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WEB-BASED STUDENT CODE VIOLATION SANCTION DECISION SUPPORT SYSTEM

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Abstract

To assess students' readiness for behavior and ethics, a decision support system is needed to analyze sanctions and decisions in the decision support system. This decision support system is designed to assist in decision-making in addressing semi-structured or unstructured probem by integrating human judgement and computerized data processing. The development method used in this study is the Simple Additive Weighting (SAW) Method which consists of Multiple Attribute Decision Making (MADM) is a method used to find the optimal alternative from a number of alternatives with certain criteria. The SAW method is also known as the Weighted Sum Model (WSM) or Scoring Method (SM) and is most often used in MADM techniques. As a tool for the support system, this application is designed to support the decision of teachers at SMK Negeri 2 Kec. Guguk the SAW method to analyze and weigh criteria and sanctions for violations committed by students. The system support structured analysis, categorizing teachers' decisions into criteria and sub-criteria, allowing them to understand their strengths and identify areas for improvement. Each criterion is evaluated based on weight, followed by a rating, allowing teachers to gain deeper self-evaluation insights, recognizing decisions taken in following up on violations committed by students.

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Key Words

Decision Support System, Violation of Student Discipline, SAW Method, Violation Sanction.

I. INTRODUCTION

Education is a conscious effort to realize a cultural heritage from one generation to another. Education makes this generation a role model for the teaching of previous generations[1].

In today's education, we have also begun to rely on technology to facilitate the academic and non-academic learning process in schools [2].

A website is a collection of pages on a domain on the Internet that have been created for a specific purpose so that they are interrelated and widely accessible using a browser [3].

Technology is essentially there to help people complete certain tasks more easily [4].

Advances in information technology play a role in improving the quality of education in educating students and characters, in line with modern civilization. Educational institutions should strive to integrate educational technology into their vision and mission to ensure students become students who are rules abiding and have good ethics. This alignment forms the basis for the curriculum shift towards digitalization, utilizing information and communication technology. The rapid development of technology requires serious attention in education, especially in learning based on decision support systems, to support decision-making student violations [5].

To assess students' readiness for behavior and ethics, a decision support system is needed to analyze sanctions and decisions in the decision support system. This decision support system is designed to assist in decision-making to solve problems that are semi-structured or unstructured in adding human policy and computerized information. With this method, the calculation will be more accurate because it is based on the criteria and weights that have been determined so that more accurate results are obtained.

II. METHOD

The development method used in this study is the *Simple Additive Weighting* (*SAW*) which consists of *Multiple Attribute Decision Making* (*MADM*) is a method used to find the optimal alternative from a number of alternatives with certain criteria [6]. The SAW method is also known as the Weighted Sum Model (WSM) or Scoring Method (SM) and is most often used in MADM techniques. The concept is that the normalized value of the criteria for the alternative should be multiplied by the weight of the criteria. Then the best alternative with the highest score is chosen as the preferred alternative [7]. The following steps of the Simple Additive Weighting (SAW) method are explained below.

a. Determine the criteria that will be used as a reference in decision-making , namely Ci
b. Determine the compatibility rating of each alternative on each criterion.
c. Make a decision matrix based on criteria (Ci), then normalize the matrix based on equations adjusted to the type of attributes (profit attribute or cost attribute) so that a normalized matrix (R) is obtained.
d. The final result was obtained from the ranking process, which is the sum of the multiplication of the normalized matrix R with the weight vector so that the largest value was obtained which was chosen as the best alternative (Ai) as a solution.

The SAW method requires the process of normalizing the decision matrix (X) to a scale that can be compared to all existing alternative ratings.

$$R_{ij} = \begin{cases} \dfrac{x_{ij}}{Max\ x_{ij}} \\ i \\ \\ \dfrac{Min\ x_{ij}}{x_{ij}} \\ i \end{cases} \qquad (1)$$

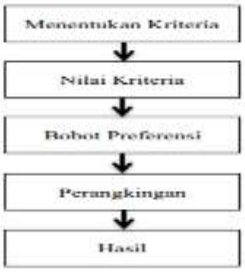
Information:
Row = Normalized performance rating value
Max xij = The greatest value of each criterion
Min xij = The smallest value of each criterion
xij = The value of the attributes that each criterion has

Where rij is the normalized performance rating of the Ai alternative on the Cj attribute; i = 1.2,,,m and j = 1.2,....,n. The preference value for each alternative (Vi) is given as follows:

$$V_i = \sum_{j=1}^{n} w_j r_{ij} \qquad (2)$$

Vi = Preference value
wj = Weight Ranking
rij = Normalized performance rating

A larger Vi value indicates that the Ai alternative is preferred. The way the SAW method test works can be seen from the following figure:



The advantage of the Simple Additive Weighting (SAW) model compared to other decision-making models lies in its ability to make a more precise assessment because it is based on the

value of the criteria and the weight of preferences that have been determined, in addition to that SAW can also select the best alternatives from a number of existing alternatives because of the ranking process after determining the weight value for each attribute [8].

