Data Processing and Plant Identification Based on Computer

Ahmad Sujana*, Mohamad Abduh Rosyidin, Purwadi Budi Santoso, Magambit, Salamatul Afiah
Informatics Department, STT Mandala Bandung
*aahmadsujanasttm@gmail.com

Abstract. The Plant Conservation Agency (PCA) in processing plant data is very much needed for identification speed. So that if the data is needed quickly, the time needed to perform the data search process will be even faster. In this data processing, there are several categories which will be divided based on the rights of the user who uses this application. The first category is user data processing for admin, garden collection data processing for operators, plant collection data processing for operators, and plant registration data processing for operators. All categories can be entered by users who are permitted to use this plant data processing system. The system development method used is the Sequential Linear Waterfall Model. Design concepts using structured concepts. The results of the alpha testing of this plant data processing system are that a functionally built system can produce output as expected, and for the results of beta testing of the plant data processing system that was built this is a plant data processing system that is made to process plant data and plant development data, plant data processing systems that are created can display plant data in PCA quickly, plant data processing systems can make plant data reports in PCA

1. Introduction

Information system includes a number of components in it (humans, computers, information technology, and work procedures), besides that there is also something that is processed (data becomes information), and is intended to achieve a goal or goal[1]. Microsoft released SQL Server which was co-developed with Sybase. Initially SQL Server was designed to run on the OS / 2 platform [2]. In order to meet the market demand for data management solutions, SQL Server always strives to improve its performance by presenting features that make it the best choice as a tool for system management and tuning with good scalability and reliability[3]. System analysis is a very important part, because in this system analysis a complete information system is broken down into several components in order to identify and evaluate problems, opportunities, obstacles that occur and the expected needs so that it can be proposed. Improvements[4]-[5], development of a Software (Software), which aims to develop systems and provide guidance for the success of a system development project through certain stages. [6]-[7]. The system is a collection of abstract and physical sub-systems that are integrated with each other and collaborate to achieve a certain goal[8].

2. Methodology

Linear sequential proposes an approach to systematic and sequential software development starting at the level and progress of the system throughout the analysis, design, code, testing, and maintenance.[8].
Waterfall Model

The stages of the waterfall method are as follows:

a) System / Information Engineering and Modeling Because software is part of a system, the first step begins with building the requirements of all system elements and allocating them to the software by paying attention to their relationship with humans, hardware and databases.

b) Analysis It is the stage where system engineering analyzes the nature of the programs to be built, as well as things that are needed in software development (Software).

c) Design is the stage where the process steps are focused on data structure programs, software techniques, detailed procedures and their classification as well as translating the analyzed data into a picture that is easily understood by the user.

d) Coding (Coding) Is the translation stage of the design of the maximum form that can be read. The design is done in a detailed way, although coding can solve it mechanically.

e) Testing (Implementation) Is the stage of testing the results of the design (software testing), as well as checking to find errors and produce the actual output according to demand.

f) Maintenance (Maintenance) Is the stage where a software (Software) that has been submitted to the user (user), can experience changes or additions in accordance with the errors found and requests from the user.

Waterfall model is the stage where a software that has been delivered to the user can undergo changes or additions according to the errors found and requests from the user.

3. Result and Discussion

Context diagrams are tools for structural analysis. This structural approach is to describe the system in general or as a whole. In this context diagram the information system created will produce the information sources needed and the objectives to be generated. The context diagram of Plant Data Processing at Cibodas Botanical Garden can be seen at below:
From the DFD above, it can be explained that the process in the system consists of five processes, from the login process where the login process validates the user data who will use the system, then the process of changing the password data for the user, then the process of entering plant data and will be stored directly in the database, plant data collection processes, farm data collection processes. In this context diagram the information system created will produce the information sources needed and the objectives to be generated, in the picture above illustrates the process process in several menus.

![Entity Relationship Diagram Plant Data Processing](image-url)

**Figure 3.** Entity Relationship Diagram Plant Data Processing

The Entity-Relationship Model which contains the components of the entity-relationship set and the set of relations, each of which is equipped with attributes that represent all facts from the real world that we are reviewing, can be described more systematically by using entity-relationship diagrams (E-R diagrams). Entity relation diagram (ERD) is an object that can be defined in the user environment, the proposed ERD can be seen in the figure below.

4. **Conclusion**

From the results of testing and data processing, it can be concluded that the development of Plant Data Processing is as follows: Plant data processing that has been made can process plant data collection and plant development data. The system created can provide plant data information quickly. The system built can be used for the production of plant data reports and rapid plant development data. Functionally, the system is able to produce the expected output such as the results of the blackbox testing that has been carried out. Plant Data Processing that is made can make plant data reports more detailed and organized.

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