SYSTEM DESIGN AND WEB IMPLEMENTATION ACADEMIC AT SMKN 1 GUGUAK DISTRICT DISTRICT 50 CITIES BY USING PHP PROGRAMMING LANGUAGE AND DATABASE MYSQL

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ABSTRACT

Website in the world of education is designed to facilitate in obtaining and disseminating information, both for themselves and the public. A good website provides complete, fast, accurate, and accurate information compared to information obtained from the process by telephone, fax, and bulletin board. A school can not be separated from various problems in the dissemination of school information to the general public, especially in promoting the school. Through the website of educational institutions can publish the profile of institutions, academic, teacher lists, student lists, organizational structure of institutions, institutional activities, and can provide opportunities to Students and teachers to publish articles, experiences, and other posts. Improving the quality of education and teaching should be the focus of every school administration.

Keyword : *Akademik, Website*

I. INTRODUCTION

a. Background of the Problem

The school website is currently a trend in the world of education and school websites get attention, very good feedback from various parties both from education staff, students and also the community as well as the existence of the school's website at this time indeed very important. The process of inputting student data, teacher data and employees at the school, but this school has not have their own website to make it easier for students, teachers and employees get information, so hard to find out information on the school (Andi Christian, at al 2018).

Through the website of educational institutions can publish:

- agency profile
- academic
- teacher list
- student list
- employee payroll
- organizational structure of the institution
- institutional activities

Through this it provide opportunities for students and teachers to publish articles, experiences, and other writings. Improving the quality of education and teaching should be the focus of every school administration. Schools should not be trapped in routine administrative processes. In addition, schools must quickly make important decisions in developing themselves. For making these decisions, accurate data is needed. A good school management system is the solution.

a. Problem Formulation

In connection with the background of the choice of titles above, the problems encountered can be formulated as follows:

1. How can the academic information system at SMK N 1 Kec Guguak Kab 50 cities process data more quickly and accurately?
2. How can the academic system produce fast and accurate information and reports?

b. Hypothesis

Based on the formulation of the problem above, the authors make a hypothesis as follows, namely, it is expected:

1. It is hoped that the website-based academic information system at SMK N 1, Guguak District, 50 City, can be more precise and accurate.
2. It is expected that the academic information system can produce reports more quickly, precisely and accurately.

c. Troubleshooting

In order to be more focused on the discussion in accordance with the topics discussed, it is necessary to limit the problems in making this school website, namely:

1. The data that is processed includes data relating to the academic activities of students at SMK N 1, Guguak sub-district, 50 cities, such as data on student grades and school announcements.
2. The information generated is in the form of information on the academic section of students at SMK N 1, Guguak District, 50 cities.

d. Research methodology

To achieve the accuracy and thoroughness of the data and information in this study, data collection was carried out in 3 ways:

1. Field Research

In this case the author conducted direct research with the thought of collecting primary data with the following data collection techniques:

a. Observation

By visiting the Payakumbuh City Department of Religion Office and seeing firsthand how the system and data processing are carried out in the presentation of information.

b. A list of questions

By asking questions related to research.

c. Interview

Face-to-face with employees as well as in sub-sections at the Payakumbuh City Department of Religion and conduct questions and answers about the religious department which makes it very possible to conduct interviews

2. Research Library

Data collection was also carried out to obtain secondary data by reading literature books, lectures, books related to this research, and articles from the internet.

3. Laboratory Research

Perform processing of the data that has been collected. In this method, the author conducts research using a personal computer (PC) in making and testing the system created.

The hardware and software that will be used in this laboratory research are as follows:

i. Hardware (Hardware) which consists of:

1. ASUS Laptop Intel Core i7-4720HQ CPU @2.40GHz Memory 4GB
2. Optical mouse
3. 4GB RAM memory
4. 1 TB hard drive
5. Printers
6. Flashdisk 8 Gb

ii. Software (Software) which consists of:

1. Operating System Windows 2010 PRO

2. Writer's Office
3. Adobe Dreamwaver CS3
4. PHP Programming
5. MySQL Databases
6. Notepad++
7. Astah

As well as other supporting software.

2. THEORETICAL BASIS

a. Basic Concepts of Systems and Information

The basic concept of information according to Gordon B. Darwis (1985) namely that information as a, a data that has been processed become a more meaningful form as well useful for users in taking good decisions for now or in the future come (Ladjamudin, 2013). Benefits of the existence of this information is to reduce error in making a decision. Information used by all users it means not only used by one person just. Valuable information for someone is useful information for him. Although aimed at everyone, however if the information is not needed by that person then the information is not valuable or useful, meaning information it can be considered as trash. (Nurul Alifah Rahmawati and Arif Cahyo Bachtiar, 2018)

b. Information Definition

According to John F. Nash (1995:8), the system information is a combination of people, facilities or technological tools, media, procedures and controls intended for network management important communication, process certain and routine transactions, helps management and internal users and external and provides the basis for right decision making (Lecturer of Education 3, 2019). (Sutiyono, Santi, 2020)

c. Understanding Information Systems

Information System is a group or arrangement consisting of, of hardware and devices software and implementation personnel working in a process sequentially and together support each other to produce a product. (Rini Asmara, 2016)

d. UML (*Unified Modelling language*)

i. UML Definition

According to Rosa and Salahuddin (2014) UML (Unified Modeling Language) is one of the language standards that is widely used in the industrial world to define requirements, make analysis and design, and describe architecture in object-oriented programming.

ii. Introduction to UML

In software development, it is necessary to have a language used to model the software to be made and there is a need for standardization so that people in various countries can understand software modeling. As we know that bringing together many heads to tell an idea with the aim of understanding the same thing is not easy, therefore we need a software modeling language that can be understood by many people.