The SAW method works by giving weight to each violation criterion, then calculating the total score based on the normalization of the predetermined values and weights. Here are the steps to apply SAW to the application:

e. Determining Criteria and Weights
f. Determining Alternatives (a list of violations and students who committed violations)
g. Forming a Decision Matrix, Each alternative is assessed based on criteria in the form of numbers (e.g. scale 1-5)
h. Normalization Decision Matrix, The value of each alternative is compared to the highest value of each criterion using the normalization formula.
i. Final Value Calculation (vi)
   1) After normalization, the values are multiplied by the weight of each criterion and summed up.
   2) The largest scores indicate the student with the highest level of offense who requires more severe sanctions.
j. System Output
   1) Sanctions recommendations based on SAW scores
   2) Student violation history
   3) Student violation report

School rules are the rules of every school resident where teaching and learning takes place. The implementation of school discipline will run well if teachers, school officials, and students support the rules of school discipline. The following are the rules of student discipline at SMK Negeri 2 Kec.

Type	Forms of Violation	Points
Attitude/Behavior	Acting disrespectfully to fellow students	2
	Disturbing the calm of the teaching and learning process	4
	Throwing garbage out of place	5
	Threatening/intimidating teachers, TUs, and Students	10
	Cross out walls, tables, chairs, and railings	10
	Acting disrespectfully to teachers/school employees	10
	Smoking/smoking in school/outside of school (still in school uniform)	25
	Damage to school facilities, software and hardware	15
	Taking away the rights of others, gambling	20
	Carrying sharp weapons, firearms and the like	30
	Forging signatures, indigo, etc	30
	Fighting Outside of School	30
	Pornography/pornography in the environment or outside of school	50
	Carrying/using/distributing alcohol and drugs	50

	Engaging in criminal acts (until police detention)	50
	Pregnant/impregnating/serial marriage/caught committing immoral acts	100
Dicipline	Not doing assignments/homework	1
	Arriving late for school < 10 minutes	2
	Not taking lessons without permission	3
	Leaving a class without permission	3
	Not participating in the ceremony/muhadarah	3
	Not going to school without a statement/leaving school before curfew without permission	5
Neatness	Not including a uniform	1
	Not wearing socks	1
	Not wearing a belt	1
	Incomplete attribute uniform	2
	Long-haired and dyed for male students	3
	Piercing, wearing accessories for male students	5
	Using excessive makeup for female students	5
	Uniforms are not in accordance with school regulations	5
	Long-nailed, curly and temporary/permanent tattoos	10

Table 1. Student Rules of SMK Negeri 2 Kec.

Sanctions are dependents (actions or punishments) to force people to keep agreements or obey something that has been determined. Sanctions are a form of retribution given to a person for his behavior. In other words, sanctions are punishments that must be faced or lived when committing a violation [9].

The following are the school's sanctions and actions against students who commit violations at SMK Negeri 2 Kec.

Point Range	**School Action**	**Types of Sanctions**
20 – 50	Coaching, guidance, and attention were held by COUNSELING teachers, homeroom teachers and student teachers	Verbal Warnings
51 – 80	Be attentive and communicate with parents/guardians, provide guidance and attention	Create a statement letter
81 - 100	Communicate with parents/guardians, provide guidance and attention	Summoning parents/guardians

Table 2. School Sanctions and Actions

In the development of a decision-making system in sanctioning students using the *Prototype*. The use of the prototype method aims to get an overview of the application that will be built through the application development stage that will be evaluated by the user [10].

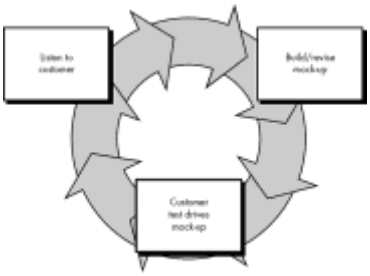


Figure 1. Prototype Model
Source [11]

In the image, there are three cycles that can be explained as follows:

a. Listen to Customer (Mendengarkan Pelanggan)

At this stage, it is the identification of user needs, this process is carried out so that the writer can obtain information about problems that occur by the client. The data obtained from these problems will later become a reference for the process of finding solutions and developing them at the next stage.

