Utilization Of Vikor Method For Strategic Location Determination Of Coffee Shops

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ABSTRACT

Competition in the business world that is growing more and more advanced makes business actors have to think about strategies in marketing the business they are engaged in. The selection of a business location must be considered in developing a business. The determination of a business location can determine whether the business is successful or not in carrying out business processes. The selection of coffee shop locations, especially in the city of Medan, has so far been carried out only by using field surveys by visiting locations that are want to be used as a place to open a coffee shop without prioritizing aspects of the location and also not using mathematical methods or calculations, this research is to create a decision support system using the Vikor Method in helping business actors to determine strategic locations in determining the location of opening a coffee shop. With this system it will make it easier for the community to find a location for opening a coffee shop especially in the city of Medan.

Keyword : Vikor, Coffee Shops,Location Determination

1. INTRODUCTION

Competition in the business world that is growing more and more advanced makes business actors have to think about strategies in marketing the business they are engaged in. The selection of a business location must be carried out to be considered in developing a business. Determining a business location can determine whether the business is successful or not in carrying out business processes [1]. The selection of coffee shop locations, especially in the city of Medan, has so far been carried out only by using field surveys by visiting locations that want to be used as places to open coffee shops without prioritizing aspects of the location and also not using mathematical methods or calculations. As a result, there are frequent mistakes in choosing a location that have an impact on the development of the business itself which ends in losses and some also go out of business or go bankrupt. Departing from this problem, the author tries to create a decision support system to help business actors determine strategic locations in determining the location of opening a coffee shop.previous research conducted by Anita entitled "Detection of Students Who Can Compose Final Projects using the Visekriterijumsko Kompromisno Rangiranje (VIKOR) Method". The aim of this study was to detect students who could compose their Final Project using the VIKOR method. Based on the stages carried out, a system will be built and produced that can detect quickly. Based on the system test results, the average value is 187.40, where the application is feasible to use [2]. VIšekriterijumsko Kompromisno Rangiranje (VIKOR) is one of the methods used in Multi Attribute Decision Making (MADM) by looking at the closest solution or alternative as an approach to the ideal solution in ranking. This method focuses on ranking and selecting from a number of alternatives even though the criteria are conflicting. The problem of determining strategic locations in opening a coffee shop is a problem that can be solved using the VIKOR method. The VIKOR method provides ranking to the closest solution even though there are conflicting criteria, so that decision makers in this case can choose the right ranking according to the available alternatives [3].The VIšekriterijumsko Kompromisno Rangiranje (VIKOR) method aims to obtain an alternative from the ranking of results as an approximate ideal solution by proposing a compromise solution [4][5]. Based on the introduction above that has been explained, the authors try to conduct research with the title "Utilization of the Vikor Method for Determining Strategic Locations for Coffee Shops".

2.   RESEARCH METHOD

At the system analysis and design stage, at the system analysis and design stage, researchers used the waterfall method. As for the waterfall system development stage, it consists of several activities which are of course in accordance with the stages described in the system development process flow [6]][7]. These stages are:
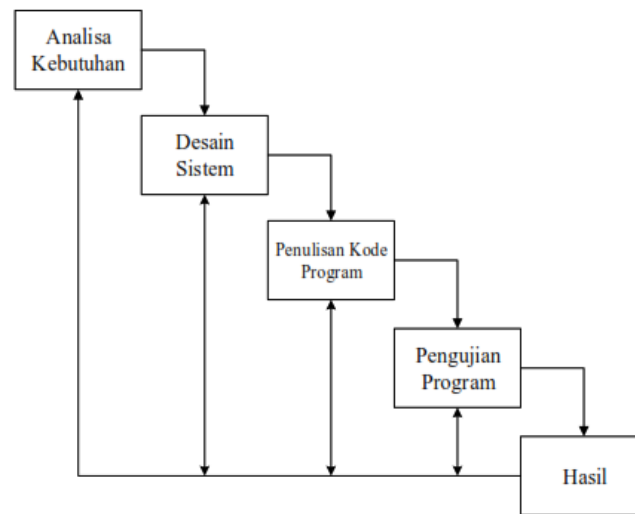

Figure 1. Waterfall Method

The description of the stages of the waterfall method is as follows:
1. Stage of Analysis (Analysis). At this stage the process of collecting data needs is complete to be analyzed and defined. By recording ulos products that are in the Medan Ulos Rehani shop.\
2.   Design Stage (Design). The process of converting requirements into a characteristic form that is understood by the software before starting to write the program. Later the design uses UML (Unified Modeling Language)
3. Coding Stage. A process of writing about a programming language, after the design stage of a system software. The programming language used in this thesis is PHP database mysql, xampp, and the codeigneiter framework
4. Testing Phase. After the process of writing the program, the testing phase is carried out by looking for all possibilities and checking whether they are in accordance with the desired results, at this testing stage using the blackbox method.
5. Stage of Maintenance (Maintenece).Includes adjustments or changes that develop along with the adaptation of the software to the actual conditions or situation after being delivered to the user[8][9].