In the development of object-oriented programming techniques, there emerged a standardization of a model for software development that was built using object-oriented programming techniques, namely the Unified Modeling Language (UML). UML emerged because of the need for visual modeling to specify, describe, build and

document software. UML is a visual language for modeling and communicating about a system with diagrams and supporting texts. (Rosa et al, 2014).

e. WEB Server

Web server is software that provides data services that function to receive HTTP or HTTPS requests from clients known as web browsers, and send back the results in the form of web pages which are generally in the form of HTML documents.

The main function of the web server according to the wikipedia site is to transfer files at the request of the user through a predetermined communication protocol. (M. Hilmi Maasruri and Java Creativity, 2015)

f. Basic Concepts of Database and MySQL

MySQL is a free implementation of a relational database management system (RDBMS). Every user can freely use MySQL, but with limitations the software may not be used as a commercial derivative product. MySQL is actually a derivative of one of the main concepts in the pre-existing database SQL (Structured Query Language). (M. Hilmi Masmuri, 2014)

3. ANALYSIS AND RESULTS

a. System analysis

System analysis is carried out to identify and determine the problems faced by the system being implemented. System analysis is important because it is the basis for planning and designing a new system, where the old system will be used as a comparison against the new system that will be implemented.

System analysis is the decomposition of a complete information system into its component parts with a view to identifying and evaluating problems, opportunities, obstacles that occur and expected needs so that improvements can be proposed. This stage is a critical and very important stage, because errors at this stage will cause errors in the next stage.

b. New System Design

Based on the results of the ongoing system analysis, it is possible to develop the system so that it becomes a new system and existing problems can be resolved. Some of the developments that will be carried out are:

1. Development in the field of academic information.
2. Development of an easy-to-use system interface using the PHP programming language supported by the MySQL database.

i. Use Case Diagram

Use case diagrams explain the benefits of the application when viewed from the point of view of people who are outside the system (actors). This diagram shows the functionality of a system or class and how the system interacts with the outside world. Use case diagrams can be used during the analysis process to capture requirements or requests for the system and to understand how the system should work. The Use Case Diagram for SMKN 1 to Guguak is shown in Figure 3.1:

Figure 3.1 Use Case Diagram

ii. Class Diagram

Class diagram is a specification that when instantiated will produce an object and is the core of object-oriented development and design. The images are as shown in Figure 3.2 below:

Figure 3.2 Class Diagram

iii. Activity Diagram Admin

This diagram explains all the activities that can be done by the admin by selecting the menus available on the system. Admin can perform activities of adding, editing and deleting data contained in the database in a design form as shown in Figure 3.3.

Figure 3.3 Activity diagram

iv. *Sequence Diagram*

Sequence diagrams are used to describe a scenario or a series of steps taken in response to an event to produce a certain output. Starting from what triggers the activity and what changes occur internally and what outputs are produced.

4. SYSTEM TESTING AND IMPLEMENTATION

1. Layout Home

Main Menu is the main menu display when opening the application. On this page you can also open the home menu, profile, contact us, organizational structure, vision and mission and login

4.1 layout home

2. Admin Login Layout

The Login page will display a layout for login where the admin inputs the username, level and password as well as login, . This login image can be seen in Figure 4.2.

Halaman Login

Username

Level

Password

LOGIN **RESET**

Figure 4.2. Admin Login Layout

3. Layout Home Admin

The admin menu page is the displays that appear when the admin has logged in.

Figure 4.3. Layout Home Admin

4. Homeroom Layout

The homeroom menu page is the displays that appear when the homeroom teacher has logged in.

Figure 4.4. Homeroom Layout

5. Teacher Layout

The teacher menu page is the displays that appear when the teacher has logged in

Figure 4.5. Teacher Layouts

6. Student Layout

The Student Menu page is the displays that appear when students have logged in

Figure 4.6. Student Layout

7. Study Layout

This menu page is useful for students to view subjects and value data obtained by students. The following layout is shown in Figure 4.7.

No	Mata Pelajaran	Nama Guru	Nilai
1	Biologi	Drs. Joni Hendri	2
2	Fisika	Drs. Joni Hendri	7
3	Kimia	Antoni, M.Pd.T	77
4	Matematika	Antoni, M.Pd.T	88

Figure 4.7. Layout Add Photo Gallery

5. Conclusions and Suggestions

i. Conclusion

Based on the analysis and results of website development research conducted at SMK N 1, Guguak Regency, 50 cities on the website by conducting experiments to test the program that has been made, it can be concluded as follows.

- The design of the academic website application system is more able to help teachers produce information in the form of announcements or value data more quickly and accurately to students.
- The design of the academic website system at SMK N 1 Guguak Kab 50 can produce faster data reports.

ii. Suggestions

Based on the experience gained during the design, manufacture and testing of this system, there were several obstacles encountered and here are some useful suggestions for further development and refinement of the system design:

- The application made can be useful for SMK N 1, Guguak District, 50 City, quickly, precisely and effectively.
- All components needed in the design of this system are in good condition or can work as they should.
- Access carried out by homeroom teachers, teachers and students is expected to be in accordance with the instructions that have been told by the system maker so that no doubts can be obtained.
- The connection between the modem and the PC must be maintained properly.
- Use a device that has a high processing rate, both in terms of the PC and the modem used.
- It is hoped that the school will trick 1 or 2 admins to take care of the website so that it is not neglected and more useful

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