SMS Gateway Based Vacancy of Work Vocation Information System on Pamekasan Region

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ABSTRACT

The increased growth of the society in Pamekasan from year to year is directly proportional to the number of job seekers increase continuously. A large number of job seekers is not only due to the inadequate number of jobs, but also because of the slow and precise job information to the proper parties (the people who need jobs). Disnakertrans as an institution formed by the Government has made several attempts to minimize the number of job seekers, but until now the result obtained are not optimal, because there is no system that can accommodate the needs of both parties (providers and job seekers). Therefore, the research aims to create a website that accommodates data vacancies and job seekers. Later, the data is automatically going through the process of weighting by means of the Simple Additive Weighting, this method is expected to optimize the selection of a job based on the latest education, gender, and age that has been mentioned by job seekers when registering. Once the selection process is complete, the job information is sent via SMS Gateway to job seekers. This SMS will send the job information suitable with the number of job seekers who have posted on the website.

Keywords: job vacancy, Simple Additive Weighting (SAW), SMS Gateway

1. Main text

Work is an activity of doing something with the aim of getting a reward or reward in the form of money or goods. The reward is what ultimately humans use to fulfill their daily needs. Each job has its own qualifications to determine who can enter it. Pamekasan is one of the regencies in East Java with an area of 792.24 km² and a population of 851,215 people consisting of 13 districts, 189 villages, and 178 villages [1]. Similar to other districts, Pamekasan also has various types of jobs, ranging from small industries to large companies. But not all people are able to enter the available employment. The Pamekasan Regency Manpower Office recorded that in 2011 there were 501 job seekers, in 2012 there were 690 job seekers, and in 2013 there were 3249 job seekers. This data shows quite a large number of job seekers that continue to grow from year to year.

One of the reasons for the difficulty of someone getting a job is because it is difficult to bring together job seekers with available job openings. That is because information about job vacancies is not fully received by job seekers [2]. In this case mistakes are not only made by the giver or recipient of the information, but can also be caused by the absence of an easy and affordable information distribution channel for both parties.

2. Literature Review

My Structure Query Language(MySql) is an Open Source Relational database management system (DBMS) that is available as free software under the General Public License (GPL). The database structure is stored in related tables. Because of its open source nature, MySql can be used and distributed both for individual and corporate interests free of charge, without requiring a license from the manufacturer. MySql can be run on a
The steps in weighting with this method are as follows:

• Step 1 (Giving Criteria Weights)
• Step 2 (Weighing sub-criteria)
• Step 3 (Alternative Descriptions of each Criteria)
• Step 4 (Calculating Rating Value)

The SAW method is often also known as the weighted sum method. The basic concept of the SAW method is to find a weighted sum of the performance ratings for each alternative on all attributes. The SAW method requires the decision matrix normalization process (X) to a scale that can be compared with all available alternative ratings [4].

3. Methods

Currently the Pamekasan Regency Manpower and Transmigration Office has used a website in the process of disseminating information on job vacancies as well as on jobseekers' data collection. But the website is not a special website for the people of Pamekasan Regency. This website is formed by the Department of Manpower and Transmigration (Depnakertrans) of East Java Province. The resulting output is not job search data in detail. But only limited to seeing the number of job seekers registered on the website. While complete job seeker's self data is only stored on a yellow card which certainly has a greater risk of insecurity in the storage and processing of data. The new system offered does not change the workflow too much that has been used by the Manpower Office. It is hoped that all parties concerned can use it easily. The new system flow that will be used can be seen in Figure 1.

![Figure 1. System flowchart](image-url)
4. Implementation

On the homepage all jobs that have been accommodated by the system will be displayed (vacancies that have been entered by the admin). On the start page, only information relating to the occupation, type of job vacancies, and the final time of registration will be displayed for those interested in registering for the vacancy. To see more detailed information, regarding the vacancies desired, system users only need to "click" details on the far right. The page views can be seen in Figure. 2.

![Figure.2 Homepage](image)

To be able to get job information easily and quickly, job seekers must first register with this system. The data fields consist of ID card number (must be Pamekasan Regency ID), name, username, password, place of birth, date of birth, address, gender, cellphone number, last education, study program, and priority (the job sought). The appearance of the job search registration form page can be seen in Figure. 3.

