



## IMPLEMENTATION OF A WEB-BASED VALUE MANAGEMENT INFORMATION SYSTEM AS AN EFFORT TO DIGITALIZE THE ACADEMIC SECTOR

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### Abstract

The research was conducted in the implementation of a web-based Achievement management information system, where in this system there are 3 actors, namely admin, teacher and principal. The admin actor is in charge of managing data for teachers, students, classes, subjects, grades, extracurriculars, OSN and a list of recommendations for students with academic and non-academic achievements. In the homeroom teacher actor manages student data and grades and prints report cards. While the principal actor can see data on teachers, classes and subjects. With this system, it is hoped that it will make it easier to manage report cards and achievements. Then the homeroom teacher can only enter the grades of students who are only in their class. Subject teachers do not need to test students or assess students manually because the system will recommend students based on subject scores from daily grades, UTS and UAS with a weighted score according to the requirements that have been determined by the school. For extracurricular activities supervisors, there is also no need to test students one by one because the system will recommend students based on several aspects of predetermined values for students to represent the school in non-academic competitions such as pencak silat, volleyball, basketball and others. After that the system can automatically recommend students to represent the school in academic (OSN) and non-academic competitions, according to the provisions of the competition criteria held with report cards and student skill scores.

**Keywords:** performance management, information system

### Introduction

Technological developments are increasingly advanced and increasingly entering the digital era, everything we need is getting easier with technology. One of them is for an ordering process, education administration, which has been facilitated through the application so that it is more effective and saves time [1]

Likewise, in one high school in Wonosari, Central Java, in managing students' academic and non-academic achievements, it is still done manually, to select students for representatives of an academic competition (OSN) and Non-Academic teachers in the field of study and extracurricular supervisors must test students' abilities one way or the other. one by one by giving questions and then given a time limit for processing and then the final result is used as the weight of the value of the provisions on student recommendations to become representatives of the contestants. After that, in managing student scores to be used as a report card in paper form, the field teacher provides data to the homeroom teacher and the data is accumulated from the overall score and student activities during the final semester or report card scores which are then given to the curriculum by the homeroom teacher for input. to a computer using Microsoft Excel then the

results are in the form of output and then given to the principal and the principal's job is to only receive or control student score assessment data, this is still less accurate and effective in data storage. The facilities owned by Microsoft Excel are not able to check the data automatically, causing a lack of data accuracy. The process is always repeated so that it feels slow and time ineffective [2,3].

For this reason, in a high school in Wonosari, it requires a system in the form of a Web that will be used to overcome this problem. The usability that is owned can be useful for building a system that is needed by the agency [4,5]. With the new system, it can make it easier for users, namely teachers, homeroom teachers, school principals. The existing facilities in the system that will be made are in the form of accurate data storage and make it easier for homeroom teachers and school principals to control the system that is already running. And agencies are also easier to manage student grades and can display academic and non-academic student grades that must be prepared so as to increase productivity. The purpose of this research is to design and build a value management information system in SMA in Wonosari, Central Java as an effort to improve and digitize the academic field.

## **1. Methodology**

The research methodology carried out in this study used a development research methodology. Several stages of development research are:

### **1. Analysis**

Analyzing what the system needs both from teacher data, student data, class data, subject data, grade data and student grade recapitulation.

### **2. Design**

Designing and designing "Web-Based Achievement Management Information System at SMA in Wonosari".

### **3. Flow and factor design**

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

### **4. Implementation (coding)**

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

### **5. Trial**

The author tested the results of the design and manufacture of a web-based value management information system (case study: SMA in Wonosari).

The business process of this information system starts from the admin login and then inputs teacher data and creates an account to login, namely username and password, students, classes, subjects, extracurriculars and achievements. After that the teacher can login. The teacher in the field of study submits grades to the homeroom teacher to input grades including daily test scores 1 – 3, UTS, UAS, after the input process has been completed at the end of the semester each homeroom teacher prints the report card value to be used as a learning report that will be given to parents/guardians. The principal can only see a list of class data, teachers, subjects, grades and recommendations for representatives of outstanding students. After the grades of all student subjects have been inputted by the homeroom teacher, the system will automatically recommend outstanding students to represent the school in competitions held by the district or province. business performance management information system can be seen in Figure 1.

