

Analysis of employee data system at the department of public works development and spatial plan of the province of south sumatera

Aisya Idah Triputri Paskalita ^{a,*}, Jimmie ^b

^{a,b} Muhammadiyah University of Palembang, Palembang, Indonesia

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E-mail: Aisyatriputri0191@gmail.com*

ABSTRACT

In the current era of globalization which is marked by various kinds of changes in aspects of human life, especially changes in developments in the field of information technology which is growing rapidly from year to year. Developments in this field aim to improve an effective and efficient data collection system, both in a company and in government. To implement the data collection system, a company and government really need a program in managing employee/employee data that is more effective to maintain the smooth operation of a company and government. The procedure for processing employee data at the Public Works Department of Highways of South Sumatra Province has been supported by technology, but its use is only limited to processing data using application packages in Microsoft Office, namely Excel and Word. Basically the application can meet the need for data processing required but there are some things that are lacking. The system that runs on the Personnel Subdivision of the Public Works Department of Highways still has problems in terms of storing employee data and other reports. Until now in the storage of a data is still classified as semi-computerized. Therefore we need a computerized data storage concept so that various difficulties related to employee data processing can run efficiently.

I. Introduction

The use of technology is needed as a tool so that companies can develop and advance. The development of information technology (IT) has an influence on the development of the company. Without us realizing it, technology has affected the work system in the company. For example, if you used to store administrative data using a system that is still manual. Now change to using technology. Correspondence and other documents can be stored on a computer in the form of documents because there are technological facilities. In fact, now komputer dan internet telah menjadi kebutuhan principal in corporate agencies. And so on: technological developments that occur also affect the work system within the company.

If we show and we trace the progress that has been achieved, it is very closely related to data and information. The problem lies in how to use accurate data and information. Currently, many information system applications are dynamic and interactive for use in Information Technology, telecommunications and others. Which is very helpful for humans in completing the process of handling Information Technology [1].

Based on the description above, this research is to analyze the employee data information system at the Public Works Department of Bina Marga and Spatial Planning in South Sumatra Province.

II. Method

2.1. Design Analysis

The system is a network of interconnected procedures, gathered together for an activity to complete a certain goal.

Information is the result of data processing that has benefits or does not have meaning [2].

Analysis is a thinking activity to decompose a whole into small components so that it can recognize the signs of components, the relationship of each component, and the function of each component in an integrated whole [3].

The Unified Modeling Language (UML) is a family of graphical notations supported by a single meta-model, which helps in the description and design of software systems, especially systems built using object-oriented programming.

The Pieces method is an analytical method as a basis for obtaining more specific issues. This method uses six variables, namely Performance, Information/Data, Economic, Control/Security, Efficiency, and Service [4].

- 1) Use Case Diagram is a modeling to describe the behavior of the system that is created and describes an interaction between one or more actors with the system created and used to find out what functions exist in a system and who has the right to use these functions [5].

