JURNAL TEKNOLOGI DAN OPEN SOURCE
Vol. 8, No. 1, June 2025, pp. 376~389
e-ISSN: 2622-1659, accredited Four Grade by Kemenristekdikti, Decree No: 152/E/KPT/2023
DOI: https://doi.org/10.36378/jtos.v8i1.4452

Decision Support System For Submitting And Evaluating Web-Based Scholarships Using The Topsis Method at SMP Kusuma Raya

Muhammad Afdhaluddin[1], Lailatur Rahmi[2], Tasya Amalia[3]
[1,] Informatics Management, Lampung University, Bandar Lampung
[2,3] Informatics Management, Politeknik Negeri Sriwijaya Palembang

Article Info

Article history:

Received 06 01, 2025
Revised 06 11, 2025
Accepted 06 25, 2025

Keywords:

Decision support system
scholarship
Website
TOPSIS method
Development platform

ABSTRACT

This research aims to develop a web-based decision support system for the scholarship application and assessment process. The system is designed to improve efficiency, transparency, and objectivity of selection. The TOPSIS method is used to evaluate potential recipients based on a number of relevant criteria. The system was developed using PHP, MySQL, Visual Studio Code, and XAMPP as the development platform. System testing shows that this application is able to provide accurate scholarship recipient recommendations, so that it can help decision makers in determining recipients more fairly and systematically. With this approach, it is expected that the scholarship selection process will become more structured and reduce the potential for subjectivity in assessment. The results of this research contribute to the application of information technology in supporting a better selection system in the academic environment and scholarship granting institutions.

Keywords: Decision support system, scholarship, website, TOPSIS method, development platform.

Corresponding Author:

Muhammad Afdhaluddin
Department of Computer Science
Lampung University
Lampung, Indonesia
Email: mafdhal.uddin@fmipa.unila.ac.id

1. Introduction

Education is a strategic factor in improving the quality of human resources, especially in the digital era that demands competitive skills and knowledge [1][2]. However, not all students have equal opportunities to access quality education, especially those who come from economically disadvantaged families [3] [4]. To overcome this gap, scholarship programs are an important instrument provided by educational institutions to help outstanding and underprivileged students [5][6]

At Kusuma Raya Junior High School, the scholarship selection and application process is still done manually, making it vulnerable to administrative errors, subjective assessments, and delays in the selection process [7][8]. Therefore, a computerized system is needed that is able to assist in making decisions objectively, quickly, and transparently. An effective method is to implement a web-based Decision Support System (DSS) which enables users to carry out the application and selection process online [9][10]. DSS assists in decision-making by evaluating multiple alternative according to specific criteria[11].

In this research, the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method is used, which has been proven effective in handling multicriteria decision-making problems[12][13] . The TOPSIS method works by measuring the relative closeness of each alternative to positive and negative ideal solutions, thus helping to select the best alternative [14][15].

Nomerous studies have demonstrated tha the TOPSIS method is well-suited for use in scholalrship selection systems because it can handle various types of data, accmomodate different criteria weights, and deliver consistent and measurable result[16][17][18]. The integration of the DSS, TOPSIS methodd, and a web-based platform enhances the scholarship selection process, making it more efficient, transparent, and accountable[19][20].

A a web-based system, enables students or parents to access scholarship information and services remotely, eliminating the need to visit the school and allowing them to track the selection process in real -time [21][22] . Additionally, this system facilitates more integrated data management and reduces the risk of manual data entry errors[23].

This research aims to design and implement a Website-based Scholarship Application and Assessment Decision Support System with the TOPSIS Method at Kusuma Raya Junior High School, with the hope of increasing efficiency and fairness in the selection process of scholarship recipients [24][25].

This research involves the use of internal school data and activities, making it essential for the researcher to obtain official permission from SMP Kusuma Raya. Such Permission should be seured through the school principal or other authorized personel. Additionally the use of student data such as report card grades and personel identification must strictly follow confidentiality and privacy standards, ensuring that no sensitive or personally identifiable information is disclosed

If the research requires direct interaction with students, teacher, or school staff the researcher must obtain indormed consent, particulary when involving underage participants. This consent should be in written form and clearly state the purpose procedure and potential impacts of the study. Moreover the researcher is obligated to present an official introduction letter or research permit issued by their affliaterd institution. This serves as a formal authorization and reinforces the researcher's accountability.

All research activities must be carried out in a professional and ethical manner, with careful attention to avoid any harm, disruption, or negative consequences for individuals or the institution involved. By adhering to ethical guidelines and relevant regulations, the research process will maintain its integrity and credibility, ensuring the protection of all participants and the legitimacy of the research outcomes.

2. Research Method

2.1. Stages of Problem Formulation

The stage of identifying and even facilitating the study of problems is known as the problem formulation stage. This must be done to support the research in developing a system that prevents the research from going out of the defined boundaries.

2.1.2. Data Collection Stages

1. Interveiw
   Conducted face-to-face, interviewees who were considered have insight into the research that I am observing, such as the admin at Kusuma Raya Junior High School.
2. Observation
   Participated in Kusuma Raya Junior High School to obtain information about the criteria used in supporting scholarship applications and scholarship assessment that will be processed in a website.
3. Literature Study
   This process was carried out by studying all the data collected from the research location, namely Kusuma Raya Junior High School, as well as analyzing related theories through articles, books, and other sources. Analyzing related theories in this case through articles, books, and the library of the Department of Informatics books, and the library of the Informatics Management Department of Politeknik Sriwijaya State.
4. Documentation
   Conducted by collecting information from Kusuma Junior High School Raya Junior High School and existing recording documents. In using the documentation data collection technique, it is important to ensure the accuracy and constraints of the information obtained as well as the pay attention to the context of the documents used.

