International Journal of Economy, Education and Entrepreneuship
p-ISSN: 2798-0138 | e-ISSN: 2798-012X
Vol. 3, No. 1, April 2023
https://doi.org/10.53067/ije3.v3i1

WEB-BASED PERFORMANCE MANAGEMENT DECISION SUPPORT SYSTEM

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Abstract

Achievement is an important indicator of the results obtained during education. To find out student achievement, achievement data is needed to make it easier for teachers to see the achievements of each student. In one of the Kalten High Schools, to be precise, SMA which manages the academic and non-academic achievements of students still carried out manually, making it difficult for teachers to choose students with presentations to be included in competition or Olympic activities. To overcome this problem, a web-based achievement management information system was created where this system has 3 actors, namely admins, teachers and principals. The admin actor is in charge of managing data on teachers, students, classes, subjects, grades, extracurriculars, OSN and a list of recommendations for academic and non-academic outstanding students. In the actor, the homeroom teacher manages student data and grades and prints report card scores. While the principal actor can see the data of teachers, classes and subjects. With this system, it is hoped that it can make it easier to manage report card values and achievements. Then the homeroom teacher can only enter the scores of students who are only in their class. Subject teachers do not need to test students or grade students manually because the system will recommend students based on subject scores from daily, UTS and UAS grades with grade weights according to requirements already determined by the school. For the supervisor of extracurricular activities, there is also no need to test students one by one because the system system will recommend students based on several aspects of grades that have been determined for students to be able to represent the school in non-academic competitions such as martial arts, volleyball, basketball and others. After that, the system can automatically recommend students to represent the school in academic and non-academic competitions (OSN), according to the provisions of the competition criteria held with report card scores and student skill scores.

Keywords: achievement management, information system

INTRODUCTION

Good management or management in an educational institution is absolute for the survival of the institution. One of the important things that can maintain and even develop an educational institution is the proper management of information systems. Advances in information science and technology have greatly changed the perspective and lifestyle of the Indonesian people in carrying out their activities, including in the world of education (Arikunto, 2002).[1]

In one of the Klaten High Schools as a case study in managing students' academic and non-academic achievements, it is still carried out manually. To manage student grades that will be used as a report card in paper form, the subject teacher provides data to the homeroom teacher and the data is accumulated from the overall grades and student activities during the

final semester or report card scores which are then given to the curriculum to be input to a computer using Microsoft Excel, it is still not accurate and effective in data storage.

Another problem arising from the lack of data management is that when selecting students for representatives of an academic (OSN) and Non-Academic, competition, teachers in the field of study and extracurricular supervisors must test students' abilities one by one by giving questions and then given a time limit for work, the final results of the test are used as a weight of value provisions for student recommendations to become representatives of competition participants. It keeps repeating so it is less time effective (A. Riyadi, and Utami, 2019) (Hartatik, et al, 2019)

To overcome existing problems, a system in the form of a Web was created that will be used to record the presatasi of all students in the high school. With the new system, it can make it easier for users, namely teachers, homeroom teachers, principals to store accurate data and make it easier for homeroom teachers and principals to control the system that is already running. And agencies are also easier to manage student achievement and can display academic and non-academic student grades that must be prepared so that they are more effective.

This study aims to design and build an achievement management information system in the high school where the research is located. This research is supported by several reports, including the Final Project Report conducted by (Entin Sutinah, 2018) from AMIK BSI Jakarta with the title "Information System for Academic Monitoring and Student Achievement with the Waterfall Method". In the process of developing a student academic monitoring system, the author provides a solution for the construction of a new system, where in the new system there are facilities in the form of integrated and accurate data storage and make it easier for teachers, homeroom teachers, guardians and principals to control learning activities. The author's system development method uses waterfall and UML (Unifed Modeling Language) methods as architecture software. Tools used in building this system using PHP programming language as well as for database servers using MySQL. With this system, it will make it easier for the school or parents in the process of monitoring academic and student achievement (A. B. Sidiq and D. Kurniadi, 2021) (Hartatik, 2022, 2020, 2022).