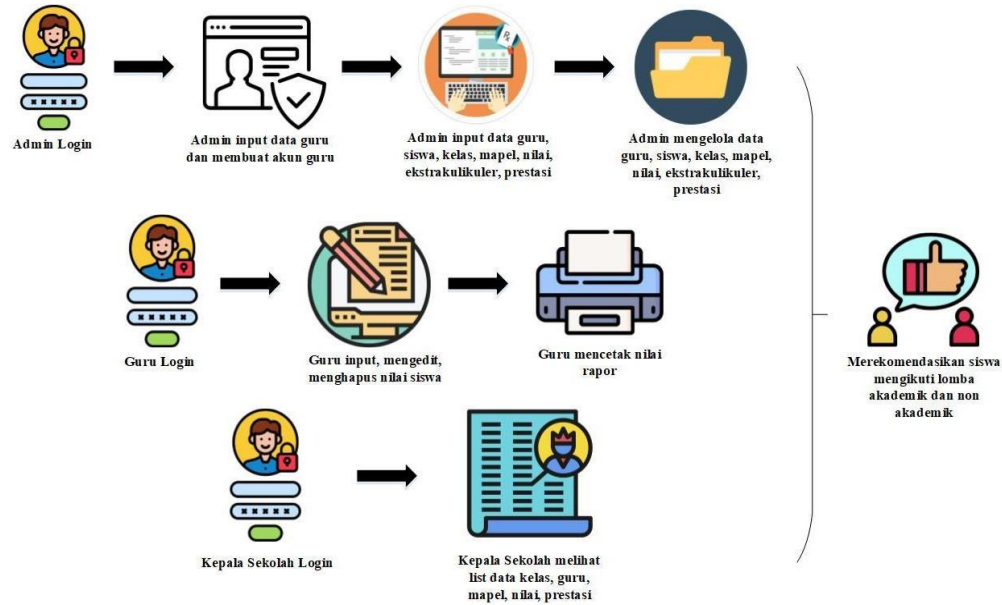


Figure 1. Performance Management Information System Business Process

## 2. Result and Discussion

Usecase Diagram shows the relationship of functions in the system as described in the functional requirements [6-7]. Usecase Diagram of Web-Free Achievement Management Information System (Case Study of SMA in Wonosari) can be seen in Figure 2.

