



Designing An Attendance Application With A Web-Based Face Camera

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Article Info

Article history:

Received Nov 15, 2023

Revised Nov 27, 2023

Accepted Nov 30, 2023

Keywords:

Attendance

Face Camera

PHP

Medan Tourism Polytechnic

Website

ABSTRACT

This research discuss the design of a web-based student attendance application aimed at facilitating student attendance at the Medan Tourism Polytechnic, a vocational higher education institution supervised by the Ministry of Tourism and Creative Economy of the Republic of Indonesia. The Medan Tourism Polytechnic is a state university focusing on providing education for the tourism and hospitality industry in Indonesia. The Three Pillars of Higher Education in this field were established by the Medan Tourism Polytechnic with the objective of disseminating tourism-based education, instilling student discipline, and fostering Indonesian personality traits. Currently, the Medan Tourism Polytechnic employs a semi-manual attendance procedure using Microsoft Excel. This attendance application was developed with a database created using PHP and MySQL programming languages. The research findings indicate that students can perform self-attendance using facial recognition technology, which would make attendance more efficient and reduce fraud. Furthermore, this research demonstrates and anticipates that more effective attendance methods can enhance student discipline

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1. INTRODUCTION

Attendance at lectures has an important meaning for students. By attending lectures, students can gain in-depth knowledge in the fields they are interested in, thereby gaining invaluable benefits from their field of study [1][2][3]. Several educational institutions have now adopted e-learning methods to support the educational process during the Covid-19 pandemic [4]. The e-learning process can run efficiently and continuously [5]. Elearning lectures can monitor online attendance. However, it is not supported by online or face-to-face lectures, so a system is needed that can support online attendance recording so that it can provide the presence of lecturers and students in the learning process [6]. In

the context of higher education, attendance recording functions as proof of student participation in a lecture session [7][8]. With the presence of the sheet, students are considered to have followed and completed the learning process.

However, the traditional method of absentee lectures can cause various forms of conditions among students. Attendance at lectures has an important meaning for students. By attending lectures, students can gain in-depth knowledge in the fields they are interested in, thereby gaining invaluable benefits from their field of study[9][10][11]. Several educational institutions have now adopted e-learning methods to support the educational process during the Covid-19 pandemic. The e-learning process can run efficiently and continuously. In the context of higher education, attendance recording functions as proof of student participation in a lecture session. With the presence of the sheet, students are considered to have followed and completed the learning process. The traditional method of absentee lectures can cause various forms of conditions among students. Often students find opportunities to participate in dishonest activities, such as cases where they mark each other's gifts even though they did not attend the lecture. Of course, this can be detrimental to students' parents who have paid educational costs. In addition, conventional lecture attendance methods require the empowerment of additional staff to collect daily student attendance data. This process requires a significant investment of time and energy, considering that it must be repeated every working hour until the end of the working day [12][13][14][15]. This research was conducted at the Medan Tourism Academy higher education institution. so that the recording of student attendance can be monitored using a website-based system and can be monitored by the college staff directly and in real time [16][17][18][19][20].

2. RESEARCH METHOD

The method used in building the Student Attendance Website Application is as shown in Figure 1 below:

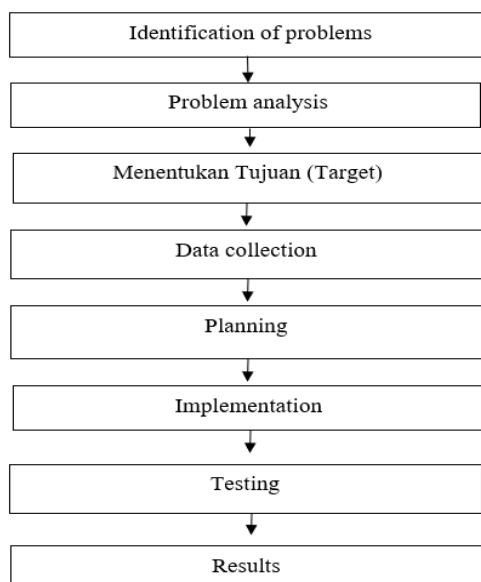


Figure 1. Research Framework

This research was conducted based on the needs of Medan Tourism Polytechnic users. The following are user needs according to observations in the website-based students attendance application, as shown in Table 1 below:

Table I. User Requirement

No.	User	Requirement System	Notes
1	Student	Input attendance	Input daily attendance
2	Operator	Registering Student Data	fill out the student form, where you just need to fill in your name, id number, email, and telephone number where the student can be contacted. Each students will use their email which will later be used to log in and do the attendance.
		Managing Data Member	Admin manages every member data of seller users and buyer users. The digital marketing promotion application for BUMDES Secanggang Village marine products is website-based.
		Report	Operator can create reports – overall report on internal activities includes: - Weekly Report - Monthly Attendance reports

In this research, the Unified Modelling Language system design tool was used.