The second is the Final Project Report carried out by (Annis Nuraini, 2018) from Yogyakarta State University with the title "Development of Student Assessment Information System for SMK NEGERI 4 Klaten in the 2013 Curriculum". This study aims to (1) design and develop a student assessment information system of SMK in the 2013 curriculum in

accordance with the needs of teachers and students (2) to know the quality of the student assessment information system of SMK in the 2013 curriculum based on ISO / IEC 25010 software quality testing standards in aspects of functional suitability, performance efficiency, usability, security, reliability, compatibility, maintainability, and portability. The research method used is Research and Development (RnD). While the procedure used in the development of this information system uses the waterfall procedure, which is carried out through 4 stages.

METHOD

The research methodology carried out on making this information system uses development research methodology. Some stages of development research are[8-9]:

a. Analysis

At this analysis stage, it aims to analyze what the system needs both from teacher data, student data, class data, subject data, grade data and student grade recapitulation.

b. Design

Design and design a "Web-Based Achievement Management Information System for high schools".

c. Flow and factor design

Designing the flow, determining the factors, the design used to create the system.

d. Implementation (*coding*)

The *coding* method is a way of making website applications using *script* editors such as processing and making effective, efficient, and attractive designs to create applications.

e. Trials

The author tested the results of designing and making a web-based achievement management information system (case study: SMA Negeri in Java).

RESULTS AND DISCUSSION

The implementation of this system design consists of three actors, namely admin, principal and teacher. Here is the implementation within each page in Figure 1. The developed system has features that make it easy to support decision making, especially for management. the web-based performance management DSS system is designed for managers and decision makers, so they can access real-time organizational and individual performance

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information, make decisions based on accurate data and analysis, and optimize overall organizational performance.

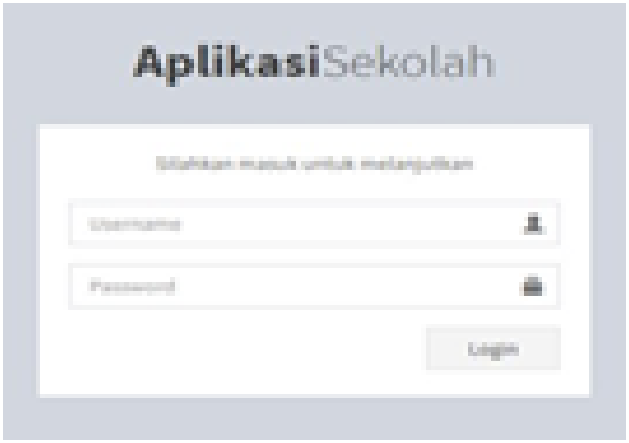

Figure 1 login page

Student data management is a page used to add, change, delete and view details of student data. Student data management can be seen in Figure 2

