

Employee Payroll Information System On Company Web-Based Consultant Engineering Services

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Abstract—CV. Consulting Engineering Services is a company engaged in building construction consulting services. In this company in processing employee salaries still use manual calculations and use the Ms. Excel program. This can lead to errors in calculating employee salaries and the process of printing employee salary slips which takes a long time. In solving this problem, the authors designed an employee payroll information system. In this design, the authors use the PHP programming language. The method in this research is the Waterfall Method. The method in this research is through observation, interview, documentation and literature study. The system design is made using Contex Diagram, HIPO, Input Output Design, relationships between tables and database design. The system is made in a program with the PHP programming language with a database format using MySQL. The result of this design is to produce an application program that will be used to process web-based employee salaries in CV. Consulting Engineering Services and it is hoped that companies will find it easier to input data and compile payroll reports to be faster and more efficient.

Keywords— Information Systems, Employee Employment, PHP, MySQL

I. INTRODUCTION

Salary is a payment in the form of money given to a worker as a reward for the work or work that has been done to the company. Companies in providing salaries have different systems. Where the salary given by the company for workers is in accordance with the level of class and position. This can make a company experience difficulties in calculating the salary of the workforce. This is due to the large number of workers and the time spent in calculating the salary is very short, usually done at the end of the month.

CV. Consulting Engineering Services is a business entity engaged in building consulting services. Employee payroll system contained in CV. Consulting Engineering Services have been using a manual process so far, namely in the process of calculating salaries, they are still using the Ms. Excel assist program, where the employee salary calculation process takes a very long time so that this causes errors in calculating and reporting employee salary data. Seeing this problem, a solution is needed that can later help the system.

In connection with this problem, a computerized employee payroll information system, especially web-based, is needed. Because internet technology can be accessed anywhere. And by using a computerized web-based application is expected to be more effective and efficient in work and minimize errors in the calculation and reporting of employee salary data[1].

II. RESEARCH METHODS

The following methods in system development are as follows:

- System Planning : The first stage, the developer will collect data on customer needs. At this stage, the developer can know what kind of system to build.
- System Analysis : The software design stage is a continuation of the software requirements process, namely designing or designing including data processing based on function, document flow, proposed system

flow, database design, interface definition, and input - process - output explanation.

- System Design : The construction stage or the stage of making this software is the stage of building and making applications by coding according to the planned design.
- System Implementation : This stage includes making a software or system. After conducting analysis, design and coding, the finished software system will be used by the user. The stage of implementing the system if the software and hardware systems have been prepared, such as software, hardware, user requirements. The author will use the PHP programming language then use the MySQL system database and use the Waterfall method.
- System Testing : This stage of system testing is carried out to check whether the resulting system can be run according to certain standards (wishes). This is important in order to find errors or deficiencies in the system being tested. This is done to briefly check the accuracy of the system.

The test tool used is the questionnaire test. The test carried out is black box testing. Where black box testing focuses on the functional requirements of the software that is made without testing the design and program code. Testing is intended to determine whether the functions, input and output of the software comply with the required specifications[2].

III. RESULT AND ANALYSIS

In the discussion, discussing the results of research in the form of system design as a whole are as follows:

3.1 Computerized System Analysis

System analysis is a process that must be carried out to determine the problems that must be faced. This stage is very important, because the inaccurate analysis process causes the results that are not as expected. So for this process it must be really in accordance with the use so that the results can satisfy the user and have the right benefits. Consulting Engineering Services CV requires a system that

can simplify payroll. For this reason, it is necessary to have a computer-based decision support system so that it can simplify the payroll process[3].

3.2 System Design

This stage is the development of systems and the creation of new procedures in accordance with the desired needs. The design of this system is to meet the needs of system users and provide a clear picture of the computer program that will build the new system. Data flow diagrams in system design are used to provide an overview of the data that enters the system which is used as input and the data generated from the system as output[4].

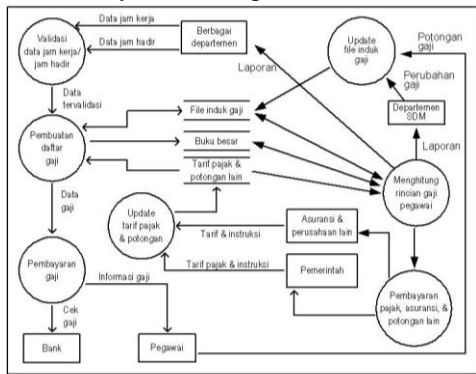


Figure 1. DAD System Information

3.3. System Implementation

System implementation is the stage of implementing the system if the software and hardware systems have been prepared :

1. Payroll Input Design

The input design is usually in the form of a form which is the basis for entering data into the system. The following is the input design for the payroll system:

Figure 2. Payroll Input Design

2. Display Criteria Settings

Display criteria setting form is used to determine the value of each of the criteria.

a. Login view

This login display appears when the program is run. The login form is used to restrict other users who do not have access rights to the system.