b. Build and Revise Mock-ups (Building and Repairing Prototypes)

After the system needs are collected, the prototype design process will be carried out on the system proposed by the user, which is as follows:

1) Design of processes that will occur in the system, such as inputs, outputs of the proposed system.
2) UML (Unified Modelling Language) design, this is done to specify the system about what is needed and how the system is realized. UML Planning that Used at system these include: Use-Case Diagram and Activity Diagram.
3) Design of the interface and features required by the client (User).

c. Customer Test Drives Mock-up (Prototype Testing)

At this stage, testing will be carried out on the prototype system that has been made, as well as evaluating whether the prototype system that has been made is in accordance with expectations. If the results of the prototype test have not met the needs of the client (user), then the developer will carry out the process of repairing the prototype until the prototype becomes a final system and is really accepted or according to the user's wishes. The process of testing the prototype of the system will use the black box testing technique.

The developer and user meet together to determine the overall purpose of the software and identify any necessary requirements. Then the developer makes a design of the necessary input and output process which can then be shared with the user. The image focuses on the representation of the aspects of the application that will be visible to the user.

The next stage is to design the system. The design is intended to make modeling of the application/system to be made.

Analysis and Planning

1) Running system analysis

a. Business process analysis

Business process analysis is carried out to describe various processes of the main activities that occur and are carried out in the running system. The following is a table of business process analysis in this system.

Business Process	Activity	Related Users
Recording of data on student discipline violations	a) Students caught violating rules b) The student's name is recorded in a special code violation book c) counseling teachers recap data of students who commit violations d) counseling teacher reports the results of the recap to the principal	Counseling Guidance Teacher, Principal

Table 3. Analysis of Ongoing Business Processes

b. Business process analysis

Business rule analysis is carried out to expose the various business rules that apply in the problem domain.

Business Process	Business Process Rules
Recording of data on student discipline violations	• Students proven to have violated the rules • counseling teachers record the names of students who commit violations • counseling teachers recap data of students who commit violations • counseling teachers report the results of the recap of student violations to the principal

Table 4. Business Rule Analysis

c. Business analysis

The analysis of system actors is carried out to explain who is involved in activities with the running system, related to their positions, roles, duties and functions. The following is an analysis of the running system actors:

No	System Actors	Duties and Functions
1	counseling Teacher	a) Create student breach data reports b) Recap data on violations committed by students
2	Principal	a) Receive a recap of student violation data

Table 5. Business Actor Analysis

d. Problem Analysis and Solutions

Problem and solution analysis is an analysis of problems that occur in the field and the solutions provided to solve problems at SMK Negeri 2 Kec. Guguk that are running can be seen in the following table:

No	Problem	Solution
1	Decrease in awareness of the value of norms and manners of students at SMK Negeri 2 Kec.	The system provides facilities to manage and monitor students who commit violations
2	Increasing offenses from juvenile delinquency	The system provides facilities to manage student breach data
3	Less effective calculation of student violation data	The system provides facilities to manage student breach data
4	Recap of data that is less than optimal from the data collection of violations obtained.	The system provides facilities in printing reports with systematically arranged data

Table 6. Problem Analysis and Solutions

e. Flowmap system running

The current system procedure for student violations at SMK Negeri 2 Kec. Guguk, is carried out in the following way:

1) Violation management is carried out manually by the counseling guidance teacher
2) The counseling guidance teacher recapitulates the student violation report and reports it to the principal
3) The principal received the results of the recapitulation of the student violation report

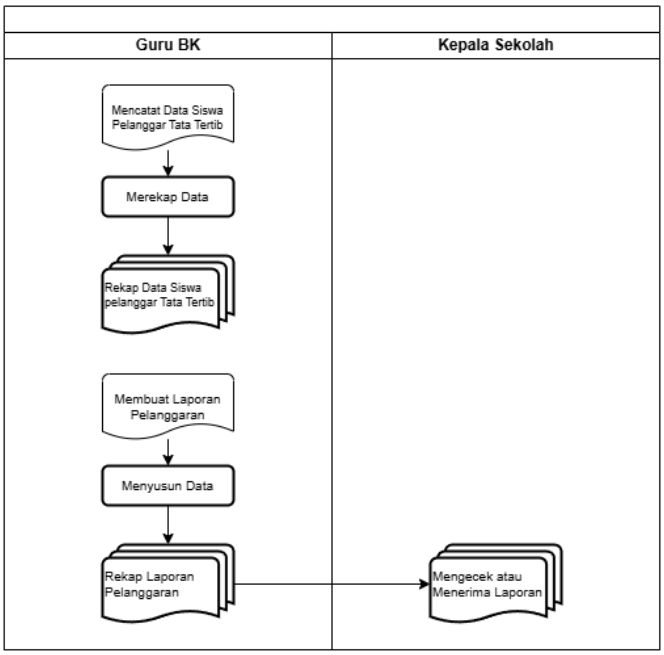


Figure 2. Flowmap Running System

2) Proposed system analysis

System analysis is proposed to be useful to find out what system will be made so that there are no deviations in designing the system to be built.

a. Re-user engineering analysis

In order for a system to run properly and according to desire, an analysis is needed about who can access the system. Those who can access this system are as follows.

