Implementation of Website-Based Student Attendance System Using CodeIgniter Framework at NU Ungaran Vocational High School

BAB I

INTRODUCTION

Modern schools face the challenge of managing increasingly voluminous and complex student data. Manual attendance systems are prone to human error, data loss, and require significant time and resources. Manual attendance systems often produce inaccurate or incomplete data. The use of information technology in the education sector is increasingly important to improve the quality of learning and school management [7]. This research is in line with that trend and contributes to the effective utilization of information technology in the school environment.

Entering today with the advancement of globalized technology has affected various aspects of life in the fields of politics, economy, culture, art and even education [4]. Technological progress in the development of this era is something that we cannot avoid in life, because technological progress goes according to scientific progress [1].

The development of this technology has an impact on the increasing needs of the community for the data and information presented. The information received is easily accessed from various places, which at that time is also very easy to be consumed by the general public through technology [16]. Technology provides major changes to the current human lifestyle [5].

In the school world, especially in the academic field, attendance is one of the important data. Before starting or after participating in learning activities, each student is asked to fill out an attendance list or attendance as proof that the student has attended the class. In addition, attendance data is also needed by academics to monitor student activities in participating in every academic support activity [17].

Website is a collection of pages that contain certain information and can be accessed easily by anyone, anytime and anywhere via the internet. We can access the website by writing the site address of the website that we will browse. To access the Padang State University website, we can type the website address https://unp.ac.id/ then we can get the information presented by the manager [18].

NU Ungaran Vocational High School which is located at Jl. Kaligarang No.9 and was founded by K.H Adul Wahab on May 19, 2003 is an Islamic private school whose attendance system at SMK NU Ungaran still uses conventional or manual, for example the teacher takes the attendance data book in the administration, then the teacher calls the students one by one for the attendance filling process, then the teacher hands it over to the picket officer after finishing the lesson hours to recap attendance data, according to one of the teachers and picket officers is less efficient which often occurs damage or loss of the attendance book. This causes the teacher to re-record student attendance then submit it to the picket officer which requires energy and time. This causes the teacher to record student attendance again and then submit it to the picket officer which requires quite a lot of energy and time, therefore a website-based student attendance system is needed which

is equipped with a qr code feature and requires a device in the form of a camera that students use to scan the qr code and the system will display student data when taking attendance according to the time of entry and return.

This research is expected to provide several benefits, including for Schools: Improving the efficiency and effectiveness of student attendance data management, reducing administrative errors, and providing easier and faster data

Problem Statement

Based on the background described, the problem statements of this research are as follows:

1. How can the web-based attendance system using the CodeIgniter framework be implemented at SMK NU Ungaran?

2. What are the advantages and disadvantages of the web-based attendance system implemented at SMK NU Ungaran?

3. How effective is the use of the web-based attendance system in managing student attendance at SMK NU Ungaran?

Research Objectives

The objectives of this study are as follows:

1. To develop and implement a web-based attendance system using the CodeIgniter framework at SMK NU Ungaran.

2. To analyze the advantages and disadvantages of the web-based attendance system implemented at SMK NU Ungaran.

3. To evaluate the effectiveness of the web-based attendance system in managing student attendance at SMK NU Ungaran.

Research Benefits

This research is expected to provide benefits as follows:

1. **For the school**: Offering a solution for more efficient and accurate student attendance management.

2. **For the students**: Providing easier access to check attendance and ensuring transparency of attendance data.

3. **For the system developers**: Enhancing knowledge and experience in developing web-based applications using the CodeIgniter framework.

4. **For future researchers**: Providing a reference for studies related to the development of web-based systems in education.