2.2. TOPSIS

The TOPSIS method is an approach that calculates alternatives in comparing the distance between positive and negative ideal solutions. The method This method applies a geometric approach as well as a distance that assesses the closeness of the options to the best solution. TOPSIS ranks each alternative based on its closeness to the positive ideal solution. The resulting ranking can then be used for reference in decision to choose the most optimal alternative.

2.2.1. TOPSIS Analysis Function Method

The system was created using the fuzzy topsis algorithm. Steps in processing as follows.

1. Compile a normalized decision matrix.

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}} \quad (1)$$

2. Forming a normalized decision matrix is important.

$$y_{ij} = w_i r_{ij} \quad (2)$$

3. Construct positive ideal solution matrix and negative ideal solution matrix.

$$A^+ = y_1^+, y_2^+, \dots, y_n^+ \quad (3)$$
$$A^- = y_1^-, y_2^-, \dots, y_n^-$$

4. Identifying the distance between the value of each alternative and the positive and negative ideal solution matrix positive and negative ideal solution matrix.

$$D_i^x = \sqrt{\sum_{j=1}^{n} \left(y_1^+ - y_{ij}\right)^2}$$

$$D_i^- = \sqrt{\sum_{j=1}^{n} \left(y_{ij} - y_1^+\right)^2} \quad (4)$$

5. Compile preference values for each alternative

$$V_i = \frac{D_i^-}{D_i^- + D_i^+} \quad (5)$$

3. Result and Discussion

Analyze the problem set according to the objectives to be obtained, including understanding the structure of the system. In order to obtain accurate data as well as relevant, Apply various ways of collecting data in this research, so that the decisions taken can support the development of a Website-Based Website-Based Scholarship Submission and Assessment Decision Support System. The feasibility is built as follows.

1. Technical Feasibility: Kusuma Raya Junior High School has the hardware and hardware and software to support the implementation of this system, such as a PC (Personal Computer) and internet connection via Wifi.
2. Operational Feasibility: Kusuma Raya Junior High School has human resources who are skilled in using computers, so they can easily operate this system. easily operate this system
3. Economic Feasibility: Expenditure on the development of this system is quite efficient when viewed from the benefits obtained in the future, because this system uses the PHP programming language and software such as XAMPP and Visual Studio Code which are open-source. This provides benefits, especially in terms of saving time, cost, and energy in data processing carried out by the administration.

3.1. System Design

A system design that incorporates the subsequent phases is necessary to achieve the goals intended in the new design.

1. Examining, researching, and compiling the new system required to organize the existing system into a data structure for the system to be developed.
2. Carefully consider, and design the system by using all the information that will be generated.
3. Examine potential barriers that are considered when designing a new system.

4. Choose a design for the input and output procedures of the final program that will make it easy to identify and assess the various parts of the problem.

3.1.1. Context Diagram

The following is the Context Diagram of the Submission Decision Support System and Website-Based Scholarship Assessment

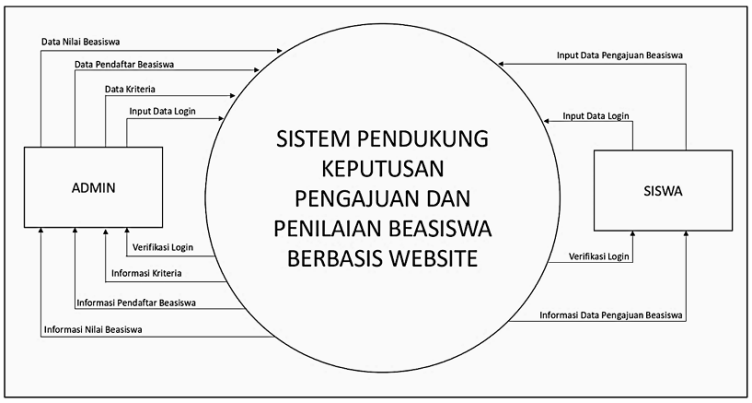


Figure 1. Context Diagram

Event List :

1. Admin inputs login data to access the system.
2. Admin manages scholarship value data, scholarship applicant data, and scholarship recipient data.
3. Admin gets information on scholarship application data for verification and decision process.
4. Students input login data to access the system.
5. Students input scholarship application data, which includes filling in personal data, and related documents.

Students get criteria information, scholarship applicant information, scholarship applicant information, and scholarship value information.

3.1.2. DFD Level 1

The following is DFD level 1 of the Decision Support System for Submission and Website-Based Scholarship Assessment.