No	Username	Function	Related Documents
1	Counseling Teacher	Manage user data and student violation data	All data on the system, including user management
2	Teacher	Input student violation points	Student violation point input data
3	Student	View violation points per student	Data on points of violations committed by students
4	Principal	View the results of the student violation report recap	Results of the student violation report recap
5	Parents	View student violation activity	Student violation activity data

Table 7. Re-User Engineering Analysis

b. Re-engineering analysis of processes and procedures

Procedural analysis provides an overview of the course of the system to be built. The goal is to find out more clearly how the system works. Here is the procedure that will run:

No	Activity	Procedure	Related Users	Related Documents
1	Login	User accesses the login page User inputs username and password The system displays the dashboard page	counseling Teacher, Teacher, Student, Parent, Principal	Username and password
2	Processing user data and student discipline	User processes the entire data	Counseling Teacher	Data on students, teachers, classes and data on student discipline violations
3	Input student violations	The user inputs the points of the violation committed by the student	Teacher	Student violation point input data

No	Activity	Procedure	Related Users	Related Documents
4	Data on student violation points	Students can see points of violation of discipline	Students, Parents	Data on student violation points
5	Breach data report	Counseling teachers can print reports of student discipline violations	Counseling Teacher, Principal	Report of students who committed violations
6	Log out	User presses the settings button User selects the logout menu	Counseling Teacher, Maple Teacher, Student, Parent, Principal	

Table 8. Re-engineering analysis of processes and procedures

c. Document analysis

Analysis of related documents is an analysis of the documents entered (input documents) and the resulting documents (output documents).

1) Input documents

Input documents are documents that are entered by the user into the system. For more details, see the following table:

No	Document	Related Users	Information
1	User's Data	Counseling Teacher	Contains data on students, teachers, classes and users
2	Discipline data	Counseling Teacher	Contains disciplinary data consisting of the form of violation and the provisions of the violation sanction
3	Student Violations	Teacher	Input points of violations committed by students

Table 9. Input Document Table

2) Output documents

Output documents are documents generated by the system after performing the process. The output document will generate useful information for the user. For more details, you can see the following table:

Document	Related Users	Information
Recap of Student Violation Report	Principal	Display the results of the recap of the report of the point violation committed by the student

Table 10. Output Document Table

d. Proposed system flowmap

Based on the weaknesses of the old system that is still manual, a new system was designed that uses a web-based system.

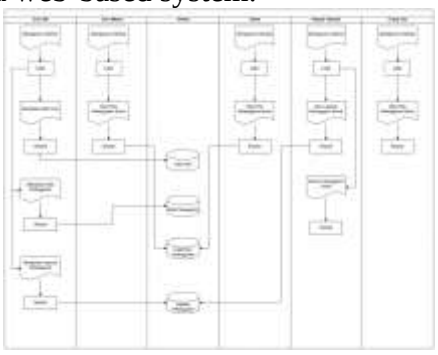


Figure 3. Proposed System Flowmap

1. System Planning

The next hold is to do the system design. The design is intended to make modeling of the application/system to be made

b. *Use case Diagram*

A User-case Diagram is an interaction between one or more *actors* and the system to be built. Using *a use-case diagram* we can see how each *actor's rights* are.

Figure 4. Use-Case Diagram

c. *Activity Diagram*

1) *Activity Diagram Login*

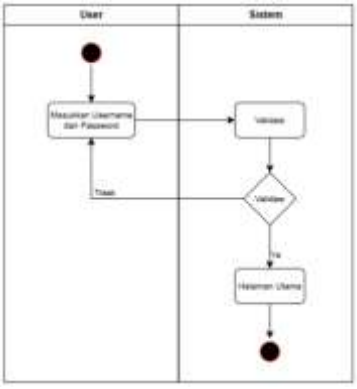


Figure 5. Activity Diagram Login

In the *login diagram activity* model, to start the system *the user* needs to open the system first, then the system will display the *login page*, *the user* can enter *the username* and *password* on the login page and click *login* to login, if *the username* and *password* What is inputted accordingly will display the main page of the system, if the username and password entered do not match, the system will display *an error* message and return to the *login menu*.