3.   RESULTS AND DISCUSSION

After this research is carried out, the next stage is implementing the system and testing the system. The system that has been designed consists of several pages that have their respective functions. The page that will be displayed is as follows

A. Admin

1. Login Page

This page displays the initial display which is for users to log into the system. The display is as follows:
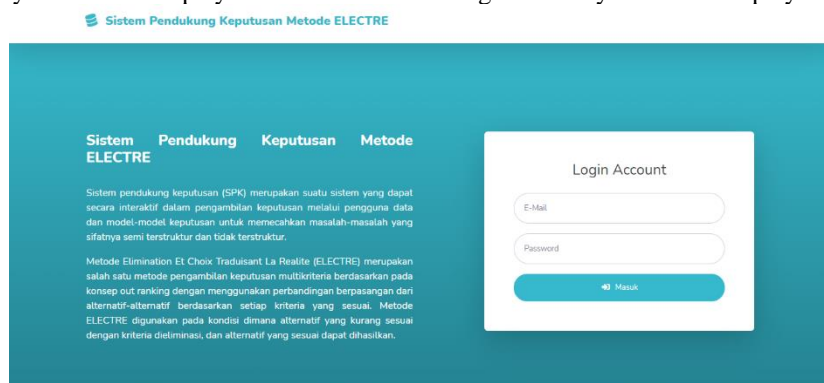
Figure 1. *Login Page*

2. *Dashboard Page*

On the page there are several menus later users can access it. The display is as follows:
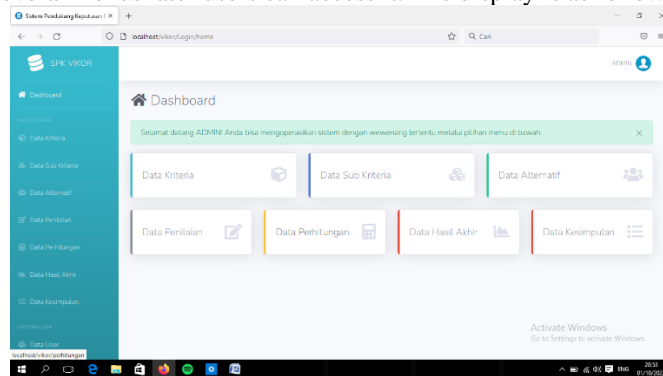

Figure 2. Dashboard Page

3. Add Criteria Data *page*

This page is used by users to add criteria data into the system. The display is as follows:
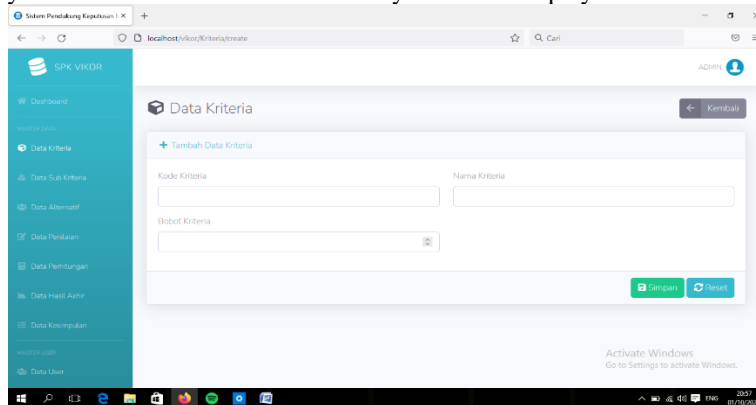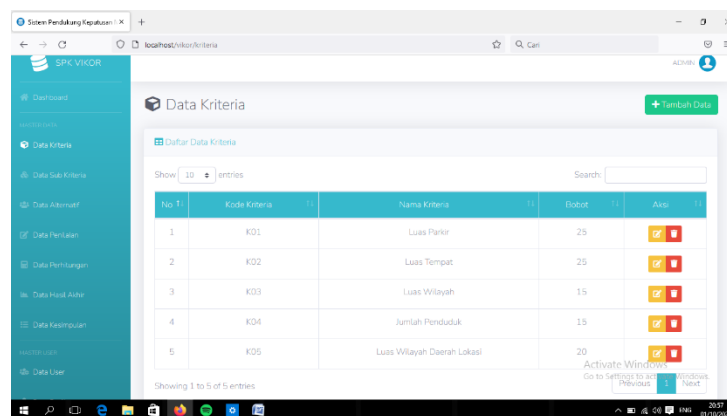