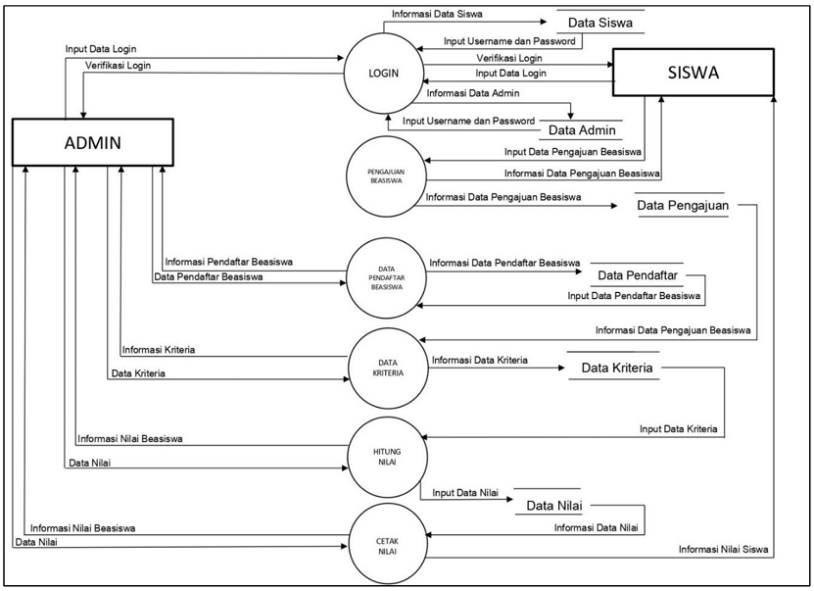


Figure 2. Data Flow Diagram Level 1

Event List:
1. Admin login by entering username and password to complete login verification.
2. Admin can view information on scholarship applicant data, including data on students who have applied for scholarships.
3. Admin can input criteria data for the scholarship selection process selection process.
4. Admin performs the scholarship value calculation process based on predetermined criteria.
5. Admin can also print the results of student score calculations.
6. Students login by entering their username and password to complete login verification.
7. Students input scholarship application data, then verified and managed by the system.
8. Students can view scholarship value information that is calculated based on criteria data managed by the admin.

3.1.2. ERD

The following is the ERD of the Decision Support System for Submissions and Website-Based Assessment as follows.

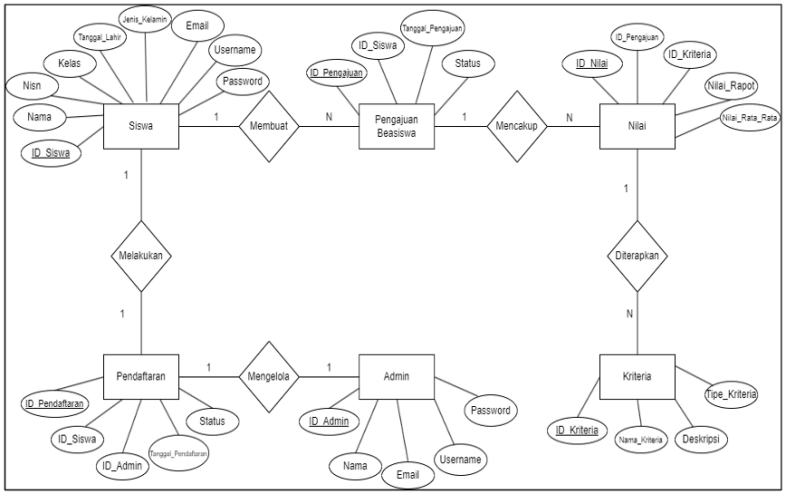


Figure 3. Entity Relational Diagram

The Entity-Relationship Diagram (ERD) above illustrates a Scholarship Application System consisting of six main entities: **Student (Siswa)**, **Scholarship Application (Pengajuan Beasiswa)**, **Score (Nilai)**, **Criteria (Kriteria)**, **Registration (Pendaftaran)**, and **Admin**. Each student has personal attributes such as student ID, name, class, NISN, birth details, email, username, and password. A student can perform a registration and create scholarship applications. Each application includes scores, which are evaluated based on specific criteria. The scores are linked to both the application and the criteria used. Criteria themselves contain a unique ID, type, and description. The registration process is managed by an admin, who also has identifying attributes like ID, name, email, username, and password. This system is designed to handle the process of student scholarship submissions, including score evaluations and administrative oversight.

3.2. Design View

Here are the results of the display of the Decision Support System for Submission and Website-Based Scholarship Assessment.

3.2.1. Design View of Login Options Page

This page servers as the main welcome screen for the SMP Kusuma Raya Scholarship Management System, acting as the first point of contact for all users.It was designed with simplicity and ease of use in mind, and it features a clean and user-friendly interface that assists users in navigating the system seamlessly. Administrators and students access features that are particular to their roles thanks to distinct login options. Administrators can access a number of administration tools on the pafe, including tools for handling schoolarships data evaluating applicants, and creating reports The page gives students the ability to reade scholarship details, upload required files, and monitor the progress of the their applications. The design is

structured to ensure easy navigation and reduce potential confusion, especially for new users. As the entry point to all scholarship related activities, this welcome page plays a crucial role in ensuring that every user has a smooth, professional, and efficient experience within the system

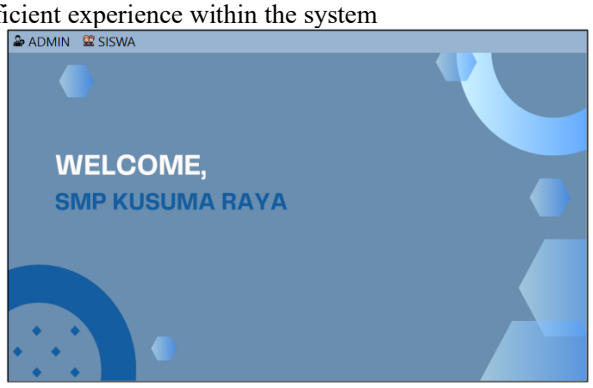


Figure 4. Design View of Login Option Page

The design view that first appears when accessing this application which has a choice between admin or student login.