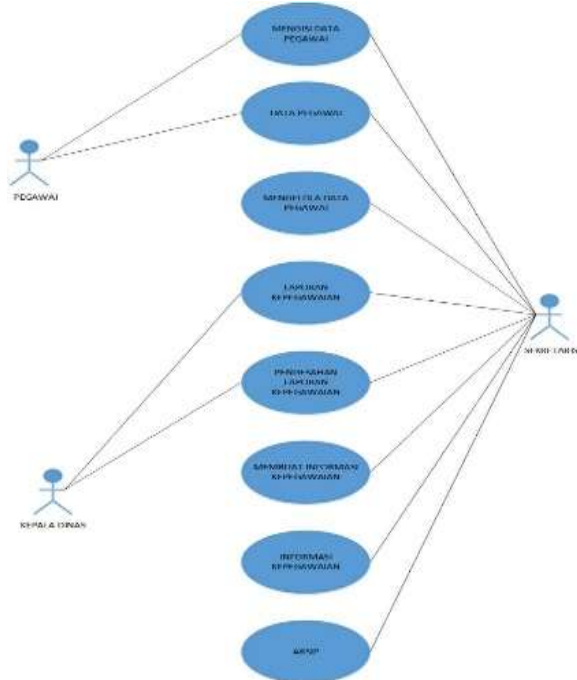


Figure 1. Use Case Diagram of Employee Data

- 2) Activity Diagram provides an illustration of the flow of each function in the system. Activity Diagrams can also describe parallel processes that occur in several executions. Activity Diagrams are made based on one or more use cases in the use case diagram [5].
- 3) Sequence Diagrams show or display interactions between objects in a system arranged in a sequence or time series. This diagram is specifically associated with use case diagrams. Sequence diagrams also show step by step what should happen to produce something in the use case [5].

2.2. Discussion Analysis

The employee data system contained in the Public Works Department of Highways is currently being processed manually. The process of storing and processing data is also quite time consuming and inefficient. With the current system, it is possible for data to be lost and difficult to find in the search process for a required system data.

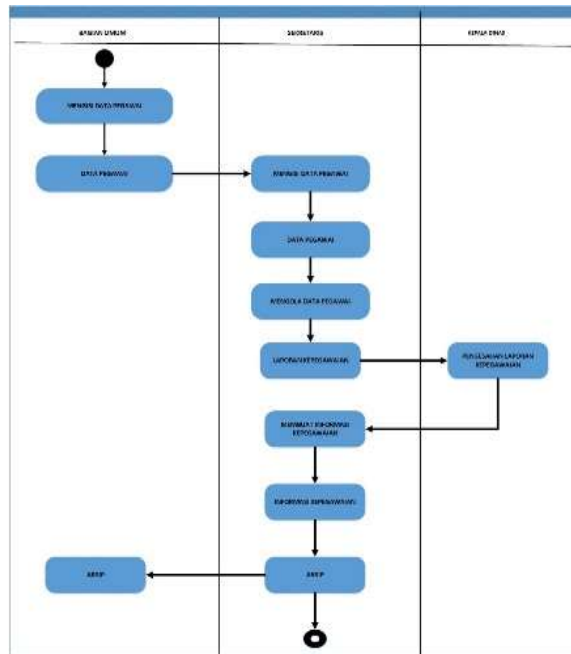


Figure 2. Figure 2 Activity Diagram of employee data.

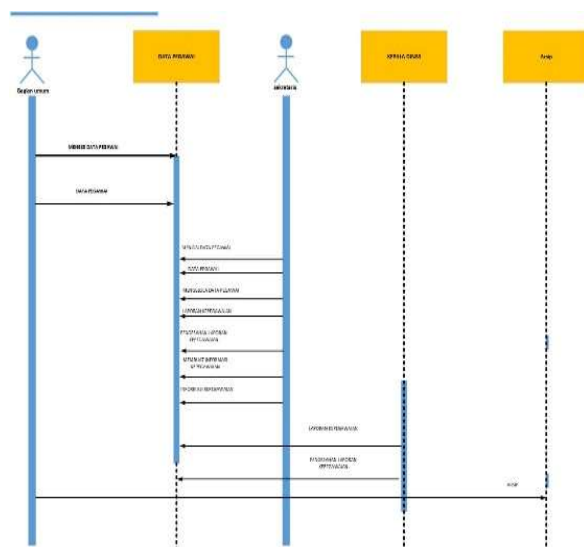


Figure 3. Sequence Diagram Data Employee

The data processing of employees at the Public Works Department of Highways and Spatial Planning has been supported by technology, but its use is only limited to processing data using application packages in Microsoft Office, namely Excel and Word. Basically the application can meet the need for data processing required but there are some things that are lacking. The system that runs on the Personnel Subdivision of the Public Works and Spatial Bina Marga Office still has problems in storing employee data and other reports. Until now, the data storage is still

classified as semi-computerized. Therefore we need a computerized data storage concept so that various difficulties related to processing employee data can run efficiently.

