INTEK Jurnal Penelitian
Vol. 9, No. 1, pp. 13-17, April 2022

CMS Wordpress Based Academic Information System Design: A Case Study of SMPN 17 Marusu

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***Abstract*-- School is one of the formal education facilities that must be able to provide the best services or facilities for students and also for parents. One of the right ways is to use information technology, namely accessing academic values through websites. The specific objective of this research is to produce an academic information system based on Wordpress Content Management System (CMS) that can be used by SMPN 17 Marusu in Maros Regency. The current website-based academic information system is made using a complex programming language and requires special skills to create the website. Wordpress is a platform for creating websites instantly. In this study, the information system was built using the prototype method so that it can be adapted to user needs. The resulting software is presented to the user, starting from the requirements analysis, design to implementation stage, and users are given the opportunity to provide input so that the resulting software really fits the user's needs. The prototype method consists of several stages, namely, requirements analysis, system analysis, system design, system testing, and system implementation. The design stage includes interface design, front end and back end using WordPress CMS. With this school website, it is hoped that it can help government programs in improving school performance and productivity.**

Keywords: ***Information, Academic, Website, WordPress, Content Management System***

I. Introduction

The rapid development of information technology, especially in the internet world, has spurred changes in various aspects of both personal and organizational life. He has personally influenced his lifestyle in fulfilling his needs. Meanwhile, organizationally, these changes are needed to maintain or improve their existence [1].

Schools as one of the organizations that become agents of change in society certainly cannot avoid this development. Through the Internet, all information is easier to obtain, up to date, not limited by space, time and region [2]. The development of the nation and the world can be more easily known through the internet so that the ability to access or utilize information through internet technology is a measure of the progress of a nation. Therefore, every school should have a website to benefit from this internet technology. However, it is unfortunate that not all schools are able to equip themselves with a school website, as is the case at SMPN 17 Marusu, Maros Regency.

A web-based academic information system allows people who want to know information about schools not to come to school. The public only needs to access the internet to the website of the target school. This is more practical because people do not need to take the time and set aside travel costs to go to school.

The web-based academic information system is expected to assist teachers and students in obtaining information related to grades and is also expected to attract the interest of prospective new students. Therefore, through this research, an academic information system will be designed for SMPN 17 Marusu.

There are many ways to create a school academic information system website. Currently, a website-based school academic information system is created using high-level programming languages PHP and MySQL. Basically the website with this system is very good, as shown in [3] which makes a website-based academic information system at Pasar Minggu Vocational High School Jakarta using the language PHP and MySQL. In [4] discusses a website-based academic information system at SMA Tamansiswa Sukabumi using PHP and MySQL. In [5] discusses a website-based academic information system at SMK Negeri 1 Kudus using PHP and MySQL. In [6] discusses a website-based academic information system at SMP Negeri 2 Gaung Anak Serka District using PHP and MySQL. In [7] discusses a

DOI : http://dx.doi.org/10.31963/intek. v9i1.3383

website-based academic information system at SMP Negeri 11 Tasikmalaya using PHP and MySQL. Making an academic information system website is an obstacle for schools that do not have programming experts and limited costs.

Currently, there are many platforms that can be used by users to create simple information systems, but for implementation to academic information systems, there are still only a few platforms. CMS is an abbreviation of Content Management System or if in language it is defined as a content management system. If there is instant noodles in the food, CMS becomes instant website creation provided on the internet. CMS you can use even if you do not know about programming at all [8]. Wordpress is an open source CMS application that is often used to create websites and blogs that will be used. WordPress can also update and manage websites from its content management system and supporting elements. Wordpress also has a very different feature, namely plugins, by adding features without the need to learn a programming language.

This study aims to produce an academic information system based on WordPress CMS that can be utilized by SMPN 17 Marusu, Maros Regency. The expected benefit is that it can become a media channel for academic information for teachers, students, and parents of students, thereby accelerating the delivery of information effectively and efficiently.

II. Research Methodology

In this study, the website was built by implementing the prototype method in order to be able to adapt to user needs both in terms of appearance and in terms of data processing. In this method, it is very important to listen to user input so that the website that is built is truly user friendly for them. System implementation will also be easier because users take an active role in system development [9].

The stages of developing the prototype method are as follows:

1. Needs Analysis (conducting interviews with potential users)
2. System Analysis
   This stage includes the preparation of the components (software and hardware) needed to create a website. These components include: Laptop, Xampp, Wordpress, etc.
3. System Design
   The manufacturing process includes 3 stages
   a. Pre-Processing
   b. Processing
   c. Post-Processing

   The next stage is the creation of a database that will be used for the website. Then install the wordpress application on localhost if the process is offline, and if the process is online the installation process is carried out on the cpanel server. The installation process requires a database connection, so prepare a database username and password. Post processing stages include the process of managing the website after the installation process is carried out. Some of the management processes include: Adjusting content or updating content or news, themes, installing plugins, website colors, website customization starting from the header, navigation, side bar and footer.
4. System testing
   The prototype software package is tested, implemented, evaluated and modified repeatedly until it is acceptable to users. System testing aims to find errors that occur in the system and revise the system. Testing is carried out on several features that exist in the program. Compatibility between the theme used with some menus and plugins added.
5. System Implementation
   After the testing phase is complete, the application is submitted to the user to be evaluated whether it is in accordance with the needs or not. Improvements will be made until the application is completely ready to use and be applied on the internet. At this stage, training is also given to users as admins.