3.2.2. Design View of Admin Login Page

Admin login design display, this page contains username input and password that can be filled in by theadmin to proceed to the menu page.

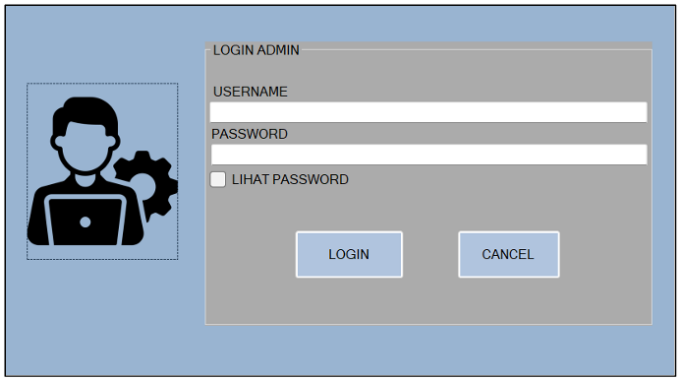


Figure 5. Design View of Admin Login Page

This page is the Admin Login interface of the system. The SMP Kusuma Raya Scholarship Management system's admin login interface is located on this page. It is especially made to give system administrators safe access, guaranteeing that only individuals with permission can access the administrative dashboard and carry out management-related duties. Administrators must enter theie registered username and password in the appropriate input fields in order to log in. To safe guard login information and stop unwated access, the system has built in security features

This interface provides user-friendly features to improve the overall experience in addition to the standard login functionality. The "Show Password" option is one such feature that helps users minimize input errors by allowing them to see the password they are typing. Two action buttons are also included: "Login" which initiates the authentication process, and "Cancel" which allows the user to reset the form or return to the previous page if needed.

The Admin Login page's design prioritizes security, ease of use, and clarity. Its simple design straight forward layout helps users easily go through the login process. To keep things safe, there are checks in place that make sure the information entered follows the correct format before access is given. Overall, this page plays an important role in keeping the system secure by controlling who can acces it and protecting administrative takss from being misused or accessed without permission.

3.2.3. Design View of Student Login Page

The student login screen shows a page where students enter their usernames and password to access the menu page. Once the information is entered, they can move on to the menu page

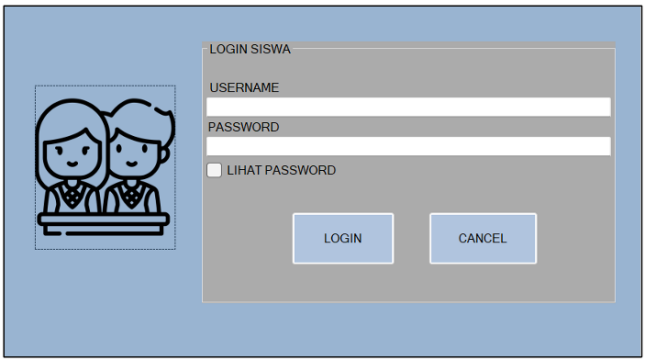


Figure 6. Design View of Student Login Page

This page is where students can log in to the system. It allows them to access their accounts by typing in their username and password. To make it easier to use, there's a button that lets you see the password, and there buttons for logging in or canceling the login process

3.2.4. Display Design of Admin Dashboard Page

Design view of the admin dashboard page that shows up once the admin has logged in.

Figure 7. Display Design of Admin Dashboard Page

This is the main screen that the admin sees when they log into the SMP Kusuma Raya System. It greets the user and gives easy access to important functions like entering admin data, viewing reports, and logging out. This page acts as the main control center for handling all the system's tasks smoothly.

3.2.5. Design View of Student Dashboard Page

Design view of the student dashboard page, which appears after student login.

Figure 8. Design View of Student Dashboard Page

This is the main dashboard page for students in the SMP Kusuma Raya scholarship system. It provides access to key features such as Student Data Input, Scholarship Information, and Logout. This interface acts as a central hub for students to manage their scholarship applications and view related updates

3.2.6. Design View of Admin Input Page

Design view of the page that the admin will input.

Figure 9. Design View of Admin Input Page

This page servers as the admin dashboard menu in the SMP Kusuma Raya scholarship system. From this interface, administrators can access and manage key data components, including student data, applicant data, criteria data, and score data. The menu structure is designed to simplify navigation and ensure efficient data entry within the system

3.2.7. Design View of Student Input Page

Design view of the page that students will input.

Figure 10. Design View of Student Input Page

This page displays the student dashboard interface of the SMP Kusuma Raya scholarship system. Through this menu, students can access the 'Application Data' section to submit or manage their scholarship applications. The interface also provides navigation to scholarship information and a logout option, ensuring ease of use and organized access to essential features.

5.2.8. Design View of Scholarship Information Page

Design view of scholarship information that students see to choose which scholarship to apply for.

Figure 11. Design View of Scholarship Information Page

This **Scholarship Information** page provides details about varius scholarship opportunities available for students at SMP Kusuma Raya. The interface highlights three main scholarship programs : The **Beasiswa Anak Teladan**, which recognizes high achieving students with a specific registration and implementation schedule : the **DataPrint Scholarship**, a private initiative that supports students by providing educational supplies; and the **Indonesia Smart Program (Program Indonesia Pintar)**, a government-run scholarship aimed at assisting underprivileged students in continuing their education. The page is designed to present information in a visually appealing and accessible way, encouraging students to explore and take advantage of available financial aid programs.