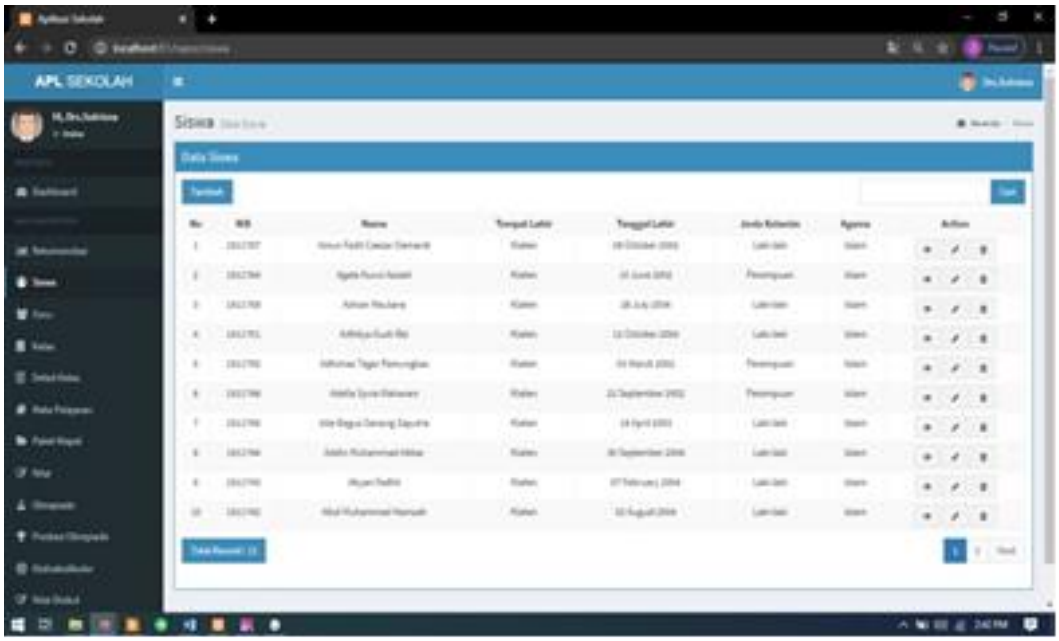

Figure 2. Student Data Management

To add, change, delete and view details of a student's grade, admins can select the student grade management menu. This page is an implementation of the student grade management page design. It can be seen in Figure 3 below

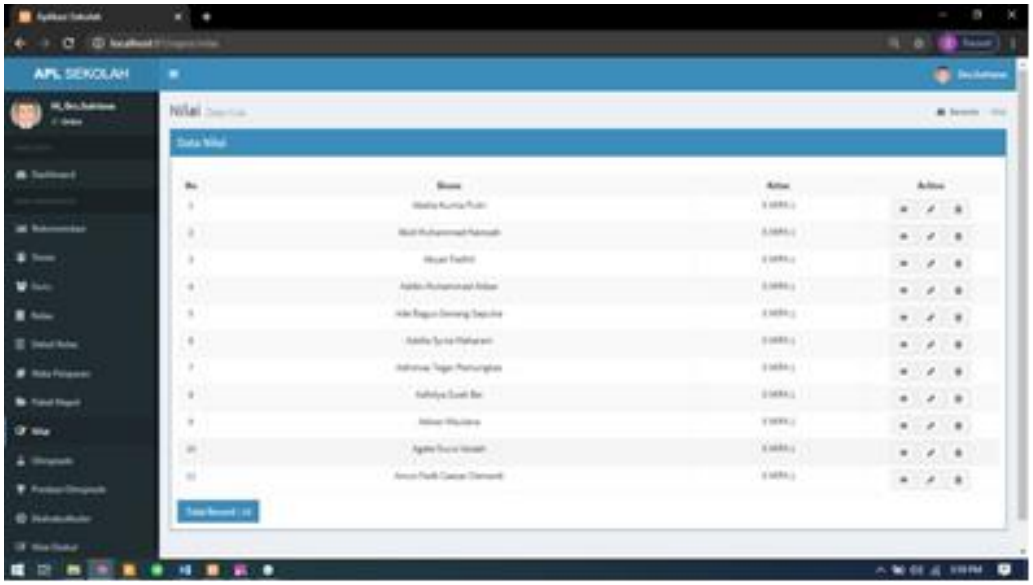

Figure 3. student grade data management

In Figure 4 and Figure 5 this is an implementation of the student achievement data page and the extracurricular score page of each student. This student achievement data is achievement data owned by students during high school and extracurricular value data is extracurricular value data for each student who participates. The following is a picture of each implementation.