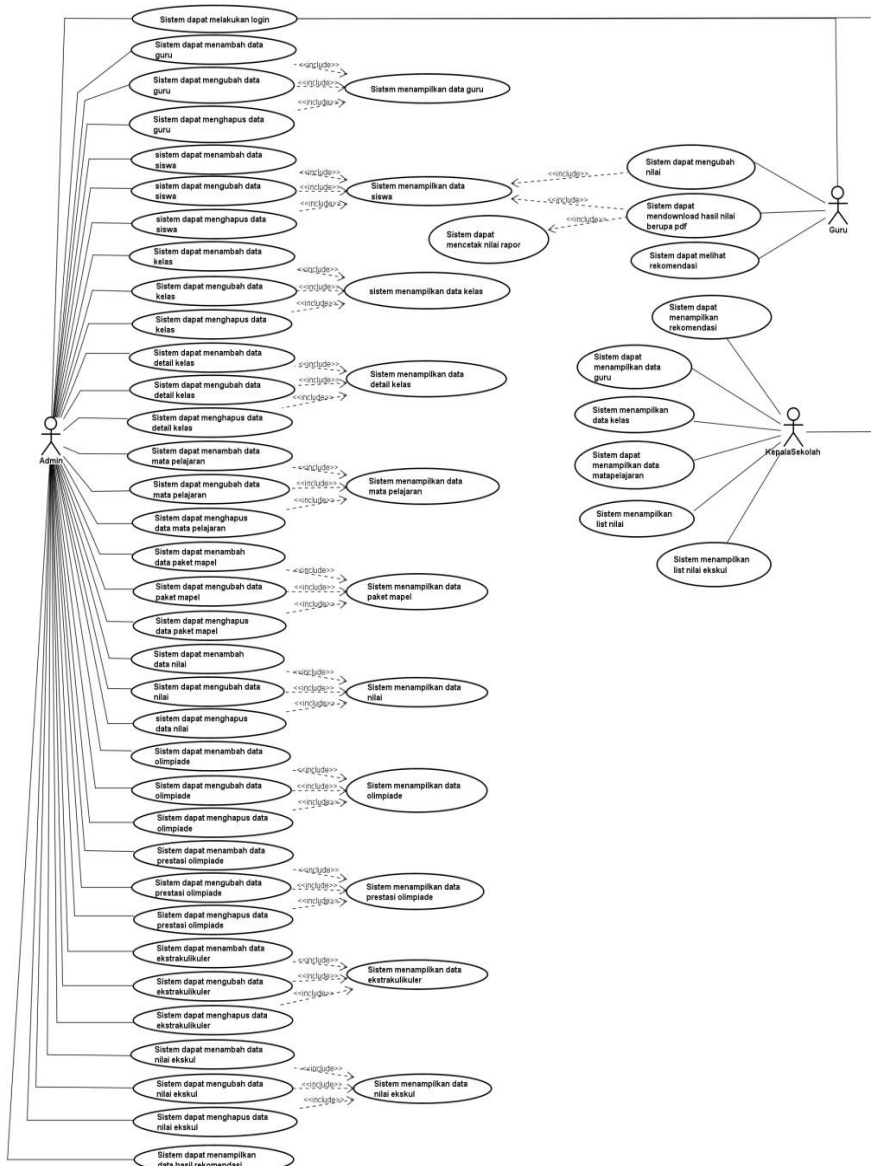


Figure 2. Use Case Diagram of IS Web-Based Value Management

The following is a login scenario for the developed information system, which is in table 1.

**Table 1. Usecase Scenario Accepting Login**

Usecase Name	Receipt Login
Actor	Admin, Teacher, Principal
Initial Condition	-

Scenario	1. The actor types in the url go to login page 3. Actors do input login data	2. The system displays the login page 4. The system checks the login 4.a If the username, password, and level are valid, the dashboard page will be displayed according to level
Exception	4.b if the input result is invalid, then return to number 2	
Final Condition	The system displays the dashboard page	

Table 2 shows the Usecase Scenario Showing Teacher Data

**Table 2. Usecase Scenario Showing Teacher Data**

<i>Name of Use case</i>	Show Teacher Data	
Actor	Admin	
Initial Condition	The system displays the admin dashboard page	
Scenario	<i>1. The actor presses the teacher menu</i>	<i>2. The system displays the teacher data list page</i>
Exception	-	
Final Condition	The system displays the teacher data list page	

The class diagram of the system [8-9] to be created can be seen in Figure 3 as follows:

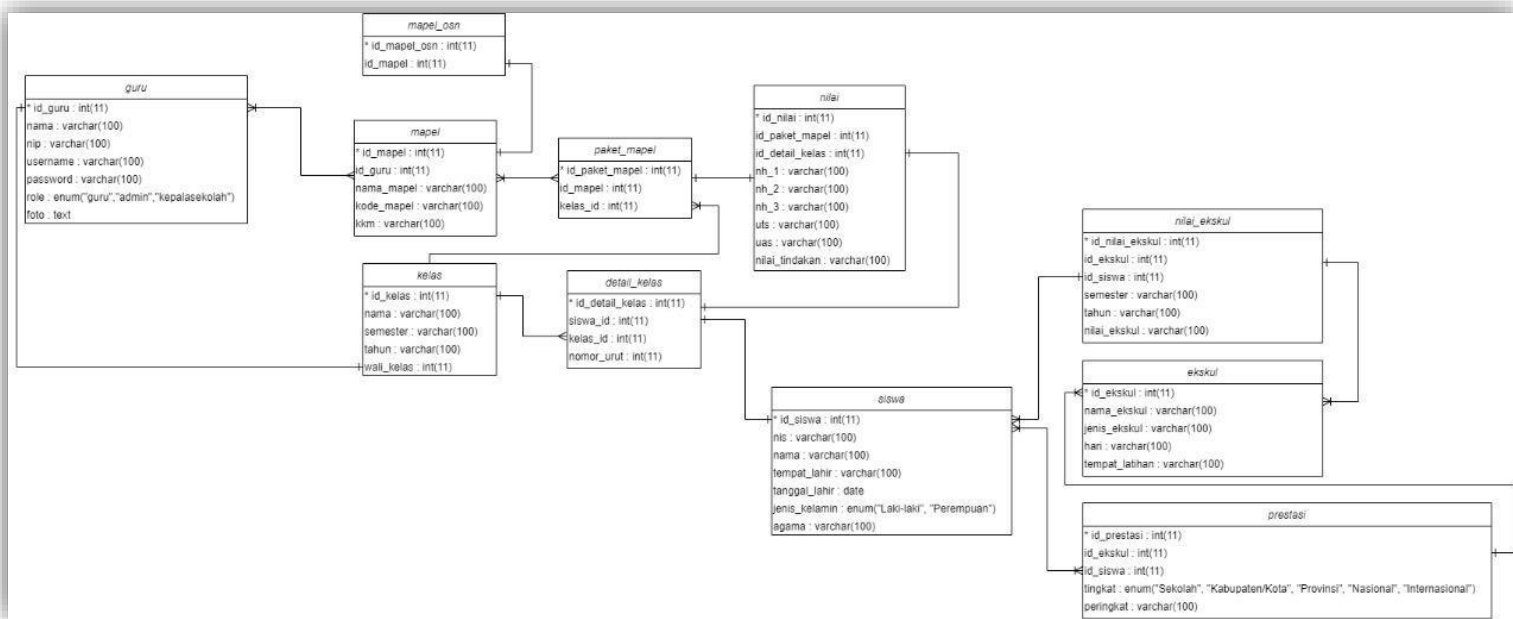


Figure 3. Class Diagram

This activity explains the login flow, if the user enters the wrong username and password, he will return to the form page and if it is correct, he will go to the start page. Can be seen in Figure 3.4

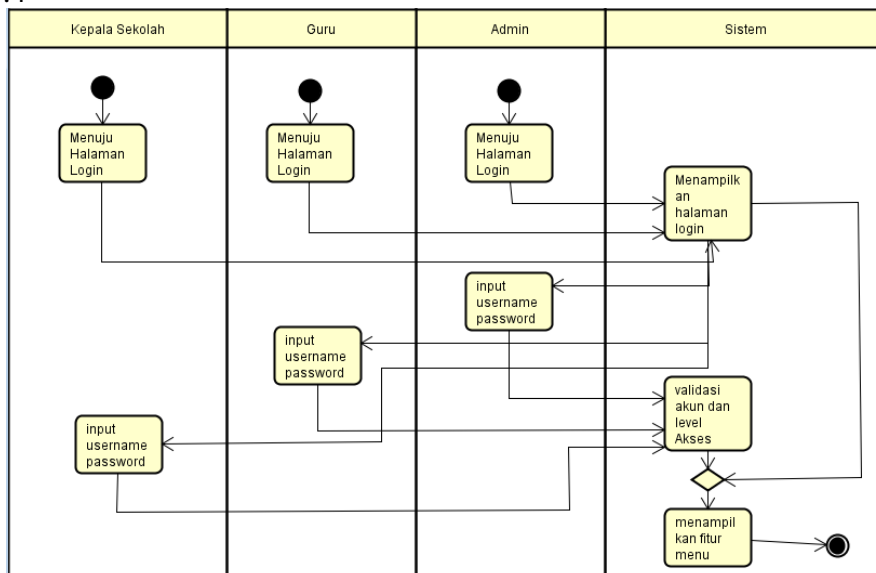


Figure 4. Activity Diagram Login

The login page is the start page when the value management information system is accessed.

From the design of the system interface design can be made more or less as in Figure 5.

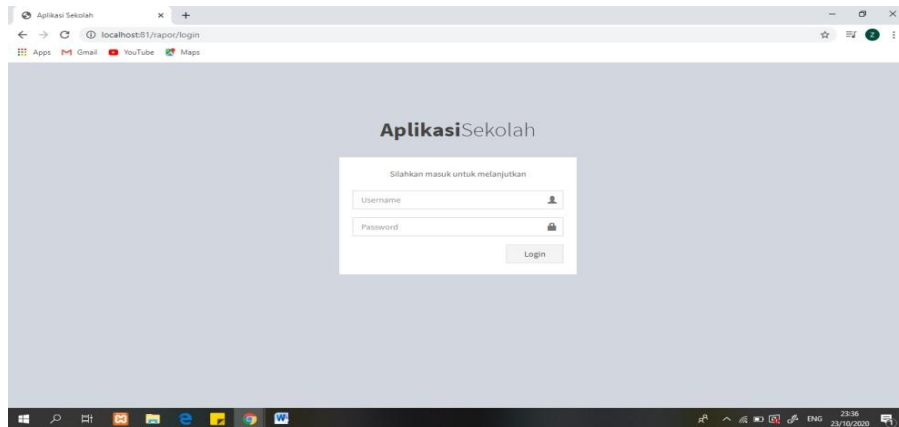


Figure 5. Implementation of the Login Page

Implementation of the Admin System Page, Dashboard Page, From the dashboard page interface design, the admin is made as shown in the image below.