Figure 3. Add Criteria Data page

4. Halaman Data *Kriteria*
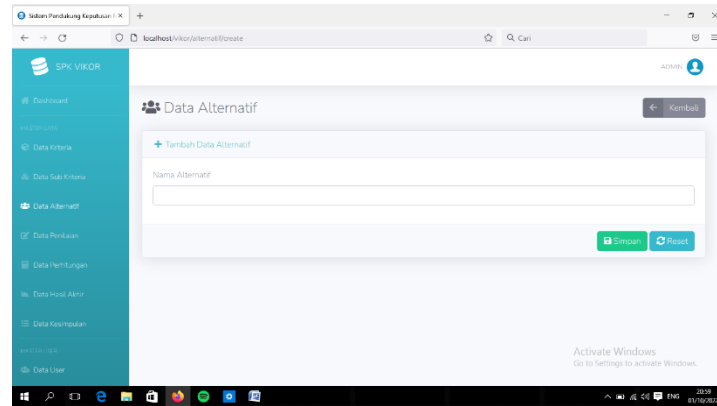
Halaman ini berfungsi untuk menyimpan data kriteria yang sudah di buat oleh pengguna.Adapun tampilannya sebagai berikut :

Gambar 4.4 Halaman Data Kriteria
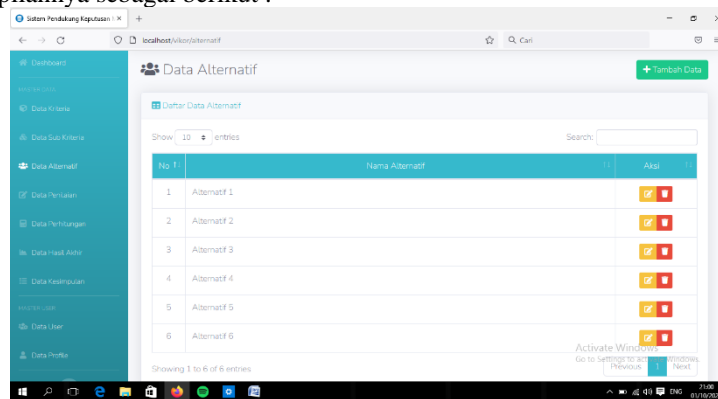
5. Halaman Tambah Data *Alternatif*

Halaman ini digunakan oleh pengguna untuk memasukkan alternatif ke dalam sistem. Adapun tampilannya sebagai berikut :

Gambar 4.5 Halaman Tambah Data Alternatif
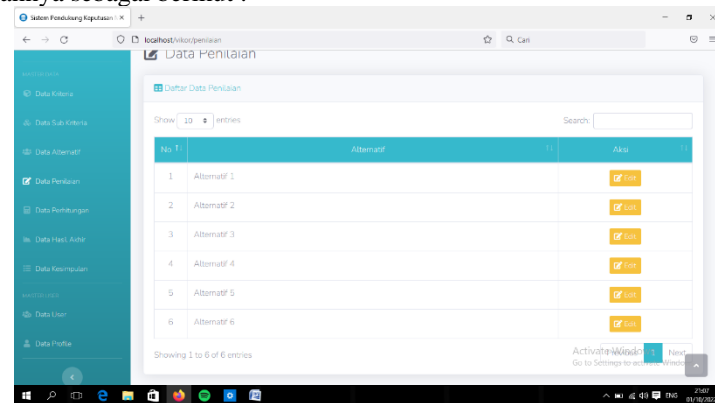
6. Halaman Data *Alternatif*

Halaman ini digunakan pengguna untuk menyimpan data alternatif yang telah dimasukkan ke dalam sistem. Adapun tampilannya sebagai berikut :

Gambar 4.6 Halaman Data Alternatif

7. Halaman Data *Penilaian*

Halaman ini digunakan oleh pengguna untuk memasukkan data penilian terhadap data alternatif yang ada. Adapun tampilannya sebagai berikut :

Gambar 4.7 Halaman Data Penilaian

8. Halaman Data *Perhitungan*

Halaman ini digunakan oleh pengguna untuk melihat data perhitungan yang otomatis dilakukan oleh sistem. Adapun tampilannya sebagai berikut :

Gambar 4.8 Halaman Data Perhitungan

9. Halaman Data *Hasil Akhir*

        Di halaman ini berfungsi untuk pengguna melihat hasil akhir perhitungan yang telah otomatis dihitung melalui sistem. Adapun tampilannya sebagai berikut :

Figure 9. Halaman Data Hasil Akhir

B. RESULTS AND DISCUSSION

Based on the results of the research and discussion that the writer has done, it can be concluded that:

1. Determining the criteria in the vikor method is very important, in determining a good strategic location for parking area, area, area, population, area of location area
2. The use of the vikor method is able to determine the strategic location of opening a coffee shop, where in this method it can facilitate strategic location decision making in opening a coffee shop.
3. The system application in selecting strategic locations in determining this coffee shop was built using the PHP programming language and MySQL database and the codeigniter framework.

   Based on the results of observations, the location chosen by the author is in Medan Kota District, precisely on Jl. Eastern Student,

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