according to the needs of joper chickens in partnership are a solution that can provide guidance and control in the management of DOC chickens to large chickens and are ready for harvest.

The design of the core information system of the Ayam Joper plasma was built using the prototype method and the SQL server data base.

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