5.2.9. Design View of Report Page

Design view of the report page containing the score print.

Figure 12. Design View of Report Page

The **Report Page** is an essential tool for administrators at SMP Kusuma Raya, enabling them to easily access and manage academic performance reports. The prominent feature, " Cetak Nilai" (Print Grades), allows users to generate and print sutendt grade reports effortlesslu. This functionality is designed to streamline the school's academic documentation process by offering quick access to well-organized, printable grade records, ensuring transparency and accuracy in academic reporting

5.2.10. Design View of Student Data Input Page

Design view of the student data input page, which will be inputted by the admin.

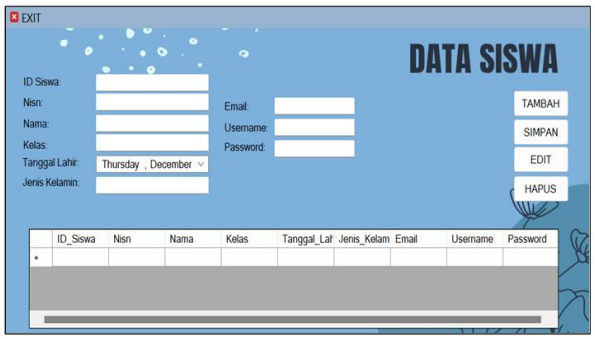


Figure 13. Design View of Student Data Input Page

This page is an interface designed specifically for managing student data, facilitating the efficient input, updating and maintenance of student information within the SMP Kusuma Raya Scholarship Management System. It server as a primary tool for administrators to ensure that all student data is complete, accurate, and up to date. The interface includes a structured form where users, can enter important student details such as Student ID, NISN (National Students Identification Number) full name, class, date of birth, gender, email address, username, and password. Each field is clearly labeled and formatted correctly to minimize data entry errors and ensure consistency across the database. The interface also supports key data management functions located on the right side of the form, including the add button to input new student data,

save to store newly entered or updated data, edit to modify existing data, and delete to remove outdated or incorrect information.

Below the form, a dynamic table presents all the existing students records in a well-organized format. This table enables users to view and verify the stored information while supporting real time updates, ensuring any changes made through the form are instantly reflected. To improve user experience, the page may feature search and filter options, allowing users to quickly find specific students records based on selected criteria. This interface plays a vital role in the overall system by maintaining an accurate and complete student database, which is crucial for verifying scholarship eligibility, tracking applications, and generating reports. With a focus on usability and functionality, it ensures administrators can efficiently and reliably manage student

5.2.11. Display Design of Registrant Data Input Page

The design view of the registrant data input page, which will be inputted by the admin.

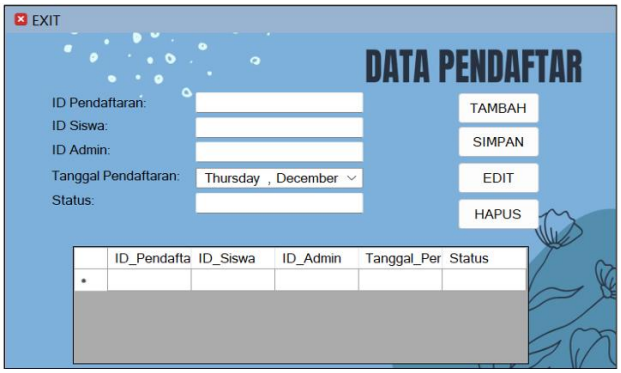


Figure 14. Display Design of Registrant Data Input Page

This page functions as the interface for registration data, offering a well structured platform to manage and log student registration information in the system. It features clearly labeled input fields such as registration ID, Student ID, Admin ID, Registration Date, and Registration Status to maintain accuracy and consistency. The interface enables users to carry out essential tasks, such as adding new records, saving modiffications, editing existing entries, and deleting outdated or incorrect data. All registration records are displayed in a table below the form, allowing users to easily review, search and verify the information. This interface ensures smooth and organized tracking of registration data.

5.2.12. Design View of Criteria Data Input Page

Design view of the criteria data input page, which will be inputted by the admin.

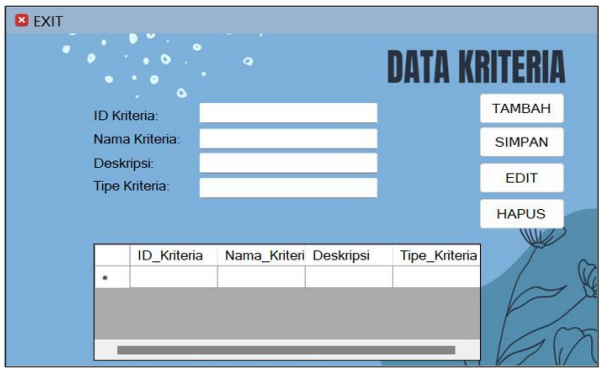


Figure 15. Design View of Criteria Data Input Page

This page serves as an interface for managing criteria data, designed to streamline the input, organization, and upkeep of various evaluation criteria used in the scholarship selection process. Users can enter important information such as criteria ID, criteria name, description, and criteria type, ensuring each criterion Is clearly defined and properly categorized. The interface includes essential action buttons on the right side, such as Add, Save, Edit and Delete. Enabling users to efficiently manage the list of criteria. All entered data is automatically displayed in the table below, making it easy to review, update, and verify existing criteria.