2) *Activity Diagram* Counseling Teacher

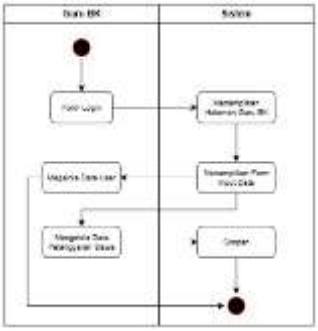


Figure 6. Activity Diagram Counseling Teacher

On the Counseling Teacher activity diagram menu, when the user has logged in, as a counseling teacher, the system will display a dashboard page for counseling teachers. In this counseling teacher menu, you can manage user data (teacher data, students, classes and other users) and manage student violation data (Violations and types of violations).

3) *Activity Diagram* Teacher

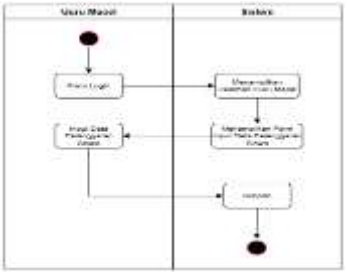


Figure 7. Activity Diagram Teacher

On the Teacher *activity diagram menu*, when the user has successfully *logged* in as a teacher, the system will display the teacher dashboard page. On this teacher menu, you can input violations that have been committed by students.

4) *Activity Diagram* Principal

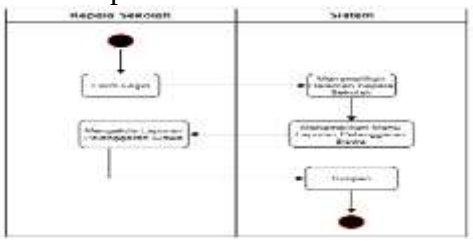


Figure 8. Activity Diagram Principal

In the Principal's *activity diagram* menu, when *the user* has successfully logged in as the principal, the system will display a *dashboard* page for the principal, the principal can view and manage reports of violations committed by students.

5) *Student Activity Diagram*

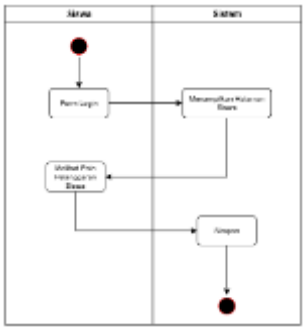


Figure 9. Activity Diagram Student

On the Student *activity chart* menu, when *the user* has successfully logged in as a student, the system will display a *dashboard page* for students, where students can see the points of violations that have been committed by students.

6) *Activity Diagram* Parents

Figure 10. Activity Diagram Parents

In the Parent *activity chart* menu, when the user has successfully *logged in* as a student, the system will display a *dashboard* page for parents, where parents can see the student's violation points.

d. *Sequence diagram*

Sequence describes the sequence or stages that must be done to produce something. Here is a sequence diagram of this system:

1) Sequence Diagram Counseling Teacher

Figure 11. Sequence Diagram Counseling Teacher

The image above explains the sequence diagram that is carried out when counseling teachers enter the system, which shows the work structure when counseling teachers make inputs for user data (teacher data, students, classes, and other users) and violation data (violations and types of violations).

2) Sequence Diagram Teacher

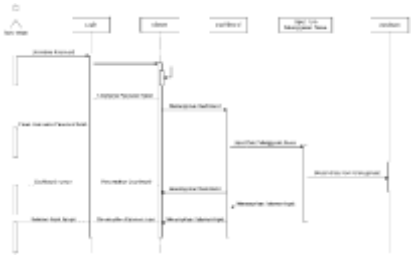


Figure 12. Sequence Diagram Teacher

The image above explains the sequence diagram that is carried out when the teacher enters the system, which shows the work structure when the maple teacher makes input for the points of violation that have been committed by the students.

e. *Class Diagram*

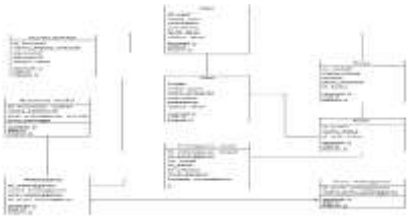


Figure 13. Class Diagram

The image above explains the structure of the class diagram which the user consists of (counseling teacher, teacher, student and principal). Where students have 1 class and many violations that students can commit, and teachers can teach in many classes and can input violations committed by the students concerned.

