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APPLICATION OF PROFILE MATCHING METHOD IN THE EMPLOYEE DECISION SUPPORT SYSTEM IN PDAM TIRTA SILAUPISA KISARAN WEB BASED

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ABSTRACT

Decision support system is a system adopted from human knowledge, which can help people in the decision making process. In research conducted in PDAM Tirta Silaupisa author saw most of the systems currently used in the search process on the selection of employees still in manual form, causing the length of the assessment process associated with the selection of employees. Various weights of criteria and sub criteria ditetapuntuk every process of inputting judgment. Therefore, the author makes an application decision support system that can facilitate officers in the process of inputting weight rating employee selection decisions in accordance with the criteria and sub-criteria that have been specified company. Applications hiring decision support system is designed using the Profile Matching the process to get its priorities by comparing the weights of each criteria and sub-criteria. Decision to be achieved can assist officers in determining who the employee is entitled to work in accordance with keptusan obtained from the application of this decision-making system.

INTRODUCTION

Decision Support System (SPK) is part of a computer-based information system including a knowledge-based system to support decision making in an organization or company. SPK can also be a computer system that processes data into information to make decisions from specific semi-structured problems. In Human Resources is a very important investment, as well as requiring special attention in handling it. Appropriate handling in managing Human Resources is very important to the success of a company. As one of the elements of the company, Human Resource Management cannot be separated from other fields of management in achieving company goals[1].

Planning and efforts to meet the needs of Human Resources made in the selection, if managed professionally will greatly determine the quality and success of the company. In other words, effective selection will get good resources for a longer period of time. One very important element in the company is Human Resources (HR). Profile matching is the selection stage where the profiles of prospective assistants are compared with the profiles of assistants who are set, so that it can be known the difference (gap) of

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the profile. The smaller the gap produced, the greater the value weights which means it has a greater chance to become an employee.

Profile Maching is the process of comparing individual competencies with office competencies so that different competencies can be identified. So far Profile Maching is used for career planning, selection of outstanding employees, promotion, transfer of employee duties and so on related to personal abilities. The smaller the gap produced, the greater the value weights for someone occupying the position, the competency system will describe the achievements and potential of human resources in accordance with the work unit[2].

The steps taken in selecting employees to occupy certain positions using the Profile Matching method are as follows:

1. Determination of the weight value of the gap
2. Calculation and grouping of Core and Secondary Factors
3. Calculation of the total value of each competency criterion
4. Ranking calculation.

Unified Modeling Language (UML) is a visual language for modeling and communication about a system using diagrams and supporting texts. UML only works for modeling. So the use of UML is not limited to certain methodologies, despite the fact that UML is most widely used in object-oriented methodology[3]. UML arises because of the need for visual modeling to specify, describe, construct, and document the software system.

PHP stands for PHP is Hypertext Preprocessor. PHP is a scripting language that is placed on the server and processed on the server. The results are sent to the client, where the user uses the browser. By using PHP, the website will be more interactive and dynamic. That is, it can form a view based on current demand. In principle PHP has the same function as scripts such as ASP, Cold Fusion or JSP. Another convenience of PHP is being able to integrate with a variety of databases, one of which is MySQL[4].

MySQL is a type of database server that is very well known. Its popularity is due to being free (you don't need to pay to use it) on various platforms (except on windows, which are software or you need to pay after evaluating and deciding to use it for production purposes)[5].

METHOD

Research is a systematic way to answer the problem under study. The word systematic is a keyword related to the scientific method which means the existence of procedures that are marked by the existence of order and completeness. Methods are needed to help the writing to be directed according to the problem under study[6]. The method must be critical, meaningful analysis of the method shows that there is an appropriate and correct process for defining the problem and determining the method for solving the problem, the method must also be logical, which means the method used to provide scientific argumentation. Conclusions are made rationally based on the available evidence.

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Analysis of the system currently underway at PDAM Tirta is still done manually, the determination of employee data is not well documented. Input analysis is used to determine which system is best implemented in the process of employee selection activities such as a system that is still running there are many difficulties in determining the criteria for all desired employees, because it still uses the old system that has not been effective so that it does not get maximum results in the selection of employees. Profile Matching method can be recommended as an alternative that can help in decision making. Especially in organizational activities and human resource management, good human resources will have a positive impact on the development and progress of the organization or company[7]. Unified Modeling Language (UML) is a language based on graphics or images for visualizing, specifying, constructing, and documenting an OO (Object-Oriented) software development system. UML itself also provides a standard for writing a blue print system, which includes the concept of business processes, writing classes in a specific program language, database schema, and the components needed in a software system[8]. Output analysis is used to determine which outputs will be applied, so there are no mistakes in making decisions such as reports or the final results of the selection of employees that are still in the form of documents so that they can be easily damaged and lost, then the results that have been processed can be stored safely in a the database.

