
IMPLEMENTASI METODE WEIGHTED PRODUCT UNTUK MENENTUKAN ALTERNATIF PARFUME TERBAIK (STUDI KASUS : QUALITY PARFUME)

Isma Ramadhani¹, Ahmad Zakir², Andi Marwan Elhanafi³

^{1,2,3}Department of Information System, University Harapan Medan, Indonesia

ABSTRACT

Perfume users are confused by the many choices of perfume brands on the market, in determining these choices a system is needed that can calculate objectively from subjective human opinions. The best perfume product alternative decision support system using the Weighted Product (WP) method can be used to determine whether the perfume brand to be purchased is suitable or unqualified. Quality Perfume is a shop engaged in the sale of perfume refills. Perfume or perfume oil is a mixture of essential oils and aroma compounds and solvents used to provide fragrant odors for the human body, object, or room. In the face of perfume business competition, there are problems that often arise, namely when choosing the best perfume product. In the perfume industry, competition is getting tougher because of the many perfume products offered by various brands. The refore, a website- based information system is designed to help users in determining the best alternative perfume products from a number of available products. The Weighted Product method is used as a calculation method with predetermined criteria such as packaging, durability, price and purchase quantity. The website was built with Laravel programming language and also PHP Blade. With this website information system, users can speed up the decision- making process in choosing the best alternative perfume products.

Keyword : Perfume, Weighted Product, Best Product, Website

Corresponding Author:

Name, Isma Ramadhani
Department of Information System
Universitas Harapan Medan
Jl. HM. Joni No. 70 c

Article history:

Received Dec 1, 2023
Revised Dec 20, 2023
Accepted Jan 11, 2024



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

1. INTRODUCTION

Information technology is very influential for the progress of a business. All groups have started to do entrepreneurship in various ways to promote their business, one of which is using an e-commerce website or application. At this time, the habit of using perfume is a lifestyle that has been done by many people for a long time, perfume is used because it provides fragrance and freshness for its users, besides that it can be a characteristic of someone from his body scent, and perfume can also increase the confidence of its users and can eliminate body odor. DSS (Decision Support System) serves as an addition for decision makers to expand knowledge and possibilities, but does not replace the assessment system is shown for decisions that require judgment and decisions that can be processed with technical algorithms. Quality Perfume is one of the perfume refill businesses in Medan City. In carrying out work activities, business owners still have difficulty obtaining information because the existing sales system is still carried out manually. Systems that have been running require time to manage data into information. In the perfume industry, competition is getting tougher because of the many perfume products offered by various brands. For customers who want to try perfume will definitely choose the best perfume to use. Therefore, the Weighted Product (WP) method can be used as an evaluation to determine the best alternative perfume products that can meet customer needs. Based on the description of the problem above, the author wants to implement a system that can be used to help consumers to choose the best perfume products that are in accordance with the ranking results that will appear in the system. With the application of this method, it can also make it easier for the store to determine the best perfume products. Therefore, the author wants to create a system entitled "Implementation of the Weighted Product Method to Determine the Best Perfume Alternative (Case Study: Quality Perfume)".

2. RESEARCH METHOD

2.1 Research Procedure

Research procedures are steps used as a tool to collect data to answer research questions posed in this study. In this research procedure, the author discusses data collection methods and software development methods.

2.2 Data Collection Methods

In preparing the thesis, a method is needed to compile and complete existing data. The stages of the method are as follows:

1. Data collection by interview is a data collection technique by asking a number of questions orally. The interview aims to obtain data that is only known by data sources or sources that are private.
2. Observation Observation is one way to get any information from an event by observing directly. Science is the basis of all events or activities that occur either in a small scope or in a larger scope. This observation also includes systematic recording activities about all the symptoms of the object under study.

2.3 Software Development Methods

System development or research software is a way used to describe the main stages in the system development process for this system development process, including through several stages from planning, analysis until the system is implemented and maintained. System development used in im research, namely using the waterfall system development model.

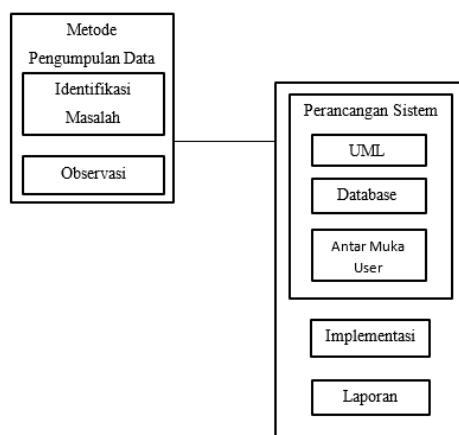


Figure 1. Reserach Design

2.4 System Planning

System design is the stage after analysis of the system development cycle. System design here is in the form of drawing, planning and sketching or arranging several separate elements into a unified and functioning whole. System design determines how a system will complete what must be completed, this stage includes configuring the software and hardware components of a system so that after installation it will really satisfy the design that has been set at the end of the system analysis stage. The following are the stages in system design using the UML method, including *Use Case Diagram*, and *Activity Diagram*. Here's the diagram:

Perancangan *UML (Unified Modelling Language)*

Modeling is the stage of designing software before doing the stage of making programs (*coding*). In this study, system design was carried out modeling problems in the form of UML diagrams.