III. Result and Discussion

The design of the login display for the school's academic information system website can be seen in Figure 1 below. The main page layout of the website consists of a username and password login menu and a forgot password feature. Users who can log in to the academic information system are admins, students, and teachers who have been registered in the database system. For the design of a CMS Wordpress-based academic information system, it is described in the following sections, namely the design of the admin menu, teacher menu, and student menu.

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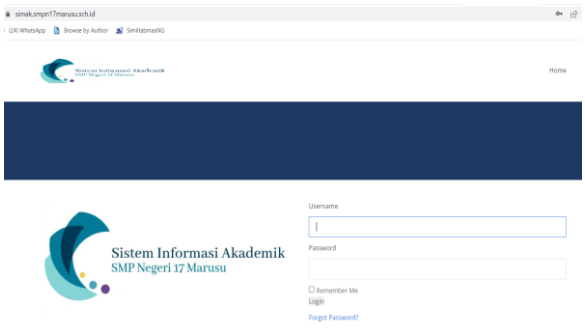

Figure 1. Main Page Design

a) Admin Menu Design

The design of the admin menu includes the management of the school admin management which manages the subjects of each teacher and student in each class through the wordpress dashboard. Figure 2 shows the process of making subject pages for each class, each page includes a table feature to display information on the value of each class. Each subject page can only be accessed by teachers and students according to the class being taught and being followed. The process of creating teacher and student accounts is shown in Figure 3. The table creation is designed with the CRUD system (Create, Read, Update, and Delete) using the WP-Datatables plugin. The table creation process is shown in Figure 4.

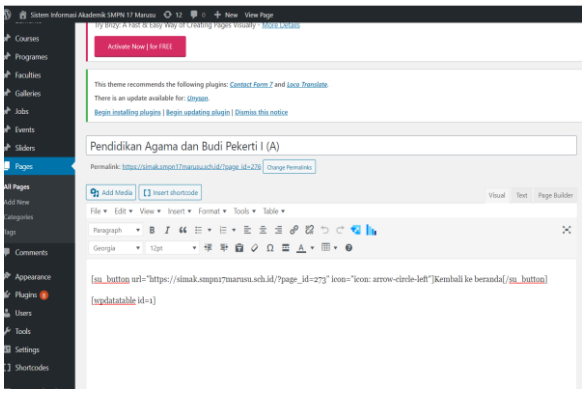

Figure 2. Design of Subject Pages

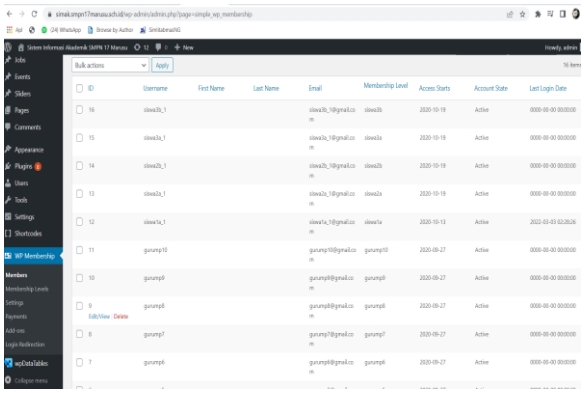

Figure 3. Membership Design

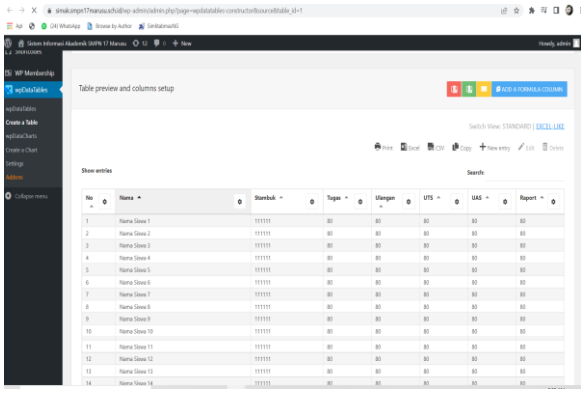

Figure 4. Subject Table Design

b) Teacher Menu Design

The teacher menu design displays a list of subjects that are being followed in the current semester. The teacher user has access rights to input values (Create), read values (Read), change values (Update), and delete values (Delete). The teacher menu display is shown in figure 5. Figure 6 shows the teacher menu display when inputting grades for each subject.