5.2.13. Design View of the Grade Data Input Page

Design view of the value data input page, which will be inputted by admin.

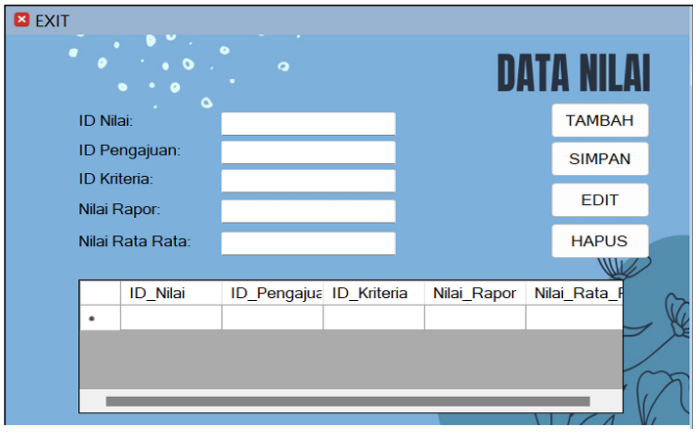


Figure 16. Design View of The Grade Data Input Page

This page serves as an interface for managing score data, designed to record, organize, and maintain student scores based on predefined evaluation criteria. Users can input key details such as Score ID, Submission ID, Criteria ID, Report Card Score, and Average Score, ensuring accurate assessment of each student's performance. The interface includes key control buttons—Add, Save, Edit, and Delete—enabling users to efficiently manage the score records. These features ensure the system tracks all score-related data with consistency and precision. The entered data is displayed in a dynamic table below the form, allowing users to easily view, review, and modify score entries when necessary. This page plays an essential role in supporting a transparent and organized evaluation process, ensuring that all student assessments are accurately documented and easily accessible. The layout is user-friendly, allowing administrators to manage scoring activities with clarity and efficiency..

5.2.14. Design View of Submission Data Input Page

The design view of the submission data input page, which will be inputted by students.

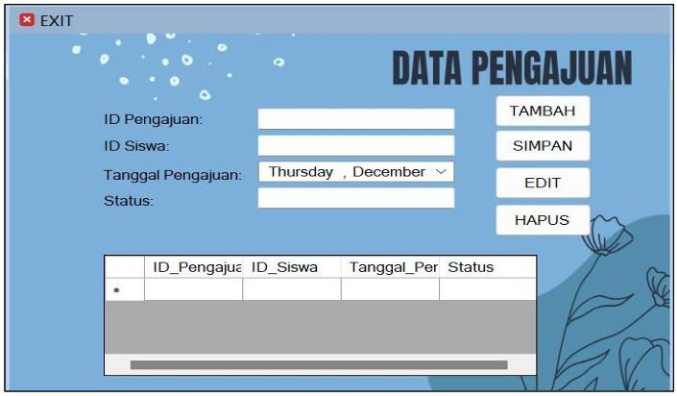
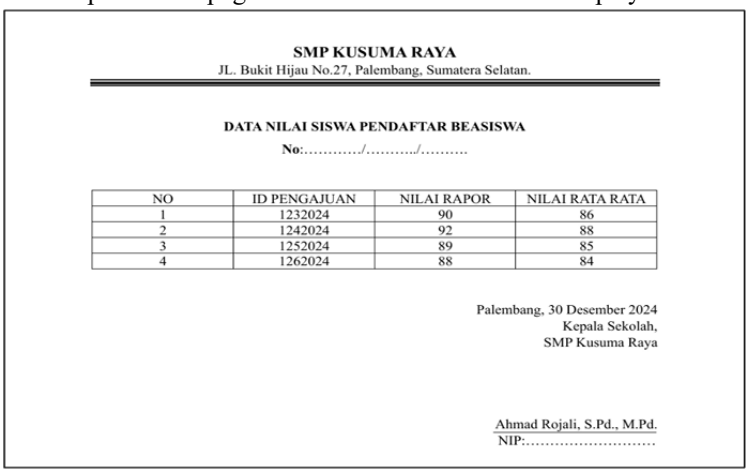


Figure 17. Design View of Submission Data Input Page

This page functions as an interface to manage student submission data, allowing users to easily add, update, and organize submission related information. Some important elements such as submission IDm Student ID, Submission status are clearly displayed to ensure each entry is complete and accurately reflects the student;s application process. Features such as Add, save, Edit and Delete buttons are available on the right side of the page, making it easy for users to manipulate data. These controls make it easy to manage new data, revisions, or delete information that is no longer relevant. All data entered is displayed in tabular form below the form, making it easy to monitor and verify the status of individual students applications. This interface plays an important role in monitoring the progress of scholarship applications and ensurinf that completed documents are submitted on time. With a simple and functional design, this page supports effective data management and helps create an organized administrative workflow

5.2.15. Design View of Grade Print Page

The design view of the print score page and the final result that will display the score



SMP KUSUMA RAYA
JL. Bukit Hijau No.27, Palembang, Sumatera Selatan.

DATA NILAI SISWA PENDAFTAR BEASISWA
No:……/……/…….