1. Use Case Diagram

Use Case Diagram design is carried out to determine user activity on the information system that has been developed to find out the actors and use cases to be used, then actor identification and use case identification are carried out. After getting the actors and use cases, the use case diagram can be described in figure 3.2 below seen in figure 1.

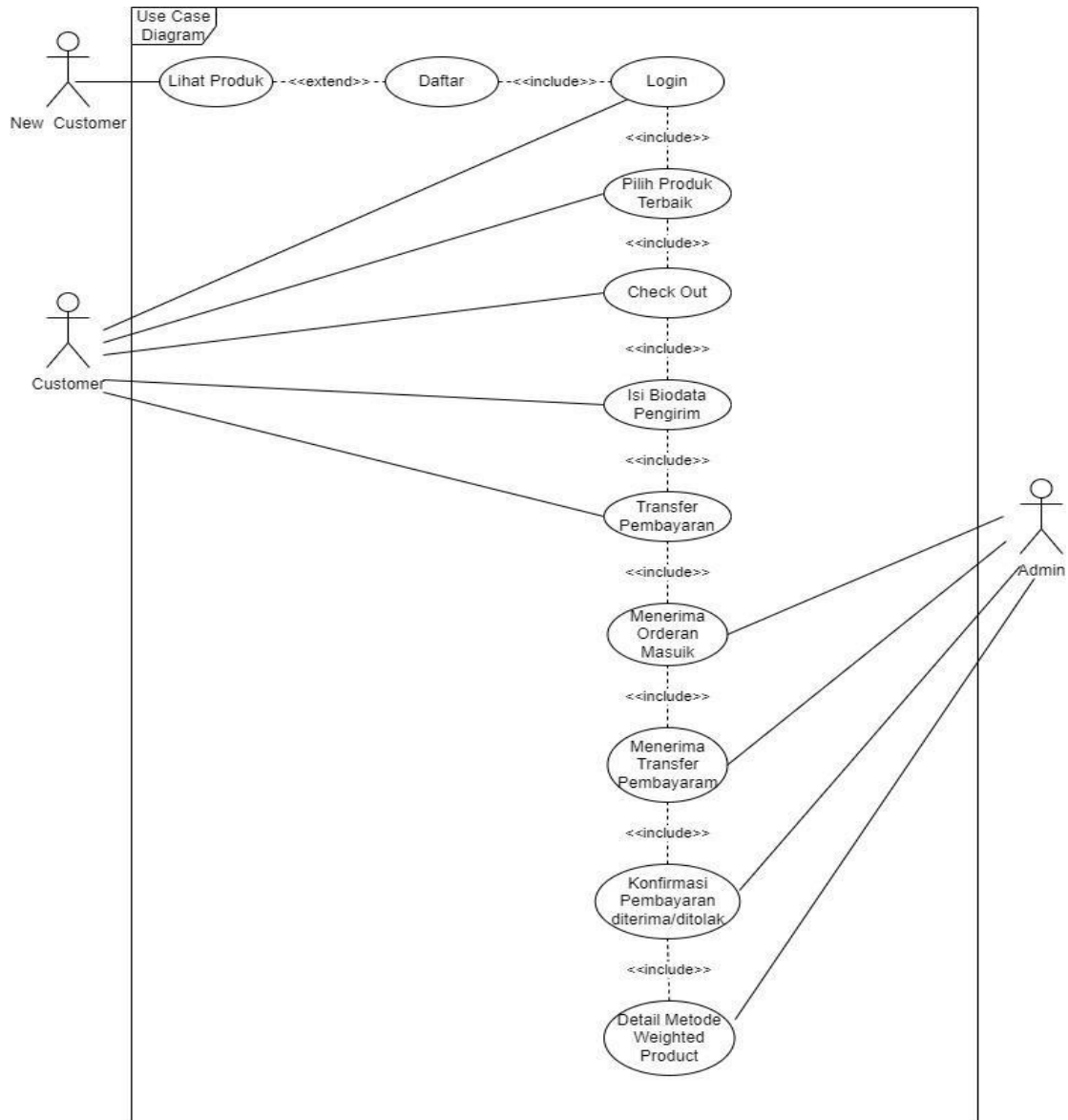


Figure 21 Use Case Diagram

3. Activity Diagram

The design of *activity diagrams* is done to create a system that has a system workflow that can be described using *activity diagrams* which is a way of describing the flow of behavior in the system.