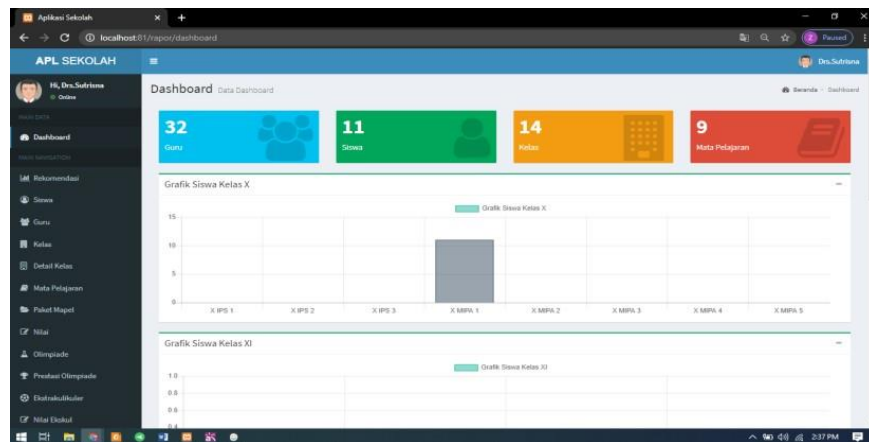


Figure 6. Admin Dashboard Page

From the design of the interface design, the admin recommendation page is made as shown in the image below.

No	Nama Mata Lomba	Jenis Lomba	Action
1	Olimpiade Matematika	Akademik	[Edit] [Delete]
2	Olimpiade Ekonomi	Akademik	[Edit] [Delete]
3	Olimpiade Geografi	Akademik	[Edit] [Delete]
4	Olimpiade Kebumihan	Akademik	[Edit] [Delete]
5	Olimpiade Astronomi	Akademik	[Edit] [Delete]
6	Olimpiade TIK	Akademik	[Edit] [Delete]
7	Olimpiade Kimia	Akademik	[Edit] [Delete]
8	Olimpiade Biologi	Akademik	[Edit] [Delete]
9	Olimpiade Fisika	Akademik	[Edit] [Delete]

Figure 7. menu of student's value

Student data management consists of adding, editing and deleting student data. From the design of the interface design, the student data page which is managed by the admin is made as shown in the image below [10-11].

No	NIS	Nama	Tempat Lahir	Tanggal Lahir	Jenis Kelamin	Agama	Action
1	1811767	Alnun Fadi Caesar Demardi	Klaten	08 October 2002	Laki-laki	Islam	[Edit] [Delete]
2	1811764	Agita Nurul Atziah	Klaten	10 June 2002	Perempuan	Islam	[Edit] [Delete]
3	1811758	Adnan Maulana	Klaten	28 July 2004	Laki-laki	Islam	[Edit] [Delete]
4	1811781	Adhitya Gusti Bai	Klaten	11 October 2004	Laki-laki	Islam	[Edit] [Delete]
5	1811750	Akhmas Teger Pamungkas	Klaten	03 March 2002	Perempuan	Islam	[Edit] [Delete]
6	1811748	Adella Syria Maharani	Klaten	22 September 2002	Perempuan	Islam	[Edit] [Delete]
7	1811745	Ade Bagus Ganang Saputra	Klaten	19 April 2003	Laki-laki	Islam	[Edit] [Delete]
8	1811744	Adlin Muhammad Hilbar	Klaten	30 September 2004	Laki-laki	Islam	[Edit] [Delete]
9	1811743	Abyan Fadli	Klaten	07 February 2004	Laki-laki	Islam	[Edit] [Delete]
10	1811742	Abid Muhammad Hamzah	Klaten	02 August 2004	Laki-laki	Islam	[Edit] [Delete]

Figure 8. Student Data Pages

### 3. Conclusion

The conclusion of this information system is that a web-based value management information system has been built and implemented with the study location at SMA Negeri 1 Wonogiri Klaten. With this information system, it is hoped that it can assist the school in determining and managing the value of all student data at SMA Negeri Wonogiri 1 Klaten so that the school can consider students who have achievements in academic scores, and can manage teacher data and subjects taught. by teachers digitally.

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