Referring to the results of the analysis of the ongoing process, the application process to be built is as follows:

1. The employee coordinator inputs criteria into the system provided.
2. Prospective employees provide the specified requirements to the PDAM Tirta Silaupisa.
3. After entering the requirements, prospective employees will be given time to wait for the results of decisions of the parties concerned.
4. Requirements that have been entered will be analyzed by the system.
5. The results that have been analyzed will produce a decision.

The relevant party will contact the prospective employees who have been selected. The design of this decision making system application, is designed using tools such as UML (Unifield Modeling Language) to make it easier to move the concept of the system designed into the form of a program. A description of the use case in the decision making application design system can be seen in Table 4.2 below:

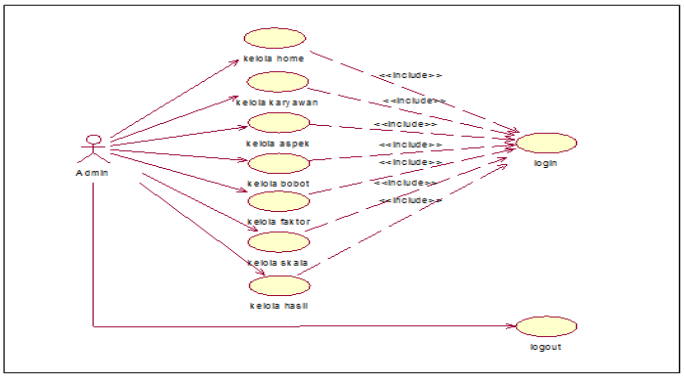

Figure 1. Use Case Diagram User

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Class diagram is used to describe the types of objects in the system and various static relationships that exist between the system, can be seen in Figure 4.14 below:

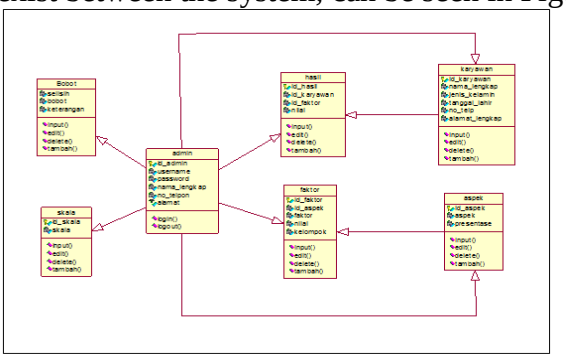

Figure 2. Class Diagram

Database design is done after the system modeling is made, using MySql as a database the design of the fields that will be used in each database is done. For the calculation of employee selection the collection of the existing gaps in each aspect has different calculations, depending on the number and grouping of criteria that exist on these aspects. For more details, the calculation of competency gap mapping will be explained for each aspect, while the aspects include:

1. Aspects of Intelligence

Profile matching method is a method that is often used as a mechanism in making decisions by assuming that there is an ideal level of predictor variables that must be met by the subjects studied, rather than the minimum level that must be met or passed[9]. Gap where the smaller the value obtained, the greater the weight value. Core Factor and secondary fact become the next calculation by giving a percentage for both factors[10].

In this aspect, after calculating the gap between the employee profile and intelligence assessment profile for each aspect where in the aspect of intellectual capacity there are 10 sub-aspects, then the points are collected into 2 (two) tables consisting of: field (-) and field (+), the value of this field is obtained from the employee sub-aspect, the performance aspect sub-field, the field (-) to place the number of positive value gaps. For example, we give 10 sub-aspects of 2 employees for the value of aspects of intellectual capacity, as an example can be seen in the table below:

Table 1. Intelligence Aspects for GAP Grouping

No	Employees	CS	VI	SB	PSR	KN	LP	FB	IK	ANT	IQ	GAP	
1	Asep	4	3	3	4	3	2	4	3	3	4		
2	Nanda	4	3	4	4	3	3	2	4	3	3		
3	Wanto	3	4	3	3	3	3	4	4	3	2		
	Profile Kinerja	**3**	**3**	**4**	**4**	**3**	**4**	**4**	**3**	**5**	**4**	+	-
1	Asep	1	0	-1	0	0	-2	0	0	-2	0	**1**	**-5**
2	Nanda	1	0	0	0	0	-1	-2	1	-2	-1	**2**	**-6**
3	Wanto	0	1	-1	1	0	-1	0	1	-2	-2	**3**	**-6**

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2. Aspects of Work Attitudes

The following calculations for the field gap on aspects of work attitude.

Table 2. Aspects of Work Attitudes for GAP Grouping

No	Employees	EP	KTJ	KH	PP	DB	VP	GAP	
1	Asep	4	3	2	3	3	4		
2	Nanda	3	3	4	2	4	2		
3	Wanto	3	2	4	3	4	3		
	Profile The performance	**3**	**4**	**2**	**3**	**3**	**5**	+	-
1	Asep	1	-1	0	0	0	-1	**1**	**-2**
2	Nanda	0	-1	2	-1	1	-3	**3**	**-5**
3	Wanto	0	-2	2	0	1	-2	**3**	**-4**

3. Behavioral Aspects

The following calculations for field gaps in behavioral aspects.