Activity Diagram Login

Activity performed to sign in admin. The design is as follows:

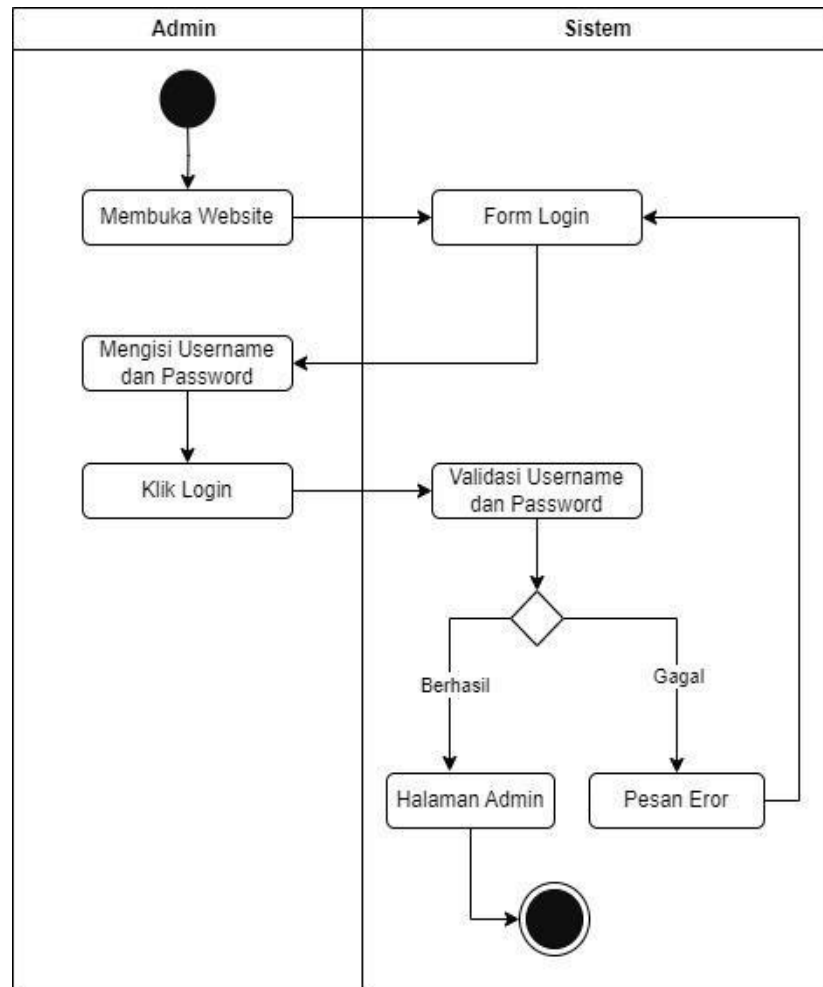


Figure 3 Activity Diagram Login

Activity Diagram My Product

Activities performed to add, edit and delete product data into the system, then the data is stored. The design is as follows:

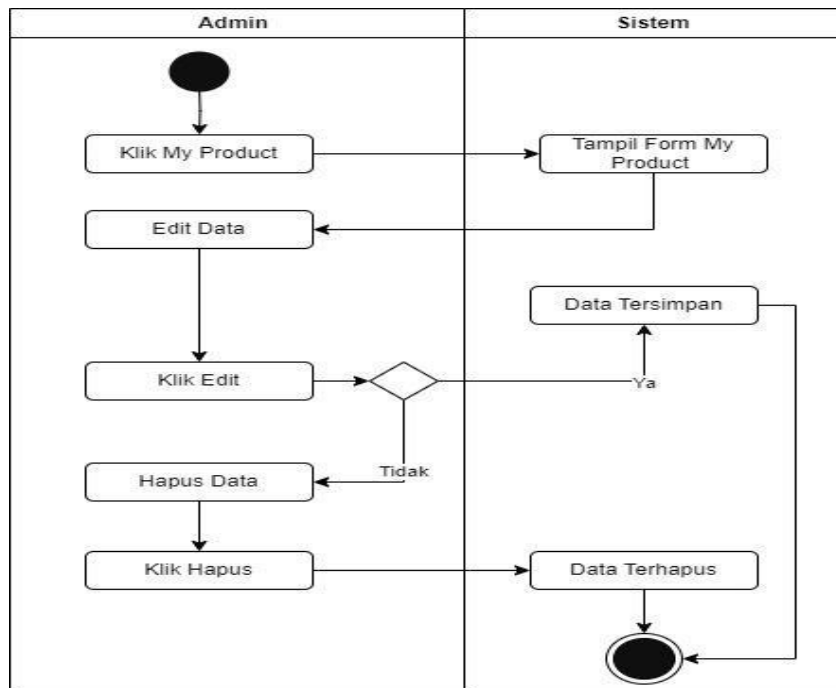


Figure 4 Activity Diagram My Product

Activity Diagram Category Product

The activity performed is to add product category data into the system. The design is as follows:

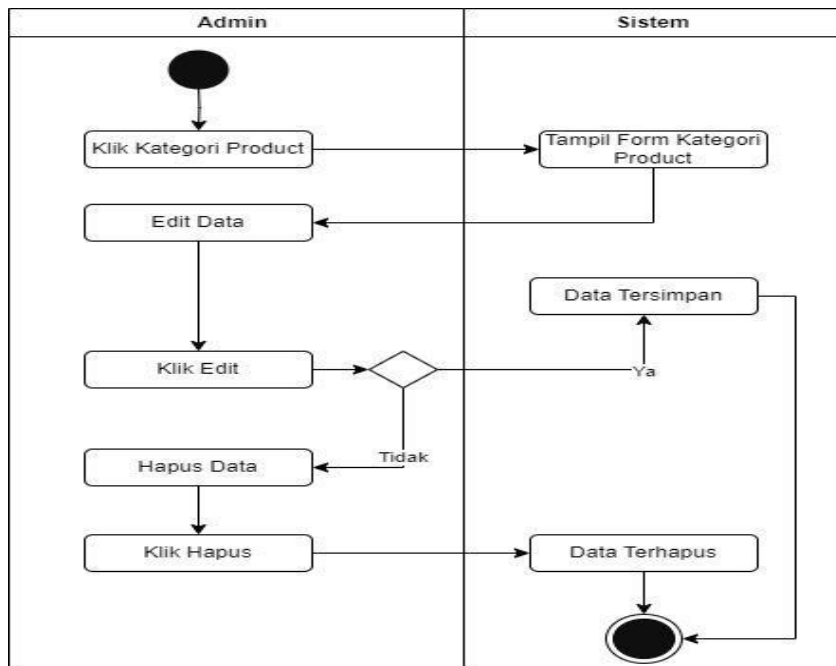


Figure.5 Activity Diagram Category Product

Activity Diagram New Transaction

Activities carried out to see order data that has just entered the system, as for the design as follows:

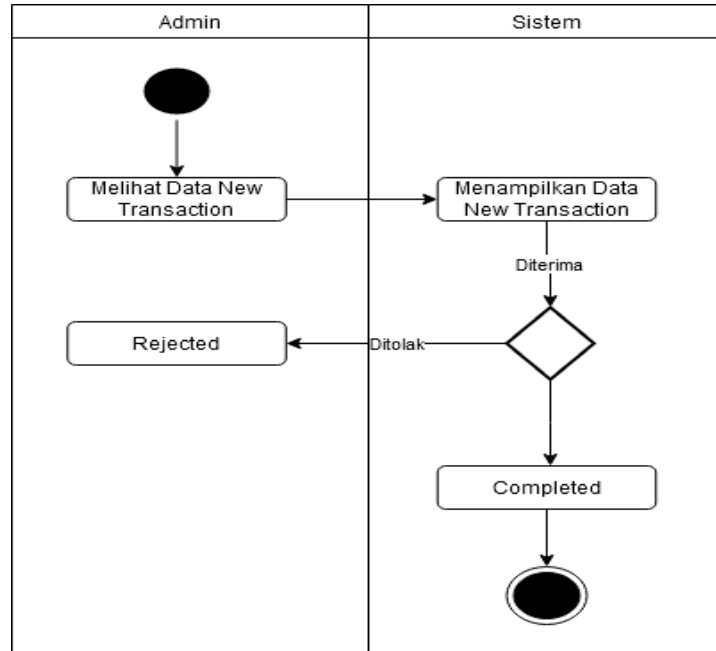
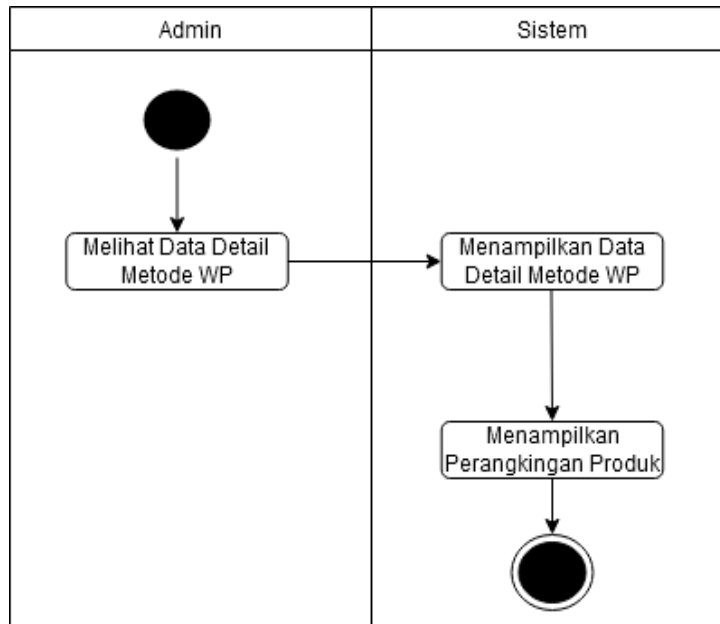