Figure 3. Login View

b. Salary Slip Report Display

This view contains a display of the results of the payroll system report shown in Figure 4.

Figure 4. Salary Slip Report Display

c. Display manage payroll data

The Payroll Data Form in the admin menu functions to manage employee salary data.

Figure 5. Manage Payroll Data

3.4 System Testing

Testing is a system test process at the end which is also useful for testing the system. There are two system tests, namely the functionality test and the validity test. following the test:

1. Functionality Testing

This test is done to test each form or page on the new system application. Test each application page menu, then create a test scenario into a table. The formality testing method used is alpha testing with the Black Box testing method. This is done by providing a number of inputs to the input program and then processing it according to its functional requirements to see whether the application program can produce the desired output and is in accordance with the basic functions of the program. If from the given input, the process can produce output that is in accordance with its functional requirements, then the program created is correct, but if the output produced does not match its functional requirements, there are still errors in the program, and then corrections are carried out to correct errors. that happened. Following are the results of the test in the form of a test table to produce a test value.

Table 1. Functionality Test

No	Question	Assessment	
		Yes	No
1	The system can display data according to the menu and data search category	√	
2	The system can perform employee data processing operations (add, change, delete, and display details)	√	
3	Sistem dapat menampilkan form aktifitas karyawan	√	
4	The system can display employee activation forms		√
5	The system can display the details of the Calculation of Benefits	√	
6	The system can convert the recap of salaries and wages of employees into *.pdf format		√
7	The system can display the employee timesheet filling portal form		√
8	The system can display employee salary and wage approve forms	√	
9	The system is able to check if the username and password are correct	√	
Total		6	3

2. Questionnaire Testing

In testing this questionnaire is used to measure the level of user satisfaction of this application, namely by making a lift the value of user satisfaction to system users. This test is done to test each form or page on the new system application.

Table 2. Testing Interface and System Access

No	Question	Assessment				
		SS	S	N	KS	TS
1	The system has an attractive appearance			√		
2	The system is easy to use		√			
3	The language used is easy to understand		√			
4	Relatively fast loading time		√			
5	The menu on the system is functioning properly		√			
6	The system displays an error message if the user enters wrong data			√		
7	The system displays a success message if the user enters data correctly			√		
8	The choice of interface color is correct		√			
Total			7	1		

Value Description :

SS : Strongly Agree (Very Good)

KS : Disagree

S : Agree

TS : Disagree

N : Neutral

Questionnaire Test

$$V(G) = E - N + 2$$

E = Number of edges of the flow chart

N = Number of graph simules

So that the Cyclomatic Complexity is obtained:

$$V(G) = 9 - 8 + 2 = 3$$

The path basis that results from linearly independent paths is the path:

Line 1 = 1 - 2 - 4 - 5 - 7 - 8

Line 2 = 1 - 2 - 4 - 5 - 6 - 8

Line 3 = 1 - 2 - 3 - 8

So there are 3 alternative paths that can be taken to reach the final goal

Table 3. Questionnaire Test

Line	Input	Process	Result	Description
1-2-4-5-7-8	Running the system, save section data	Input data section	Stored data	Success
1-2-4-5-6-8	Running the system, save section data	Input data section	Stored data	Success
1-2-3-8	Running the system, save section data	There is an empty data input section	Stored data	Success

3.4 SWOT Analysis

SWOT analysis is a systematic identification of various factors to formulate a company strategy. This analysis is based on the logic that can maximize strengths (Strengths) and opportunities (Opportunities), but simultaneously can minimize weaknesses (Weaknesses) and threats (Threats). The strategic decision-making process is always related to the development of the company's mission, goals, strategies and policies. Thus the strategic planner (strategic planner) must analyze the company's strategic factors (strengths, weaknesses, opportunities and threats) in the current conditions. This is called a Situation Analysis. The most popular model for situation analysis is a SWOT analysis [5]

IV. CONCLUSION

At the end of this pentup is made in the form of conclusions and suggestions, namely as follows :

4.1 Conclusion

Based on the results of the analysis and discussion discussed in the previous chapter, the author can make decisions, namely:

- a. Employee Payroll Information System can assist in managing payroll so as to produce appropriate information.
- b. Helps in making it easier to find employee payroll information with a faster search for information.
- c. With this system can improve and speed up the administrative processing process employees CV. Engineering Consultant Services.
- d. Testing system functionality using the Black Box produces normal results or is in accordance with the system.

4.2 Suggestions

Suggestions that can be given for the development and performance improvement of the payroll information system are:

- a. There is a need for additional automatic attendance calculations for employees to be integrated by simplifying the calculation of employee salaries.
- b. For security in storing employee payroll data against viruses or hardware damage, periodic backups should be performed.
- c. In the payroll information system for employee data, photos of employees need to be added so that the data is more complete.
- d. Data that is entered into the program is expected to use the correct data
- b. Finally, with all the limitations and shortcomings of this system that has been made, the authors hope that this payroll system provides a new perspective for readers to develop further.

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