NO	ID PENGAJUAN	NILAI RAPOR	NILAI RATA RATA
1	1232024	90	86
2	1242024	92	88
3	1252024	89	85
4	1262024	88	84

Palembang, 30 Desember 2024
Kepala Sekolah,
SMP Kusuma Raya

Ahmad Rojali, S.Pd., M.Pd.
NIP:……

Figure 18. Design View of Grade Print Page

This page displays a printed report specifically designed to display the academic grades of students applying for scholarships Kusuma Raya Junior High School. This report servers as an official document that includes important information such as the identity of the applicant, individual report card grades, and the average grade calculated for each student. All relevant data is accurately represented and easy to review, as the layout is designed to be clearer and easily to read. In addition to offering a standardized format for documentation and decision-making, this report plays an important role in the scholarship evaluation process. Moreover to maintain good administrative records, this document also comen with an official numbering and date of issue

2. Conclusion

Conclusion regarding the Decision Support System for Submission and Website-Based Scholarship Assessment as follows.

1. The system that has been designed and developed successfully provides solution to problems in the selection process of scholarship recipients at Kusuma Raya Junior High School. The manual process takes a long time and has risk of objectivity. Through this website-based system, the selection process becomes easier, and more efficient. The TOPSIS method applied in This system is able to assist in decision making by comparing and comparing and assessing applicants based on predetermined criteria, such as academic grades, parents' income, and extracurricular achievements. The resulting evaluation results are fairer because they are based on based on objective mathematical calculations.
2. With website-based technology, this system can be accessed wherever and whenever needed by interested parties. Thus convenience, especially for students who wish to apply for a scholarship and monitor the status of their application. The use of this system is able to save time and resources compared to the manual process. Admin only need to input the data once, and the system will process the data automatically to produce a ranking of scholarship recipients. automatically to generate a ranking of scholarship recipients. With this, admin work becomes lighter.
3. The design of this system is focused on ease of use, both for the admin and students. Features such as login, data entry, and assessment are done with a simple and easy-to-understand interface.

Acknowledgement

Praise be to God Almighty for His mercy and grace, so that I can complete the final project report entitled “Website-Based Scholarship Application and Assessment Decision Support System Using the TOPSIS Method at Kusuma Raya Junior High School”. The preparation of this report cannot be separated from the help, support, and guidance of various parties who have made valuable contributions.

References

[1] M. Predy, J. Sutarto, T. Prihatin, and A. Yulianto, “Generasi Milenial yang Siap Menghadapi Era Revolusi