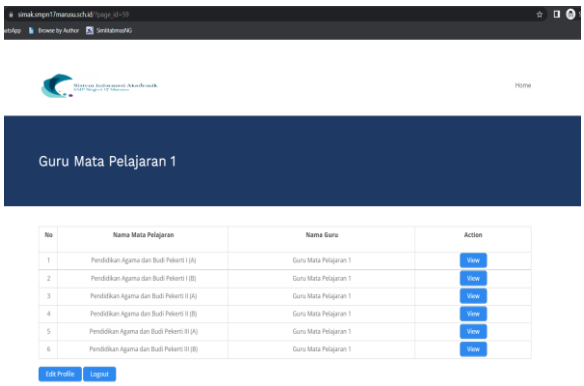

Figure 5. Teacher Menu Design

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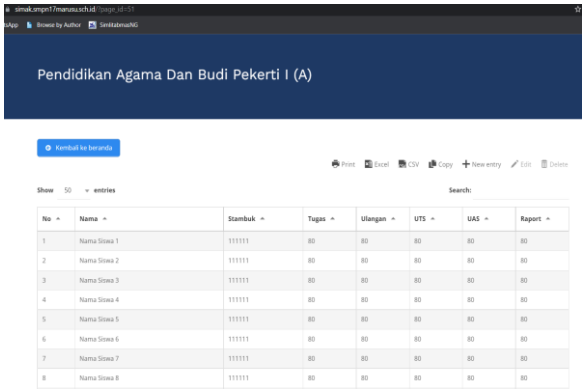

Figure 6. Menu Design for Subject Values

c) Student Menu Design

The design of the student menu consists of information on subject values, as shown in Figure 7. Student users have a rule that only sees the value of the subjects being followed every semester. Figure 8 shows the display of the value information page of the subject.

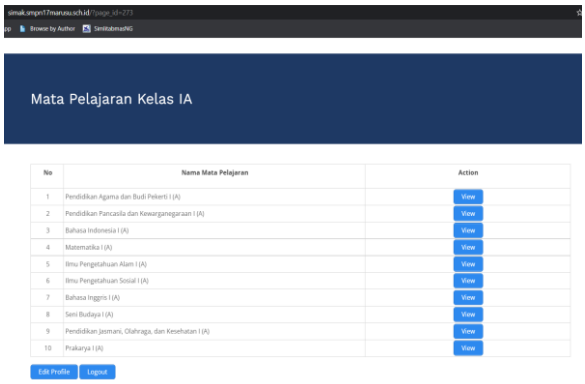

Figure 7. Student Menu Design

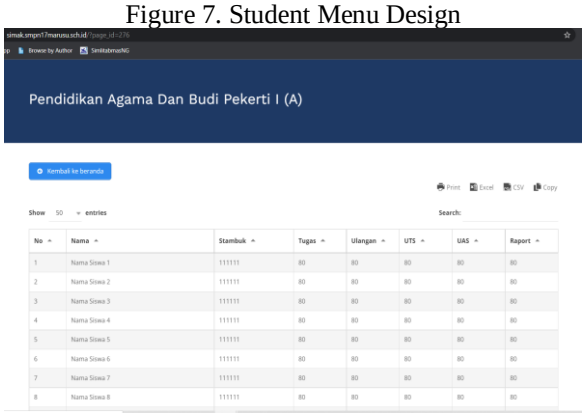

Figure 8. Design of Subject Value Information Menu

d) System Testing

At this stage, several features are tested. For example, changes to the admin login feature, teacher login feature and student login feature. Tests are carried out on both the dashboard page and the web page. Here are some examples of feature testing.

Table 1. Program Testing Table

Tested features	Test	Expected results	Result that happened
Admin Login	Enter username and password	Successful login to dashboard page	Successful login to dashboard page
	Entering username and password with abnormal data	An error notification appears	An error notification appears
	Adding Subject Pages for Teacher and Student Users	Can add subject pages	Add subject page
	Creating a Table for the Subject Value Form	Can make table form subjects	Create a subject form table
	Adding teacher and student users	Can add teacher and student users	Adding teacher and student users
Teacher Login	Enter username and password	Show User Guru page	Show User Guru page
	Enter username and password with abnormal data	An error notification appears	An error notification appears
	Enter, edit, and delete course grades	Can enter, edit and delete course grades	Enter, edit, and delete course grades
Student Login	Enter username and password	Show User Guru page	Show User Guru page
	Entering username and password with abnormal data	An error notification appears	An error notification appears
	View subject value information	Can see subject value information	View subject value information

IV. Conclusion

Based on the results of this study, it can be concluded that the use of a CMS Wordpress-based academic information system at SMPN 17 Marusu can provide the right solution in value processing, more effectively and efficiently because the data is stored in the database. An academic information system has been produced for SMPN 17 Marusu, Marusu District, Maros Regency which can be accessed on the internet via the URL: www.simak.smpn17marusu.sch.id. This website has gone through a series of tests and shows that the program is running well.

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Acknowledgment

Acknowledgments are addressed to the State Polytechnic of Ujung Pandang, in particular the Ministry of Research, Technology and Higher Education who has financed this research with a research implementation agreement letter Number: B/40/PL10.13/PT.01.05/2020, April 13, 2020, therefore, this research activity can be carried out effectively. Thanks also to P3M, the Principal of SMPN 17 Marusu and the admin staff for their cooperation in making this website. Hopefully this website is useful for users, society, and the nation.

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