Figure 6 Activity Diagram New Transaction

Activity Diagram Detail Metode Weighted Product

Activities carried out to automatically view *Weighted Product* data into the system, Diagram steps as follows:

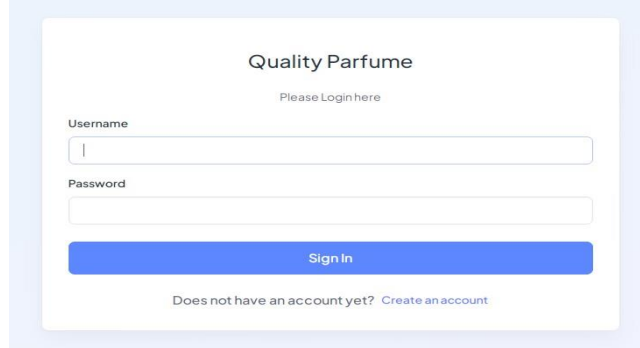


Gambar 3.7 Activity Diagram Detail Metode Weighted Product

3. RESULTS AND DISCUSSION

3.1 Research Results

Login page is a page where website users *log in* to enter the system. The *login* page displays *username* and *password* fields to fill in *the username* and *password* to enter the system. The image of the login page display can be seen in the following image:



Gambar 8 Halaman *Login Admin*

The *login* page as shown in figure 4.1 is the first page or interface that appears. The *login* process is done by filling in the *username* and *password* fields and continued by pressing the "*Sign In*" button.

Customer Home Page

The customer home page is a page or interface used by *customers* to display perfume products. Here's what the *New Product*, *Best Seller Product*, *Best of Product* page looks like in the following picture:

New Product



Gambar 9 Halaman *New Product*

Best seller product

Best Seller Product



Gambar 10 Halaman *Best Seller Product*

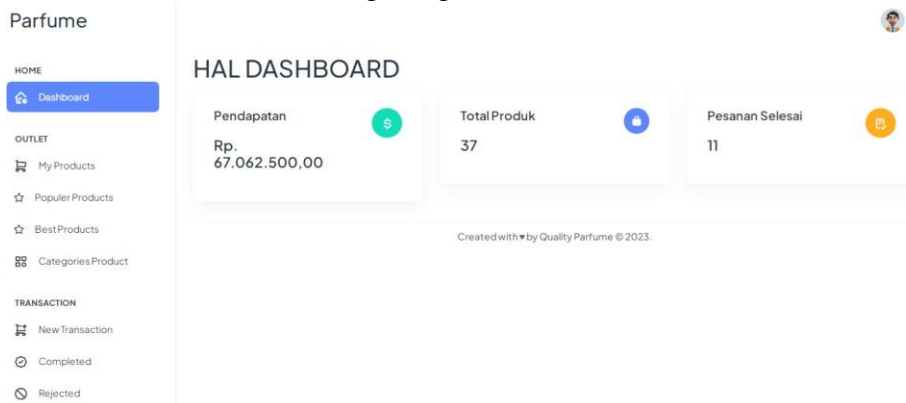
Best of Product



Gambar 11 Halaman Best of Product

Admin Home Page

The admin home page is the opening page or main page of the website which is accessed by the *admin*. The home page contains the main menu used to take users to other interfaces, can be seen in the following image below:

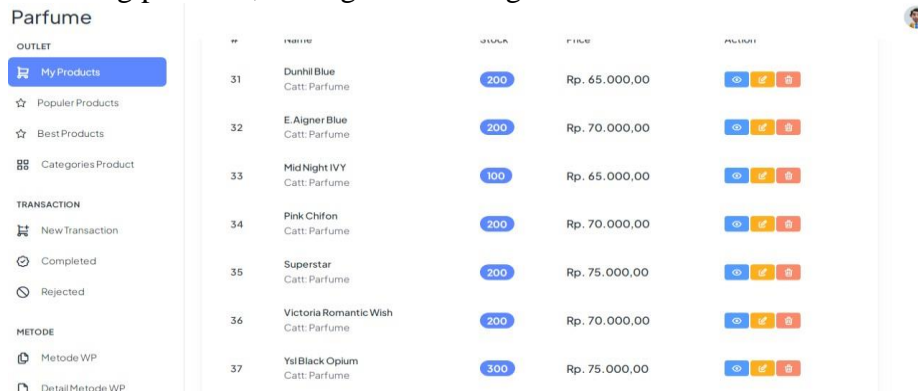


Gambar 4.5 Halaman Beranda *Admin*

The admin home page shown in figure 4.5 is the page or interface that first appears on the *admin homepage*. On the admin home page there are nine descriptions, namely the options "My Products", "Popular Product", "Best Product", "Categories Product", "New Transaction", "Completed", "Rejected", "WP Method", "WP Method Details".

4.1.1 Halaman My Products

The *My Products* page is a page or interface that admins use to manage perfume data such as adding products, editing and deleting data.

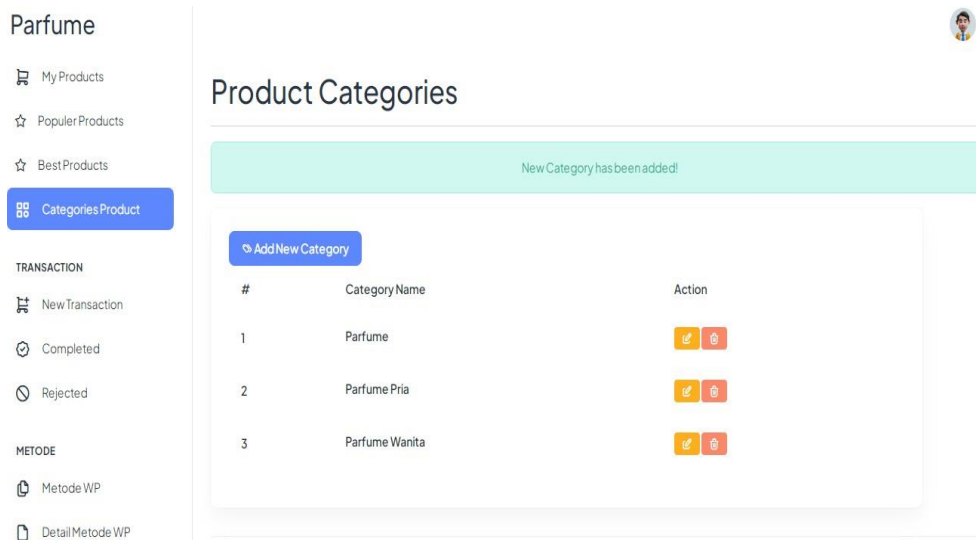


#	NAMA	STOK	HAJI	ALASAN
31	Dunhill Blue Catt: Parfume	200	Rp. 65.000,00	[Edit] [Delete]
32	E.Aigner Blue Catt: Parfume	200	Rp. 70.000,00	[Edit] [Delete]
33	Mid Night IVY Catt: Parfume	100	Rp. 65.000,00	[Edit] [Delete]
34	Pink Chifon Catt: Parfume	200	Rp. 70.000,00	[Edit] [Delete]
35	Superstar Catt: Parfume	200	Rp. 75.000,00	[Edit] [Delete]
36	Victoria Romantic Wish Catt: Parfume	200	Rp. 70.000,00	[Edit] [Delete]
37	YslBlack Opium Catt: Parfume	300	Rp. 75.000,00	[Edit] [Delete]

Gambar 13 Halaman My Products

4.1.2 Halaman Categories Product

The *Product Categories* page is a page or interface used to define perfume categories. There are two categories of perfumes, namely men's perfumes and women's perfumes.