III. Results and Discussion

The Pieces method is an analytical method as a basis for obtaining more specific issues. This method uses six variables, namely Performance, Information/Data, Economic, Control/Security, Efficiency, and Service. Based on the stages of analysis of a system carried out with the Pieces method, the results of the analysis of the performance of the system are obtained [4].

This pieces method uses six evaluation variables, namely:

- 1) Performance (Performance), is an analysis of the system's ability to complete tasks properly
- 2) Data or Information (Information), is the most important thing for a user on a system in making decisions
- 3) Economy (Economy), is the use of profits or losses that will be obtained in the application of the system
- 4) Control or security (Control), is useful for improving system performance, preventing or detecting abuse or system errors.
- 5) Efficiency relates to the utilization of existing resources so that they can be used as best and as economical as possible
- 6) Efficiency relates to the utilization of existing resources so that they can be used as best and as economical as possible
- 7) Service, is a description of the current situation regarding the services provided by the existing system.

Tabel 1. Problem Analysis Pieces

No	Pieces	Problem Analysis
1	Performance	The required data cannot be displayed directly because it must be searched from many files, for example it occurs when searching for employee data archives. So it takes time to search the data
2	Information	There was an error in the information collection process because the presentation of the information submitted contained an error in data input, for example when presenting information on employee data reports there were still errors
3	Economy	There are still many expenses in the process of sending orders or other letters that are still in the form of hard files using a lot of paper, stamp and ink.

4	Control	There is no control over employee data collection so it cannot be known at any time when an error occurs in inputting employee data, because data collection is still using Ms. Excel
5	Efficiency	Material against the use of paper, ink, and stamp used for documents and correspondence is too excessive
6	Service	Services to employees in data collection often experience delays due to errors in data input and requires quite a lot of time.

Based on the analysis of the method used, there are several problems in the system, therefore the next step is to determine cause and effect to make it easier to draw conclusions whether the system is good or still needs improvement.

Tabel 2. cause and effect analysis

No	Problem	cause and effect analysis
1	The required data cannot be displayed directly because it must be searched from many files, for example it occurs when searching for employee data archives. So it takes time to search the data	Cause: Data stored in a separate place Consequences: It will take a long time to display the required data
2	There was an error in the information collection process because the presentation of the information submitted contained an error in data input, for example when presenting information on employee data reports there were still errors	Cause: Errors in inputting data such as class, attendance and others Result: Incorrect calculation of employees and employee reports
3	There are still many expenses in the process of sending orders or other letters that are still in the form of hard files using a lot of paper, stamp and ink	Cause: The data is in the form of a hardfile using paper Result: spending money in large amounts compared to data in softfile form
4	There is no control over employee data collection so it cannot be known at any time when an error occurs in inputting employee data, because data collection is still using Ms. Excel	Cause: Miscalculation and information Consequences: Employee information can be spread

5	Material against the use of paper, ink, and stamp used for documents and correspondence is too excessive	Cause: Excessive use of paper, ink, stamp Result: Spending large amounts of money
6	Services to employees in data collection often experience delays due to errors in data input and requires quite a lot of time.	Cause: Error in data collection due to data input error Result: There was a delay in the employee's report.

IV. Conclusion

Based on the analysis of the discussion that has been carried out regarding the analysis of employee data information systems at the Public Works Department of Bina Marga and Spatial Planning, conclusions can be drawn.

- 1) General Affairs and Personnel is one of the divisions within the organization of the Public Works Department of Highways and Spatial Planning of the city of Palembang, this division is in charge of managing the affairs of Service Administration, Personnel, Equipment, Finance, Public Relations, and preparing Service Reports.
- 2) In the General and Program Sub-Section at the Public Works Office, Bina Marga Palembang in storing data still uses Microsoft word and Microsoft excel.
- 3) The tools and equipment used in the General and Program Sub-Section at the Palembang Highways Public Works Service are still lacking. The archives on Ordner are still messy, not neatly organized, and when

searching for the required data archives it takes a lot of time.

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