III. RESULTS AND DISCUSSION

The application of the design is made in the form of program code so that it can display a display that can make it easier for users to interact with the system. The following are the results of the design of the display on the sanction of violations of student discipline, including:

Implementation of Web Application

A. *Web Application Implementation*

In this app, only admins are authorized to register users. To log in, users must use the email address and password previously registered by the admin.

Figure 14. Login Page

The Login page is a user validation page in running the system based on the type of user. On this page, only admins, teachers, students, parents, and principals can log in. The login page can be accessed through the username and password that has been provided to be able to access the features contained on the website.

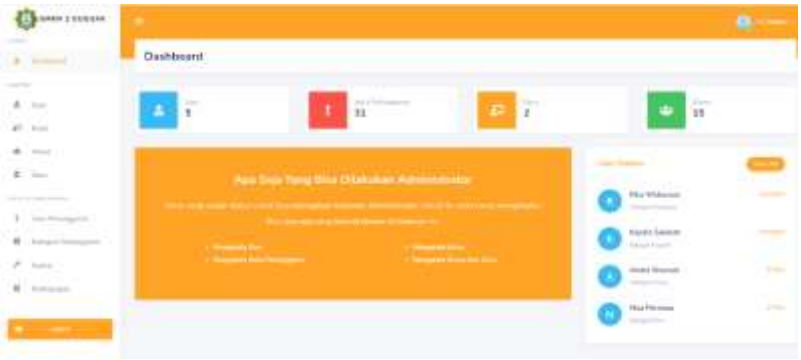


Figure 15. Counseling Teacher Dashboard Page

Figure 21 above explains the counseling teacher dashboard page which displays pages that can be accessed by counseling teacher and displays widgets that can be viewed by counseling teacher, which consists of user data widgets, types of violations, teachers and students.

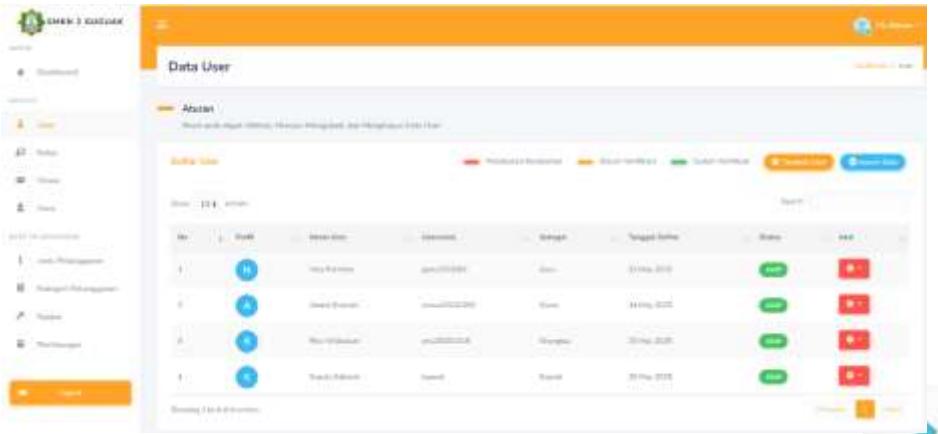


Figure 16. User Data Page

This page displays the user data registered on the system, admins can add, edit and delete users. This page displays detailed data from the system. The user data page can be seen in figure 22 above

Figure 17. Add User Page

When the counseling teacher wants to add a user, you can press the "Add User" button which will display the data to add users which can be seen in figure 23 above.

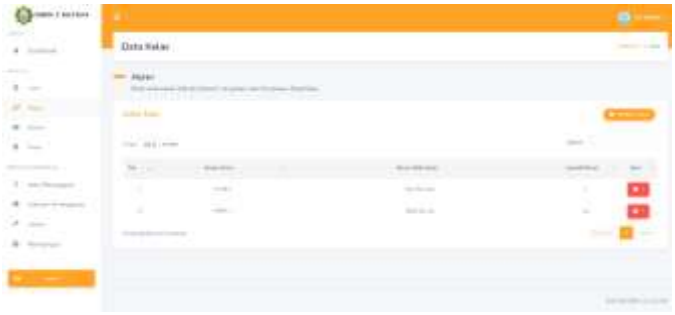


Figure 18. Class Data Page

This page displays the class data that is input into the system, admins can add, edit and delete class data. This page displays detailed data from each system. The class data page can be seen in Figure 24 above.