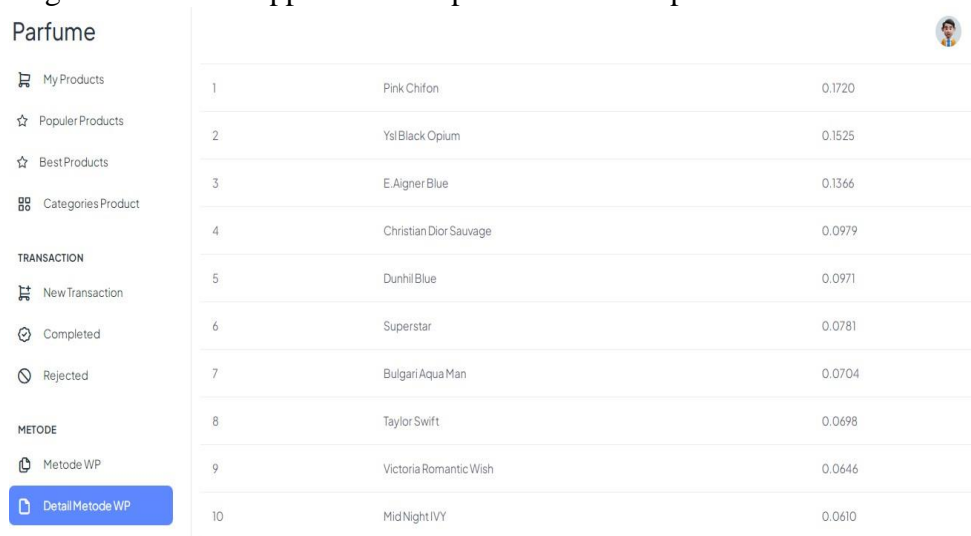


#	Category Name	Action
1	Parfume	[Edit] [Delete]
2	Parfume Pria	[Edit] [Delete]
3	Parfume Wanita	[Edit] [Delete]

Gambar 4.9 Categories Product

4.1.3 Halaman Metode Weighted Product (WP)

The Weighted Product (WP) Method Detail Page is a page or interface used to display the calculation results using the *weighted product* method. The calculation result with the highest value will appear at the top to show which perfume is the best.



No	Perfume	Value
1	Pink Chifon	0.1720
2	Ysl Black Opium	0.1525
3	E. Aigner Blue	0.1366
4	Christian Dior Sauvage	0.0979
5	Dunhill Blue	0.0971
6	Superstar	0.0781
7	Bulgari Aqua Man	0.0704
8	Taylor Swift	0.0698
9	Victoria Romantic Wish	0.0646
10	Mid Night IVY	0.0610

Gambar Detail Metode *Weighted Product*

3.2 Discussion

System design is made with the aim of producing a system that can help customers choose the best perfume products and for the store can increase sales with the method applied. There are 2 users who can run this system, namely admin and customer. Admin is responsible for customer order data and can input product data.

The Weighted Product method is used as a method to produce the best product ranking. This method is very useful for customers and stores in making the best decisions. The resulting system can also process online sales to make it easier for customers to buy perfume products.

4. CONCLUSION

The conclusions of this study are:

- 1) Dihasilkan produk terbaik parfume sesuai dengan perbandingan Metode Weighted Product (WP) berdasarkan kriteria yaitu, Harga, Kualitas, Kemasan, Jumlah Beli yang menjadi pertimbangan konsumen untuk membeli parfume.
- 2) Dengan mengimplementasi-kan Metode Weighted Product (WP) sistem mampu melakukan pengurutan produk parfume sebagai hasil rekomendasi produk yang disarankan berdasarkan pemilihan alternatif merk parfume terbaik, serta penentuan tingkat kepentingan pada setiap kriteria.
- 3) Dan sistem dapat membantu calon konsumen dalam proses pengambilan keputusan dalam memilih parfume yang sesuai dengan kebutuhan dan keinginan calon konsumen.

REFERENCES

- Arifin, S. (2020). Jenis Genset Dan Pengertiannya. Yogyakarta: STMIK Amikom Yogyakarta.
- Doni, R., dan Rahman, M. (2020). Sistem Monitoring Tanaman Hidroponik Berbasis Iot (Internet of Thing) Menggunakan Nodemcu ESP8266. J-SAKTI (Jurnal Sains Komputer dan Informatika), 4(2), 516-522.
- Herdianto, E., Sihabudin, S., & Saepudin, S. (2022). Sistem Pendukung Keputusan Pemilihan Merk Parfume Pada Wanita Menggunakan Metode AHP. *Jurnal Riset Sistem Informasi dan Teknologi Informasi (JURSISTEKNI)*, 4(3), 99-105.
- Hernando, L. (2020). Sistem Pendukung Keputusan Untuk Penerimaan Karyawan Baru Berbasis Client Server. *JURTEKSI (Jurnal Teknologi Dan Sistem Informasi)*, 6(3), 239-246.
- Iqbal, M. (2019). 5 Jam Belajar PHP MySQL dengan Dreamweaver CS3. Yogyakarta: Deepublish Publisher.