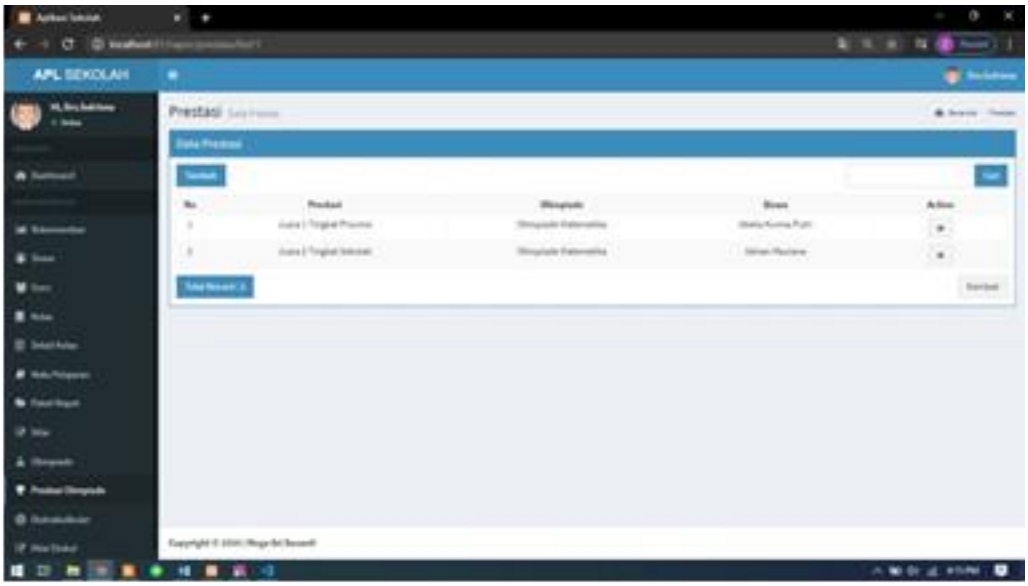

Figure 4. olympic achievement data

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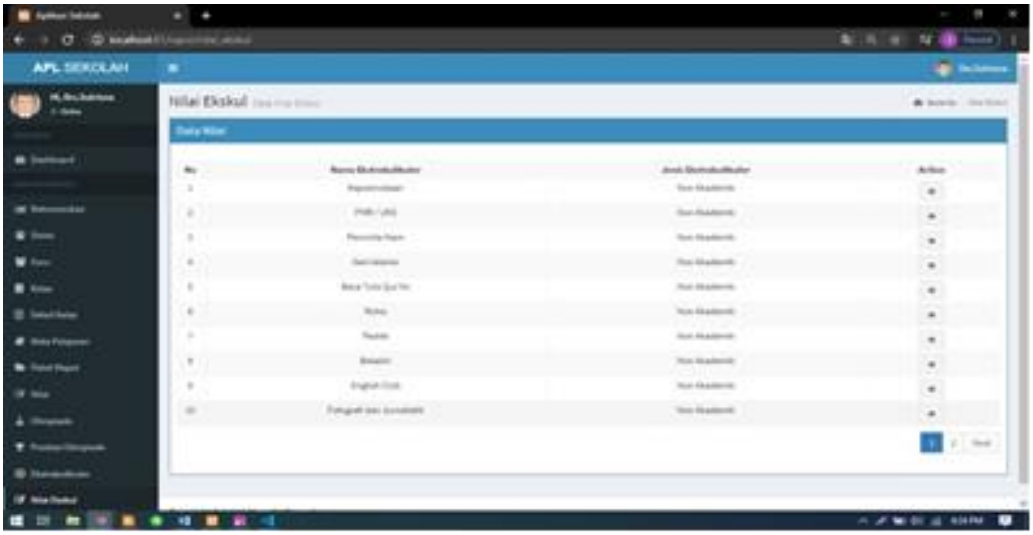

Figure 5. extracurricular value data

In Figure 6. there is an implementation image of the recommendation page, this page is an information page about students selected to participate in academic and non-academic competitions. This page is used to see student recommendation results from grade results. Here's an image of the student recommendation page implementation.