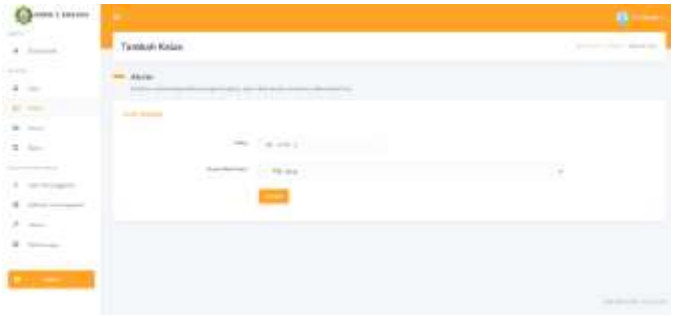


Figure 19. Add Class Page

When counseling teachers want to add classes, they can press the "Add Class" button which will display some data that must be entered to add classes which can be seen in figure 25 above.

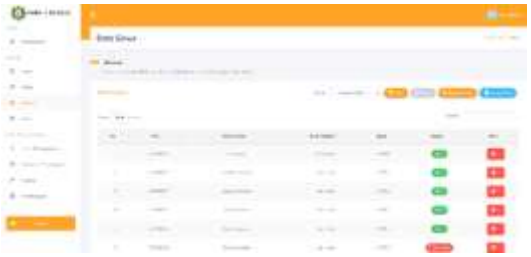


Figure 20. Student Data Page

This page displays the student data that is input into the system, the admin can add, edit and delete the student data. This page displays detailed data from each system. The student data page can be seen in figure 26 above.

Figure 21. Add Student Page

Counseling teachers can add data by pressing the "Add Student" button which will display some data that must be inputted. The page to add student data can be seen in figure 27 above.

Figure 22. Import Student Data Page

Counseling teachers can import data by pressing the "Import Data" button which will display the data, select the class and select the file to import their excel file. The student data import page can be seen in figure 28 above.

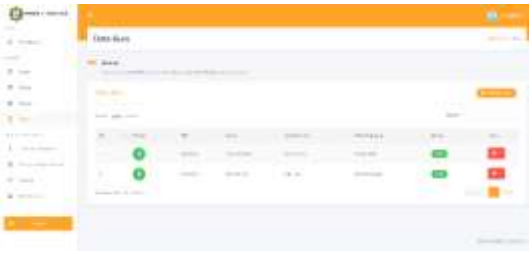


Figure 23. Teacher Data Page

This page displays the teacher data that is input into the system, the admin can add, edit and delete the teacher data. This page displays detailed data from each system as shown in Figure 29 above.

Figure 24. Add Teacher Data Page

Counseling teachers can add data by pressing the "Add Teacher" button which will display some data that must be inputted. The page to add teacher data can be seen in figure 30 above.

Figure 25. Violation Category Page

This page displays category data of the type of student violation. This page displays details of the violation category data. The violation category data page can be seen in figure 31 above.

Figure 26. Add Violation Category Page

Counseling teachers can add data by pressing the "Add Category" button which will display some data that must be inputted. The page to add category data can be seen in figure 32 above.

Figure 27. Violation Type Page

This page displays data on the type of violation along with the violation points. This page displays data details of the violation type and violation points. The data page of the type of violation can be seen in figure 33 above.

Figure 28. Add Violation Type Page

Counseling teachers can add data by pressing the "Add Violation Type" button which will display some data that must be entered into the type of violation. The page to add data on the type of violation can be seen in figure 34 above.

Figure 29. Sanction Page

On the Violation sanctions page is in the form of detailed data on violation sanctions with a range of points. The violation sanctions data page can be seen in figure 35 above.

Figure 30. Add Sanction Page

Counseling teacher can add data by pressing the "Add Sanctions" button which will display some data that must be included in the violation sanction. The page for adding sanctions can be seen in figure 36 above.

Figure 31. Student Violation Input Page

On the student violation input page is in the form of student violation input data. On this page, you can input student violations which can be seen in figure 37 above.

Figure 32. Student Violation Info Page

Figure 38 above explains the information on student violations, a recap of violation points and sanctions for violations obtained by students and a list of violations that have been committed by students.

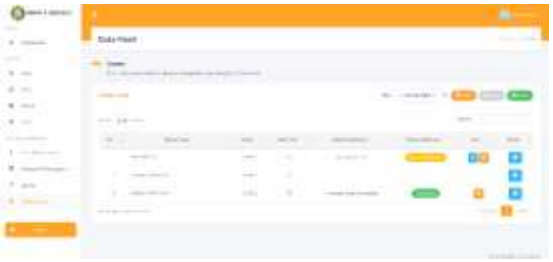


Figure 33. Violation Result Page

Figure 39 above explains the total results of the violation points committed by students. Counseling teachers can see and input the decisions obtained by students if the sanctions obtained have been implemented. Counseling teachers can also filter student violations by class and print student violation reports.