3. RESULTS AND DISCUSSIONS

The program is run using a web browser. In this test the author uses the Mozilla Firefox web browser and after the web browser is running, type in the address bar <http://absensis.proyekrifki.xyz/> to go to the main page of the student's attendance application :

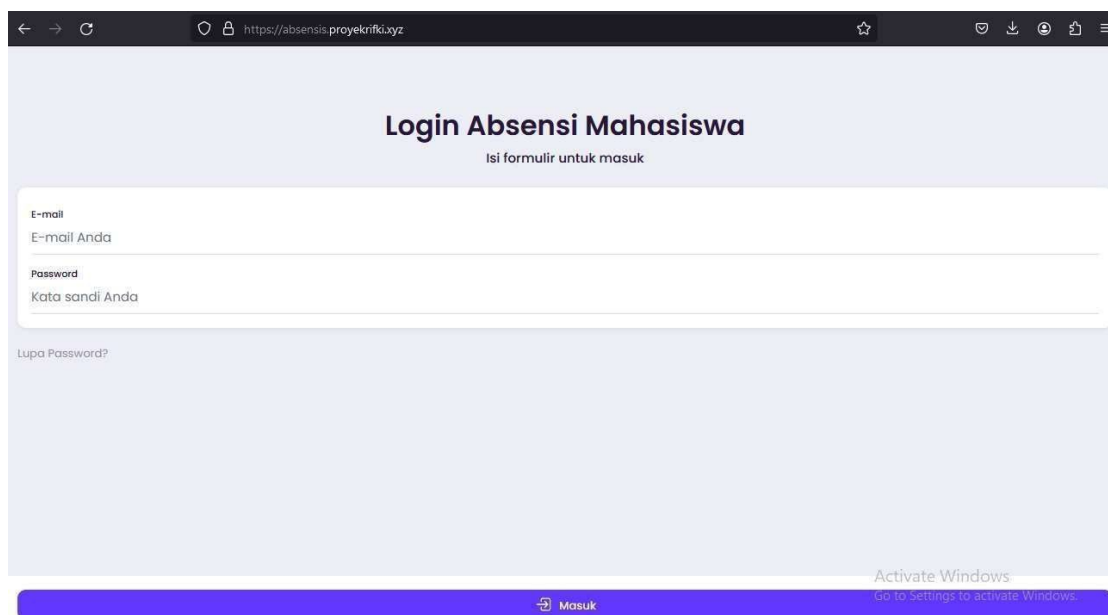


Figure 1. Login Page

In the Students Attendance Application, there are several features that can optimize the operator report and student attendance, which makes it easier for users.

Student Dashboard

Student Dashboard specifically displays attendance information from the student account, as shown in Figure 2.