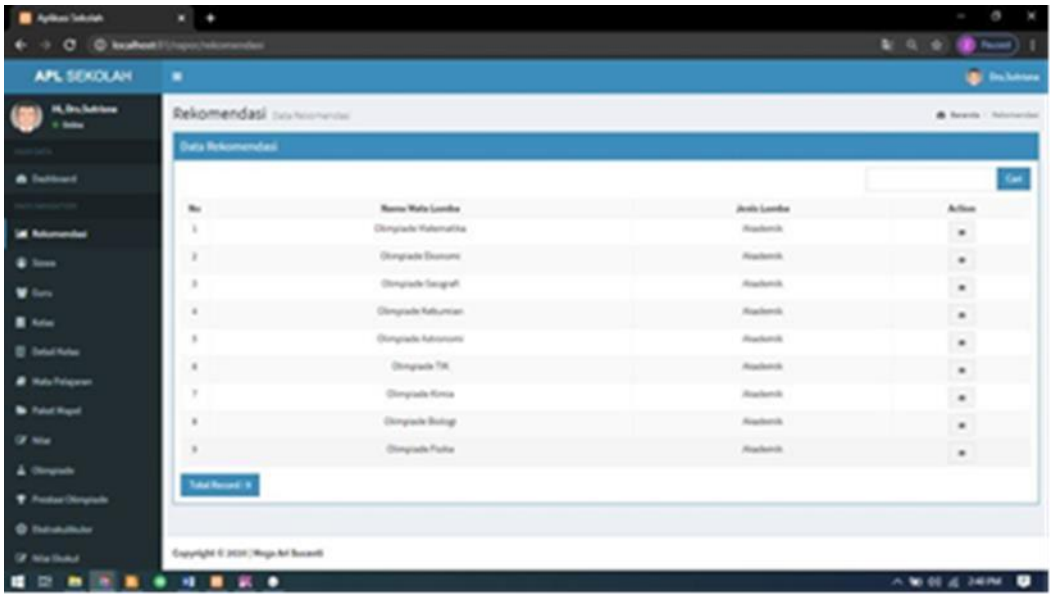

Figure 6. student recommendations page

The system test results shown above show that the test results are as expected. This means designing information system scenarios used by users, namely admins, principals and teachers in accordance with the design and implementation of the system.

Table 1. Student Preastation System Testing Results

No	Tested cases	Test Scenarios	Hope	Test Results
1	Recommended Asi's Menu	View Recommendation data details	The system will display data and detailed recommendations of race participants	[v] Works [ ] Failed
2	Student Menu	Add student data	After adding student data, it will be stored in the student *table database*	[v] Works [ ] Failed
		Change student data	After changing the student data, then The data in the database will be updated	[v] Works [ ] Failed
		Delete student data	When you click the delete button, the data is deleted from the database	[v] Works [ ] Failed
		View student data details	The system displays student data according to what is in the database	[v] Works [ ] Failed
3	Value Menu	Add value data	After adding the value data, it will be stored in the database	[v] Works [ ] Failed
		Change value data	After changing the value data, the data in the database will be updated	[v] Works [ ] Failed

		Delete value data	When you click the delete button, the data is deleted from the database	[v] Works [ ] Failed
		View value data details	The system displays the value data according to what is in the database	[v] Works [ ] Failed
4	Olympic Menu	Add Olympics data	After adding the Olympic data, it will be stored in the database	[v] Works [ ] Failed
		Change Olympic data	After changing the Olympic data, the data in the database will be updated	[v] Works [ ] Failed
		Delete Olympics data	When you click the delete button, the data is deleted from the database	[v] Works [ ] Failed
		View Olympic data details	The system displays the Olympic data according to what is in the database	[v] Works [ ] Failed
5	Olympic Achievements Menu	View detailed Olympic Achievement data	The system displays Olympic Achievement data according to those in the database	[v] Works [ ] Failed

6	Extracurricular Value Menu	View Extracurricular Value data details	The system displays the Extracurricular Value data according to what is in the database	[v] Works [ ] Failed

CONCLUSION

With this information system, it is expected to help the school in determining outstanding students for participation in the competition. This system is able to manage and monitor the scores of all data of students of SMK so that the school can consider outstanding students. Can manage teacher data and subjects taught by the teacher. There is a menu of recommendations for students who can take part in the competition with predetermined terms and conditions so that they can help the school in selecting students who will take part in the competition according to their fields. The resulting output is a list of grades reported from each student in the form of a .pdf file. After testing, the performance management information system can run well in accordance with its functionality are decision support system for manajement.

ACKNOWLEDGMENTS

The authors acknowledge they’re thanks to Universitas Sebelas Maret, especially to thank the Department of Informatics Engineering, for this research opportunity. This research was supported by the Applied Data Science and AI (DSAI) Research Group Universitas Sebelas Maret.

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