B. Application Testing

Application testing is a test of an application that has been created to find out if the application is difficult to run correctly. Testing is also an evaluation process to ensure the application has met the requirements and is ready for use. Here's an explanation of the tests from each system page.

1. Counseling Teacher Page Access Testing

No	Test Case	Expected Results	Test Results	Status
1	Log in to the login page	Display login page	Display login page	Success
2	Log in with your username and password	Display counselling teacher page	Display counselling teacher page	Success
3	View user data	User data	User data	Success
4	Create, Update, and Delete user data	User data has been successfully created, updated, and deleted	User data has been successfully created, updated, and deleted	Success
5	View class data	Class data	Class data	Success
6	Create, Update, and Delete class data	Class data was successfully created, updated, and deleted	Class data was successfully created, updated, and deleted	Success
7	View student data	Student data	Student data	Success

No	Test Case	Expected Results	Test Results	Status
8	Create, Update, and Delete student data	Student data was successfully created, updated, and deleted	Student data was successfully created, updated, and deleted	Success
9	Import student data	Student data was successfully imported	Student data was successfully imported	Success
10	View teacher data	Teacher data	Teacher data	Success
11	Create, Update, and Delete teacher data	Teacher data has been successfully created, updated, and deleted	Teacher data has been successfully created, updated, and deleted	Success
12	View data on violation types	Data on the type of violation	Data on the type of violation	Success
13	Create, Update, and Delete data of violation types	Violation type data was successfully created, updated, and deleted	Violation type data was successfully created, updated, and deleted	Success
14	View violation category data	Breach category data	Breach category data	Success
15	Create, Update, and Delete data category violations	Violation category data was successfully created, updated, and deleted	Violation category data was successfully created, updated, and deleted	Success
16	View violation sanctions data	Violation sanction data	Violation sanction data	Success
17	Create, Update, and Delete sanctions data	Sanctions data have been successfully created, updated, and deleted	Sanctions data have been successfully created, updated, and deleted	Success
18	View and print calculation data	Calculation data	Calculation data	Success
29	Input data description Sanctions decision	Decision description data	Decision description data	Success

Table 11. Counseling Teacher Page Access Test Table

Based on the test table above, it can be concluded that the entire process expected in the page accessed by the counseling teacher was successfully carried out.

2. Teacher Page Access Testing

No	Test Case	Expected Results	Test Results	Status
1	Log in to the login page	Display login page	Display login page	Success
2	Log in with your username and password	Display Teacher page	Display Teacher page	Success
3	View student data	Student data	Student data	Success

No	Test Case	Expected Results	Test Results	Status
4	View data on violation types	Data on the type of violation	Data on the type of violation	Success
5	Data input of violations committed by students	Student violation data	Student violation data	Success

Table 12. Teacher Page Access Test Table

Based on the above test table, it can be concluded that the entire expected process in the page accessed by the teacher was successfully carried out.

3. Student Page Access Testing

No	Test Case	Expected Results	Test Results	Status
1	Log in to the login page	Display login page	Display login page	Success
2	Log in with your username and password	Display Student page	Display Student page	Success
3	View data on student-committed violations	Violation data per student	Violation data per student	Success

Table 13. Student Page Access Testing Table

Based on the above test table, it can be concluded that the entire expected process in the page that the student accesses was successfully carried out.

4. Parental Page Access Testing

No	Test Case	Expected Results	Test Results	Status
1	Log in to the login page	Display login page	Display login page	Success
2	Log in with your username and password	Display Parent page	Display Parent page	Success
3	View student breach data activity	Student violation data	Student violation data	Success

Table 14. Parental Page Access Test Table

Based on the above test table, it can be concluded that the entire process expected in the page that the parents access was successfully carried out.

5. Principal's Page Access Testing

No	Test Case	Expected Results	Test Results	Status
1	Log in to the login page	Display login page	Display login page	Success
2	Log in with your username and password	Display Principal page	Display Principal page	Success
3	Student violation report	Student violation data	Student violation data	Success

Table 15. Principal's Page Access Test Table

Based on the above test table, it can be concluded that the entire process expected in the page accessed by the principal was successfully carried out.

IV. CONCLUSION

As a tool for the support system, this application is designed to support the decision of teachers at SMK Negeri 2 Kec. Guguk the SAW method to analyze and weigh criteria and sanctions for violations committed by students. Through this approach, the system support a structured analysis, categorizing teachers' decisions into criteria and sub-criteria, allowing them to understand their strengths and identify areas for improvement. Each criterion is evaluated based on weight, followed by a rating, allowing teachers to gain deeper self-evaluation insights, recognizing decisions taken in following up on violations committed by students.

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