Digital (Society 5 . 0 dan Revolusi Industri 4 . 0) di Bidang Pendidikan Melalui Pengembangan Sumber Daya Manusia," *Semin. Nas. Pascasarj. UNNES*, vol. Vol. 2 No., 2019.
[2] T. Tugiah and J. Jamilus, "Pengembangan Pendidik sebagai Sumber Daya Manusia Untuk Mempersiakan Generasi Milenial Menghadapi Era Digital," *J. Sos. Teknol.*, vol. 2, no. 6, pp. 498–505, 2022, doi: 10.59188/jurnalsostech.v2i6.350.
[3] A. S. M. Amadi, S. Hasan, N. A. Rifanto, M. Wildan, N. Q. Afifah, and N. M. Nisak, "Upaya Pemerintah dalam Menjamin Hak Pendidikan untuk Seluruh Masyarakat di Indonesia: Sebuah Fakta yang Signifikan," *Educatio*, vol. 18, no. 1, pp. 161–171, 2023, doi: 10.29408/edc.v18i1.14798.
[4] A. Edo and M. Yasin, "Dampak Kesenjangan Akses Pendidikan dan Faktor Ekonomi Keluarga terhadap Mobilitas Sosial," *J. Ilmu Pendidik. Sos.*, vol. 2, no. 3, pp. 317–326, 2024.
[5] M. S. Ummah, *Administrasi dan manajemen Pendidikan Sekolah*, vol. 11, no. 1. 2019. [Online]. Available: http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI
[6] I. N. U. R. Rahmasari, "Tesis peran badan amil zakat nasional kota semarang dalam pengembangan mutu pendidikan islam di kota semarang," *J. tekonologi*, 2024.
[7] F. A. Kurniawan, Y. Seby Dwanoko, and J. W. Kuswinardi, "Rancang Bangun Sistem Pendukung Keputusan Penerima Beasiswa PIP Di SMPN 1 Trawas Dengan Menggunakan Metode Smart," *J. Inf. Technol.*, vol. 1, no. 2, pp. 17–28, 2023.
[8] C. B. Andrianto, K. Kusrini, and H. Al Fatta, "Analisis Sistem Pendukung Keputusan Penerima Beasiswa Di Smp Muhammadiyah 2 Kalasan," *Respati*, vol. 12, no. 34, pp. 46–60, 2017, doi: 10.35842/jtir.v12i34.101.
[9] R. Fauzan, Y. Indrasary, and N. Muthia, "Sistem Pendukung Keputusan Penerimaan Beasiswa Bidik Misi di POLIBAN dengan Metode SAW Berbasis Web," *J. Online Inform.*, vol. 2, no. 2, p. 79, 2018, doi: 10.15575/join.v2i2.101.
[10] D. A. Prameswari and A. Hadi, "Sistem Pendukung Keputusan Penilaian Kinerja Karyawan Pada Diskominfo Di Kabupaten Nganjuk Berbasis Web," *J. Ilm. Teknol. Inf. Asia*, vol. 17, no. 2, p. 147, 2023, doi: 10.32815/jitika.v17i2.931.
[11] J. Fitriana, E. F. Ripanti, and T. Tursina, "Sistem Pendukung Keputusan Pemilihan Mahasiswa Berprestasi dengan Metode Profile Matching," *J. Sist. dan Teknol. Inf.*, vol. 6, no. 4, p. 153, 2018, doi: 10.26418/justin.v6i4.27113.
[12] D. Fitria, "Kajian Metode Analytical Hierarchy Process (AHP) Dan Technique For Order Preference By Similarity To Ideal Solution (TOPSIS) Serta Penerapannya," *J. Pendidik. Berkarakter*, no. 1, 2024.
[13] B. Syariah and R. Nasution, "Analisis Penerapan IT Balanced Scorecard yang Mempengaruhi Kinerja Divisi Teknologi Informasi," *J. Tek. Inform. STMIK Antar Bangsa*, vol. III, no. 1, pp. 40–47, 2017.
[14] S. Hidayat and R. Irviani, "Ma Al Mubarok Batu Raja Menggunakan Metode Topsis," *J. TAM (Technology Accept. Model. Vol. 6, Juli 2016*, vol. 6, no. 2015, pp. 1–8, 2016.
[15] S. N. Amida and T. Kristiana, "Sistem Pendukung Keputusan Penilaian Kinerja Pegawai Dengan Menggunakan Metode Topsis," *JSAI (Journal Sci. Appl. Informatics)*, vol. 2, no. 3, pp. 193–201, 2019, doi: 10.36085/jsai.v2i3.415.
[16] R. F. Ramadhan and K. Eliyen, "IMPLEMENTASI METODE TOPSIS PADA DECISION SUPPORT SYSTEM UNTUK PENILAIAN MAHASISWA BERBASIS PRESTASI AKADEMIK DAN NON PENDAHULUAN Dewasa ini perkembangan dunia industri dan teknologi semakin pesat . Perkembangan kedua bidang tersebut memberikan dampak yang," *J. Teknol. dan Sist. Inf. Univrab*, vol. 7, no. 2, pp. 156–163, 2022.
[17] M. D. Irawan, M. R. Fasya, U. Islam, N. Sumatera, and S. Utara, "Sistem Pendukung Keputusan dengan Aplikasi AHP-TOPSIS Combination for Selection of the Best Lecturers Based on the SINTA Metric," *Sist. Pendukung Keputusan dengan Apl.*, pp. 1–12, 2024.
[18] B. Agustian and O. Wibowo, "Perancangan Sistem Penunjang Keputusan Pemilihan Anak Asuh Menggunakan Metode Technique for Others Reference by Similarity to Ideal Solution (Topsis) pada LAZ Sejahtera Ummat," *J. Inform. Univ. Pamulang*, vol. 3, no. 2, p. 56, 2018, doi: 10.32493/informatika.v3i2.1429.
[19] R. Setiawan, A. Latifah, and W. Dwi Lestari, "Rancang Bangun Sistem Informasi Penentu Calon Penerima Beasiswa pada Fakultas Ekonomi Universitas Garut," *J. Algoritm.*, vol. 19, no. 2, pp. 712–721, 2022, doi: 10.33364/algoritma/v.19-2.1195.
[20] A. Alvrahesta, I. Pertiwi Windasari, A. Budi Prasetijo, I. P. Windasari, A. B. Prasetijo, and R. Bangun Sistem Informasi Penerimaan, "Rancang Bangun Sistem Informasi Penerimaan Beasiswa Sariraya Co. Ltd. Menggunakan Framework Laravel dan Bootstrap How to cite: A," *J. Tek. Komput.*, vol. 2, no. 1, pp. 1–10, 2023, doi: 10.14710/jtk.v2i1.37723.
[21] N. F. Husnaini, "Sistem Pendukung Keputusan Berbasis Web dengan Metode AHP-TOPSIS untuk Pengukuran Tingkat Kesejahteraan Masyarakat Pesisir di Kabupaten Pidie," *Comput. J.*, vol. 3, no. 2, pp. 51–60, 2025.
[22] L. Fitriani, R. Kurniawati, and F. A. Ramadhan, "Perancangan Aplikasi Kemahasiswaan Sekolah Tinggi Teknologi Garut Berbasis Web," *J. Algoritm.*, vol. 14, no. 2, pp. 235–239, 2015, doi: 10.33364/algoritma/v.14-2.235.
[23] S. Agustiani, D. Pribadi, S. Dalis, S. K. Wildah, and A. Mustopa, "Pengembangan Sistem Informasi Akademik untuk Meningkatkan Efektivitas Pengelolaan Data pada SMK Mihadunal Ula," *Reputasi J. Rekayasa Perangkat*

Lunak, vol. 4, no. 1, pp. 1–9, 2023, doi: 10.31294/reputasi.v4i1.1992.
[24] A. Saifudin, "Metode Data Mining Untuk Seleksi Calon Mahasiswa," *J. umj*, vol. 10, no. 1, pp. 25–36, 2018.
[25] S. Rahayu, "Perancangan Dan Implementasi Sistem Informasi Seleksi Penerimaan Mahasiswa Baru Menggunakan Spk," *J. Ilm. Ilmu dan Teknol. Rekayasa*, vol. 1, no. 1, pp. 63–70, 2020, doi: 10.31962/jiitr.v1i1.29.