- Malkar, R. S., dan Yadav, G. D. (2020). Development of Green and Clean Processes for Perfumes and Flavors Using Heterogeneous Chemical Catalysis. *Current Catalysis*, 9(1), 32-58.
- Marhamelda, S. (2019). Sistem Pengolahan Data Peserta Didik Pada Lkp Prima Tama Komputer Dumai Dengan Menggunakan Bahasa Pemrograman Php. *INFORMATIKA*, 11(1), 37-45.
- Marini, M. (2019). Prototype Sistem Informasi Administrasi Pengadaan Barang Dengan Teknologi RFID. *SIMADA (Jurnal Sistem Informasi dan Manajemen Basis Data)*, 2(1), 1-14.
- Muhyidin, M. A., Sulhan, M. A., & Sevtiana, A. (2020). Perancangan Ui/Ux Aplikasi My Cic Layanan Informasi Akademik Mahasiswa Menggunakan Aplikasi Figma. *Jurnal Digit*, 10(2), 208.
- Muslihudin, M., dan Rahayu, D. (2019). Sistem Pendukung Keputusan Siswa Berprestasi Menggunakan Metode Weighted Product. *Jurnal TAM (Technology Acceptance Model)*, 9(2), 114-119.
- Noratama, R., dan Darmawan. (2019). Sistem Pendukung Keputusan Seleksi Penerima POTAS Menggunakan Fuzzy Logic. 1(3), 172-175.
- Nuril, I., Lestanti, S., & Kirom, S. (2021). IMPLEMENTASI METODE WEIGHT PRODUCT BERBASIS WEBSITE UNTUK REKOMENDASI BENTUK STEMPEL RUNAFLEK (Studi Kasus: Toko Stempel Rahmad Jaya Dusun Jiwut Kecamatan Nglegok Kabupaten Blitar). *JATI (Jurnal Mahasiswa Teknik Informatika)*, 5(2), 398-404.
- Purba, A. T., dan Siregar, V. M. M. (2020). Sistem Penyeleksi Mahasiswa Baru Berbasis Web Menggunakan Metode Weighted Product. *Jurnal Tekinkom (Teknik Informatika dan Komputer)*, 3(1), 1-8.
- Purnomo, A. S., dan Ariyanti, J. (2019). Rekomendasi Pemilihan Produk Simpanan Tabungan Bank Menggunakan Metode Weighted Product (WP). *INFORMAL: Informatics Journal*, 4(1), 1-9.
- Qolbiah, D. L., Fauzan, A. C., & Prabowo, T. (2023). Penerapan Metode Weighted Product Berbasis Visualisasi Graph Database dalam Merekomendasikan Parfum IsiUlang. *Jurnal Sistem Komputer dan Informatika (JSON)*, 4(4), 662-670.
- Risnandar, A. I., dan Prabawati, S. Y. (2020). Sintesis Senyawa Mentil Vanilat dari Vanilin dan Aplikasinya sebagai Parfum. *ALKIMIA : Jurnal Ilmu Kimia Dan Terapan*, 3(2), 61-69.
- Roni, R., Sumijan, S., dan Santony, J. (2019). Metode Weighted Product dalam Pemilihan Penerima Beasiswa Bagi Peserta Didik. *Jurnal RESTI (Rekayasa Sistem dan Teknologi Informasi)*, 3(1), 87-93.
- Ruhiawati, I. Y., dan Romdoni, M. Y. (2020). Sistem Pendukung Keputusan Pemilihan Bahan Baku Produksi Dengan Metode Weighted Product Pada PT. Luhai Industri. *Jurnal Sistem Informasi Dan Informatika (Simika)*, 3(1), 67-84.
- Setiawan, Y. (2019). APLIKASI PEMILIHAN JASA TUKANG MENGGUNAKAN METODE WEIGHTED PRODUCT BERBASIS WEB (Doctoral dissertation, University of Technology Yogyakarta).
- Sianturi, Devi Permata Sari, and Jijon Raphita Sagala. "Prediksi Trend Penjualan Handphone Tahun 2020 Dengan Menggunakan Metode Weighted Product: Handphone; Sistem Pendukung Keputusan; Weighted Product." *Jurnal Ilmu Komputer dan Sistem Informasi (JIKOMSI)* 3.1.1 (2020): 159-166.
- Sugiarto, A., Rizky, R., Susilowati, S., Yunita, A. M., dan Hakim, Z. (2020). Metode Weighted Product Pada Sistem Pendukung Keputusan Pemberian Bonus Pegawai Pada CV Bejo Perkasa. *Bianglala Informatika*, 8(2), 100-104.
- Susliansyah, S., Aria, R. R., dan Susilowati, S. (2019). Sistem Pemilihan Laptop Terbaik Dengan Menggunakan Metode Weighted Product (Wp). *Jurnal Techno Nusa Mandiri*, 16(1), 15-20.
- Tukino. (2020). Computer Based Information System Journal Rancang Bangun Sistem Informasi E-Marketing Pada PT Pulau Cahaya Terang. *CBIS Journal*, 08(01), 25.
- Wahyudi, M. D., dan Ridho, M. R. (2019). Sistem informasi penjualan mobil bekas berbasis web pada cv phutu oil club di kota batam.