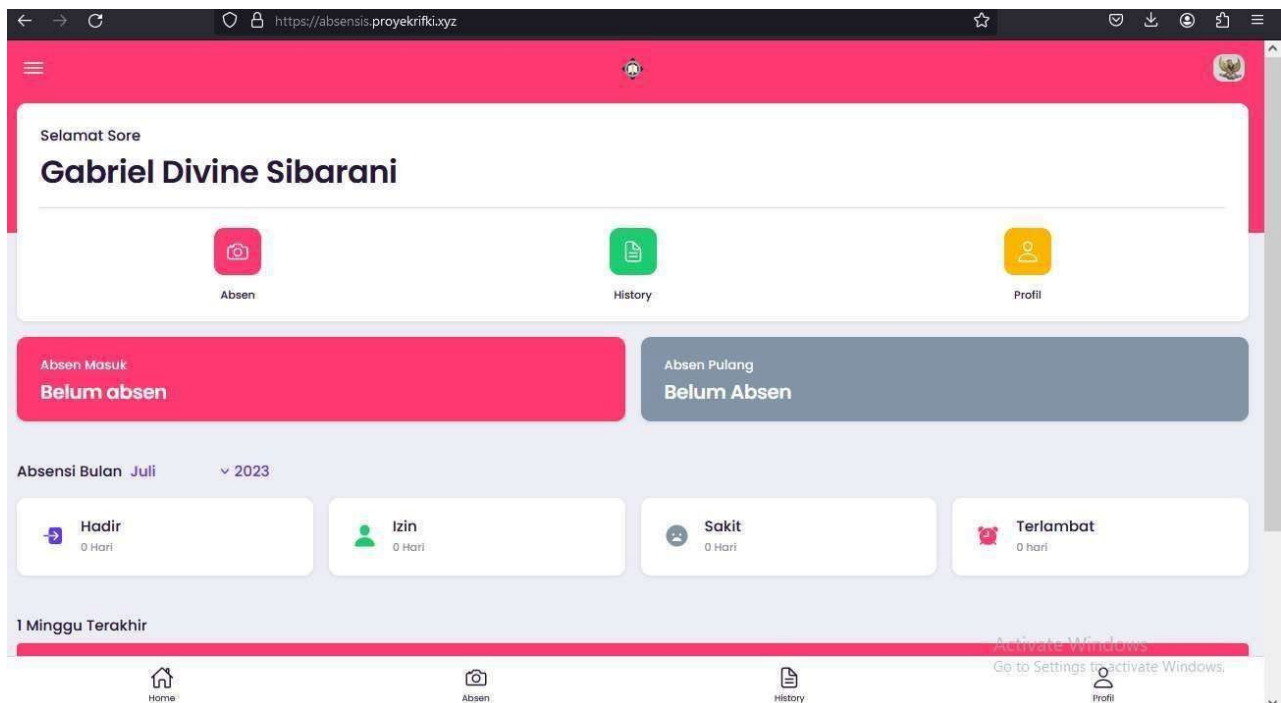


Figure 2. Student Dashboard

Record Attendance

Record Attendance Feature specifically records student daily attendance, as shown in Figure 3.

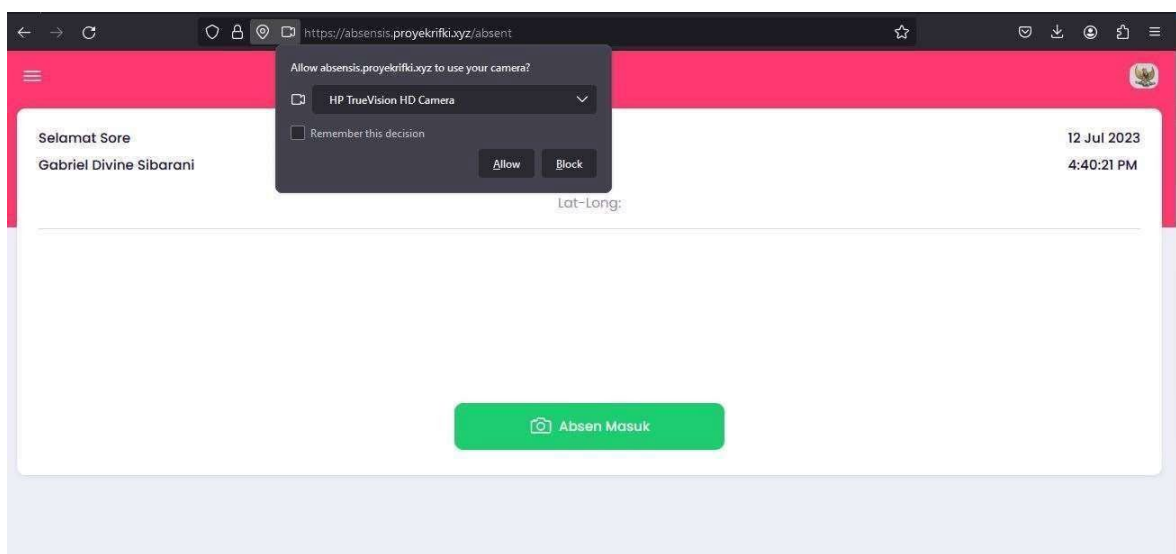


Figure 3. Record Daily Attendance

Attendance History

Additional features include Attendance History. This feature displays some information about attendance history and sick recap such as Figure 4.

No	Tanggal	Absen Masuk	Absen Pulang	Status	Aksi
1	12 Jul 2023	18:48:59 Telat	08:00:00 Pulang Cepat	Hadir	
2	19 Jul 2022	23:02:39 Telat	23:03:34	Hadir	
3	18 Jul 2022	14:10:17 Telat	00:00:00 Pulang Cepat	Hadir	
4	14 Jul 2022	10:28:05 Telat	15:52:49 Pulang Cepat	Hadir	
5	13 Jul 2022	18:28:02 Telat	16:29:10	Hadir	

Figure 4. Attendance History

4. CONCLUSION

The results of research on the application of the Designing An Attendance Application with a Web-Based Face Camera can be concluded as follows:

1. Effectiveness of Attendance Record:

Operator gets convenience in automated-record attendance.

2. Enhanced to Secured Attendance:

The results of this study may also indicate how successful attendance application in securing the attendance. This include making it impossible for students to leave absences with friends.

3. Findings from the research may also involve identifying elements that help or impede the effective execution of an attendance application. This can support planning for the future.

ACKNOWLEDGEMENTS

Thank you to the Politeknik Pariwisata Medan for granting research permission for this research. Then to Universitas Pembangunan Panca Budi Medan, especially the Universitas Pembangunan Panca Budi Research and Service Institute and the National and International Journal Institute of Universitas Pembangunan Panca Budi which has published this research and publication.

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