Table 3. Behavioral Aspects for GAP Grouping

No	Employees	K	P	KGH	PM	GAP	
1	Asep	4	3	2	3		
2	Nanda	3	3	4	2		
3	Wanto	3	2	4	3		
	Profile The Performance	**3**	**4**	**2**	**3**	+	-
1	Asep	1	-1	0	0	**1**	**-1**
2	Nanda	0	-1	2	-1	**2**	**-2**
3	Wanto	0	-2	2	0	**2**	**-2**

After each gap is obtained, each employee profile is given a weighted value by benchmarking the gap value weighting table as can be seen in the table below:

Table 4. Explanation of GAP Value Weight

No	Difference	Value Weight	Information
1	0	5	There is no difference (competency according to what is needed
2	1	4,5	Individual competence is 1 level / level
3	-1	4	Individual competencies lack 1 level / level
4	2	3,5	Individual competencies lack 2 level / level
5	-2	3	Individual competencies lack 2 level / level
6	3	2,5	Individual competencies lack 3 level / level
7	-3	2	Individual competencies lack 3 level / level
8	4	1,5	Individual competencies lack 4 level / level
9	-4	1	Individual competencies lack 4 level / level

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Interface (interface) is a communication mechanism between the user (user) with the system. The interface (interface) can receive information from the user (user) and provide information to the user (user) to help direct the search flow of problems until a solution is found. Where the interface (interface) aims to communicate the system features available so that the user (user) understands and can use the system.

RESULT AND DISCUSSION

Testing and implementation of the system aims to see whether the system designed is in accordance with what is desired or not, after testing and implementation, the quality of a system will be seen. The following is the implementation of the design decision making system for profile matching methods for employees.

1. *Form login*

Login form is an access right before entering a system which is held by an admin to manage and input data that will be entered into the system that has been made.

2. Home page

Figure 3. Implementation of the Home Page

The home page is the main page of the decision making system with profile matching method in selecting employees.

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3. Employee Data

Image 4. Implementation of Employee Data Pages

Employee data is a page where the admin will enter data from the employee who will make the selection. Admin can do edit, delete, and add employee data.

4. Manage Aspects

Image 5. Implementation of Aspect Management Pages

Manage aspects are pages where the admin will enter the specified aspects according to their categories to provide an assessment of employees and can also perform edit and delete operations if an error occurs.

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5. Manage Weights

Image 6. Implementation of Weight Management Pages

Manage weight is the page where the admin will enter, edit, or delete data that has been entered to provide an assessment of prospective employees.

6. Manage Factors

Image 7. Implementation of the Manage Factors Page

Manage factor is a page where the admin will enter a predetermined factor in accordance with its category to provide an assessment of prospective employees and can also perform edit and delete operations if an error occurs.

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7. Manage Scale

Image 8. Implementation of the Scale Manage Page

Manage scale is a page where the admin will enter, edit, or delete data that has been entered to provide an assessment of prospective employees.

8. Manage Results

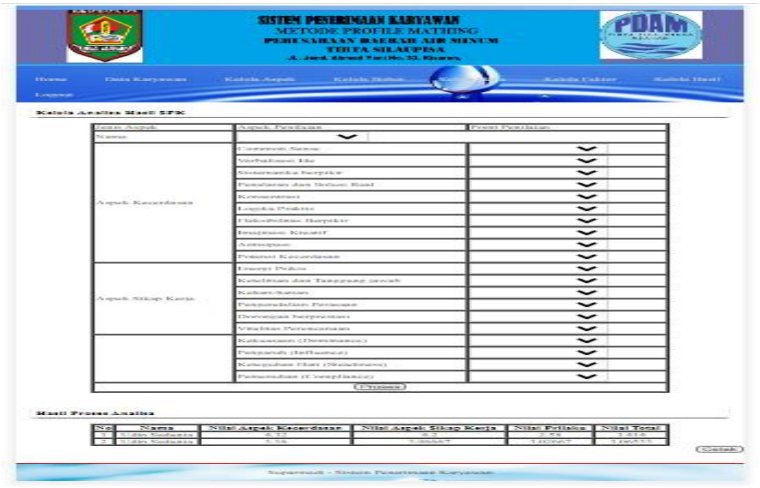

Image 9. Implementation of the Manage Results Page

CONCLUSION

From the description of the problem above, and based on the analysis of the existing chapters, the following conclusions can be drawn:

1. The decision-making system that was built was able to reduce the level of doubt the company in determining suitable employees and ready to be employed.

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2. This decision making system is able to make decisions more quickly and effectively in determining qualified employees and can save time viewed from the results of decisions that can be printed in the print report on the results of this application.
3. This decision making system can also help ease the performance of the assessment team in providing appropriate, fast and effective solutions for employees who take the test.

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