Designing a Web-based Online Attendance Information System Application

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Abstract. During the current pandemic, many people are working at home or studying online and sometimes have difficulty making absences. Therefore, the purpose of this study is to design a web-based online attendance information system application. The method used in this design was an online questionnaire and interviews to obtain relevant information regarding the attendance list of people who work at home and learn online. The results of this study are an online absence web with several features such as the Global Positioning System (GPS) location of the person who did the absences online, the face of the absent person, and other features. The conclusion obtained in this study is that the existence of web-based online absences can make it easier for people who work at home and learn online to do absences because it is easy and can be done anywhere as long as they have internet access. The benefit of designing a web-based online attendance information system application is the accuracy in providing information to offices and educational institutions. This aims to tackle fraud or falsification of attendance. Online attendance is very much needed and can make it easier for workers and students to do attendance and make it easier for admins to monitor attendance.

1. Introduction
The attendance system is very important in knowing the presence in a company and educational institution. The development of the attendance system currently has developed with the presence of electronics such as computers and gadgets. The attendance system that uses paper has now switched to programs computers, fingerprints, and eye scans that are more practical and accurate. Therefore, the attendance system needs a very good renewal so that students or workers can attend quickly and do not have to spend a long time absent. The best solution is to use a smartphone, computer, and other devices that can access the internet. An attendance system can also maximize time. Therefore, the use of devices that can access the internet is needed in updating the attendance system.

Similar research topics have been carried out by other researchers, such as the Design of Online Attendance Systems Using Android by Husain, which produces online absences that can be accessed on Android [1]. Web-Based Attendance Information Systems by Reymon Rotikan produces web-based online absences. Web-based student attendance application design by Rachmansyah Anessa Putra produces web-based online absences for Mahardhika Junior High School. Web-based employee attendance information system design by Valley Graceynthia Makalare, which produces web-based employee attendance at PT Bank Prisma Dana Manado Headquarters, and also a web-based haul attendance information system by Erliyah Nurul Jannah, who produced a web-based Haul Attendance
Information System at Muhyiddin Islamic Boarding School Surabaya. There were prior researches that described online attendance. Muhammad et al. explain that online attendance applications can help overcome the problem of attendance fraud that often occurs and make it easy to recapitulate attendance [2]. Cloud computing provides functionality for managing information data in a distributed, ubiquitous, and widespread way that supports multiple platforms, systems, and applications [3]. Calimag et al. describe that the use of their mobile gadgets for educational purposes can benefit both students and teachers [4]. Zuru et al. explains that the management of student attendance in the classroom plays an important role in the work of student management. It can help to push students to class on time, increase the efficiency of learning, increase the value of learning, and thus increase the overall level of school education [5]. Sunehra et al. describe that a web page can be used to display the aggregate percentage of attendance of each student according to different classes at the institution [6].

The purpose of this research is to facilitate attendance activities at work or school. In addition, during the COVID-19 pandemic, people must avoid the crowded place. This is easy and practical to use for online absentee assessors. It also helps facilitate data collection for admins because equipped with a feature that can arrange the attendance data.

2. Method
The method used in this research was descriptive research method with the aim to explain and describe the facts systematically, accurately and the results of the research are presented as is. As well as interviews conducted with people around the house and including those at home who experience school and work at home.

3. Results And Discussion
Figure 1 below is a look at the start page of our online timesheet:

![Online Timesheet Start Page](image)

Figure 1. Online Timesheet Start Page

On this page, users can see the initial page for online absences by entering the username and password that have been created by the user. The attendance system provides a convenient way to interact by hosting a web page to view each student's attendance reports [7]. Figure 2 below shows a page when students have done the absence.
Figure 2. Page When Students Have Done the Absence

On this page, users who have made an absence will get a recap like a picture above, namely a photo of the face, the time of doing absenteeism, and the location where to do the absence. Figure 3 below shows the data recapitulation page.

Figure 3. Data Recap Page of Absent Persons

On this page, only admins can access and view the data contained in this section. And on this page, the admin can add, change, and delete profile data on this page. Attendance systems can also be used in applications such as identity management and access control [8]. Figure 4 below shows the flowchart of the online attendance information system.
In an ongoing system, there is a flowchart that is used. This flowchart is related to the procedures/steps for making online absences. An online attendance system can reduce the manpower required for paper-form transmission and shortens document delivery time [9]. Figure 5 shows the activity diagram online timesheet.

**Figure 4.** Flowchart of Online Attendance Information System
In this session, the researcher described the online attendance flow activity. Above is the activity diagram of the online attendance procedure. The attendance system can keep records of the attendance of students and teachers or staff members of an institution [10].

**Figure 5. Activity Diagram Online Timesheet**
4. Conclusion
Based on the results of the research and discussion conducted by researchers on the design of online attendance information systems, it can be concluded that online attendance is very much needed and can make it easier for workers and students to do attendance when outside the office / educational institution and make it easier for admins to monitor attendance.

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