![Figure.3 Register Form](image)

Adding work page works if the admin wants to add new job openings. Data that needs to be entered on this page consists of company name, occupation, job vacancies, recent education, majors, gender, maximum age, other information, and also the end of registration. However, please be aware that companies who want to disseminate job information through this system must be registered with the system. If the company is not yet registered, then the vacancy from that company also cannot be entered. Page views added to vacancies can be seen in Figure. 4.

![Figure.4 Adding work page](image)

In the process of weighting through the SAW method it takes several steps to produce the desired value. The stages are as follows:

Step 1 (Giving Criteria Weights)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Education</td>
</tr>
<tr>
<td>C2</td>
<td>Gender</td>
</tr>
<tr>
<td>C3</td>
<td>Age</td>
</tr>
</tbody>
</table>

* = Weight value depends on determining job seeker's priority (50, 25, 25)

Step 2 (Weighing the sub-criteria)

L = Input job opening data
P = Input job seeker data

<table>
<thead>
<tr>
<th>Sub-Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education (P)</td>
<td></td>
</tr>
<tr>
<td>PL &gt; PP</td>
<td>0</td>
</tr>
<tr>
<td>PL &lt; PP</td>
<td>50</td>
</tr>
<tr>
<td>PL = PP</td>
<td>100</td>
</tr>
</tbody>
</table>

Step 3 (Alternative Descriptions of each Criteria)

Alternative 1 = Contains the lowest value
Alternative 2 = Contains input values (X)
Alternative 3 = Contains the highest value

To use predetermined values, we must compare the data of job seekers and job openings. From the two data above, the following calculations can be made:

<table>
<thead>
<tr>
<th>Sub-Criteria</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>AgesL &gt; AgesP</td>
<td>100</td>
</tr>
<tr>
<td>AgesL = AgesP</td>
<td>50</td>
</tr>
<tr>
<td>AgesL &lt; AgesP</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 5 First alternative value

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Alternative</th>
<th>X</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>PL &gt; PP</td>
<td>PL &lt; PP</td>
<td>PL = PP</td>
</tr>
<tr>
<td>C2</td>
<td>JKL &gt; JKP</td>
<td>JKL = JKP</td>
<td>JKP</td>
</tr>
<tr>
<td>C3</td>
<td>AgesL &lt; AgesP</td>
<td>AgesL = AgesP</td>
<td>AgesP</td>
</tr>
</tbody>
</table>

Table 6 Second alternative value

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>X</td>
<td>50</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>High</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Step 5 (Multiled matrix (R) with weight (W))

If the highest priority on education:

- V1 = (0x50) + (0x25) + (0x25) = 0
- V2 = (0.5x50) + (1x25) + (1x25) = 75
- V3 = (1x50) + (1x25) + (1x25) = 100

If the highest priority on gender:

- V1 = (0x25) + (0x50) + (0x25) = 0
- V2 = (0.5x25) + (1x50) + (1x25) = 87.5
- V3 = (1x25) + (1x50) + (1x25) = 100

If the highest priority on ages:

- V1 = (0x25) + (0x25) + (0x50) = 0
- V2 = (0.5x25) + (1x25) + (1x50) = 87.5
- V3 = (1x25) + (1x25) + (1x50) = 10

5. Conclusion

The increasing number of job seekers in Pamekasan Regency is not only due to the lack of job vacancies, in this case the lack of information dissemination also still has a significant role. The absence of a system that is able to optimally reach the needs of recipients and job providers makes the writer conduct research in this field. Author builds a system as a media channeling job information that will automatically select vacancies according to personal data and the ability of job seekers. In addition, this system is also directly connected to the SMS Gateway application so that it is hoped that it will later simplify and minimize the need for time and energy for the parties concerned. System works when the first time a job seeker registers on the website, if after that there is a vacancy entered by the admin, then the selection process will begin and only job seekers who qualify for the vacancy will receive an SMS. This SMS can also play a two-way role, because job seekers can not only get SMS, but can also send SMS that will enter on the website and managed by the admin. The contents of the SMS can be in the form of notifications to stop (out) from the list of job seekers, or it can also contain criticisms and suggestions for the system used or for the Pamekasan District Manpower and Transmigration Office.

References