WEB-BASED EMPLOYEE PRESENCE MANAGEMENT SYSTEM AT PMI OFFICE, MEDAN CITY, NORTH SUMATRA

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Abstract: Attendance is a routine on a working day carried out by an employee of an agency or company to prove that he is present or not. At the Indonesian Red Cross (PMI) office in Medan City, attendance carried out by employees still uses manual attendance. The methods used in data collection are interviews, observations and literature studies. The results obtained from this attendance system are a more modern employee attendance list, and are expected to make it easier for companies to manage employee attendance systems so that they can be organized and effective and efficient so that employee attendance data is not misused and damaged or lost.

INTRODUCTION

Presence is a recording of attendance, part of the reporting of an institution's activities, or a component of the institution itself which contains attendance data which is arranged and organized in such a way that it is easy to search for and use if at any time it is needed by the interested party (Wardoyo et al., 2014). Presence is a proof that an employee is present and working at an agency. Recording employee attendance is one of the important factors in human resource management (Susilo & Abdurrahman, 2023). The Indonesian Red Cross (PMI) is an institution whose main task is disaster preparedness and response, first aid training for volunteers, community health and welfare services, and blood transfusion services. The management of employee attendance at the PMI Medan City office is currently inefficient. Attendance management still uses Excel application recording which results in a long data search and recapitulation process. In addition, attendance data collection for employees who work outside the office is also difficult.

Research conducted by (Fitriati et al., 2023) designing a QR code-based student attendance application to improve student attendance administration management at MAN 1 Bima. Research conducted by (Rahmatuloh et al., 2023) overcome the problem of data collection of internship students at the PT. Perkebunan Nusantara Bandung office

which still uses manual methods with paper signing, which is susceptible to manipulation and can result in data inaccuracy and difficulty in carrying out real-time monitoring which has the potential to cause errors in writing or recording attendance data by designing a website-based internship student attendance application.

The use of information technology has changed the way humans work, how to produce, how to coordinate, how to think and other major changes in various business systems and organizations. The presence of information technology makes the world increasingly borderless between countries. With these changes, the structure and culture of the organization are also adjusted to increase effectiveness and efficiency in every business process which will ultimately produce a new culture and organizational structure that is more effective and efficient (Machmudi, 2019). PMI Medan City Office requires the role of information technology in the form of applications so that attendance data processing can be carried out efficiently. An application is a part of computer software that is created with a computer program to be used to perform a task desired by the user. An application is a ready-to-use program that can be used to run a number of commands from problem solving that uses one of the application data processing techniques on a computer or smartphone with the aim of obtaining more accurate results and in accordance with the purpose of creating the application (Novria et al., 2022). The purpose of this study is to design and build an employee attendance management system application at the PMI Medan City office using the prototype method to collect a summary of daily attendance data for PMI Medan City employees.

RESEARCH METHODS

The method used in this research is the prototyping model. The Prototyping model is also a popular software development life cycle model in which prototype is built, tested, and reworked until an acceptable prototype is achieved. It also creates base to produce the final system or software. It works best in scenarios where the project's requirements are not known in detail. It is an iterative, trial and error method which takes place between developer and client. The prototyping model can be considered to be an extension of the Iterative Waterfall model. This model suggests building a working Prototype of the system, before the development of the actual software. A prototype is

a toy and crude implementation of a system. It has limited functional capabilities, low reliability, or inefficient performance as compared to the actual software (Maryani et al., 2022). A prototype can be built very quickly by using several shortcuts by developing inefficient, inaccurate or dummy functions. Rapid Throwaway prototypes, Evolutionary prototype, Incremental prototype, and Extreme prototype are the popular types of prototyping methods. The evolutionary process is represented by the prototype model. The Evolutionary Process Paradigm is an iterative model that is used to generate ever-more-complete software versions. A rapid design step is included in the prototype model, in which the developer must design the software quickly after gathering requirement. Clients can truly feel the system, i.e., feedback design in advance. Advantages: Early visibility, higher output, and lower costs. Negative aspects include the possibility of insufficient or incomplete systems. There is a lack of flexibility. Because management is difficult, it is not ideal for huge systems (Bjarnason et al., 2021).

The data collection methods used in this study are observation and literature study. The observation method used can be in the form of direct observation or sensing of an object (Yusra et al., 2021), condition, situation, process or behavior, while literature study is looking for references from scientific sources that support related research (Moto, 2019).

Unified Modeling Language (UML) is a standard displaying dialect for determining, recording, and building a software product. UML can likewise be alluded to as a standard dialect in demonstrating that is frequently utilized by programming engineers long back. UML advancement has a few issues. One issue that is regularly discovered when making UML is that it requires a long investment in the event that it is required to make it from the earliest starting point (Fauzan et al., 2019). A use case diagram is a modeling for the behavior of an information system to be created. Use cases describe an interaction between one or more actors and the information system to be created (Faitelson & Tyszberowicz, 2017).

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. Use case diagrams are employed in UML, a standard notation for the modeling of real-world objects and system (Aleryani, 2016).
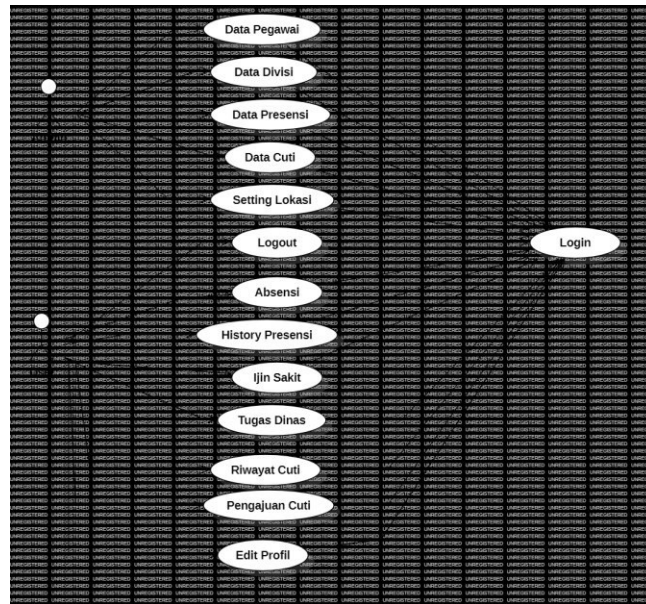
Figure 1. Use Case Diagram Design

Activity diagram describes the flows of activities and actions of the system, and Class diagram describes the structure of the system. However, it may not always be possible to get consistent models. The more overwhelming a system is, the more its development obliges an accumulation of distinctive models (Sulaiman et al., 2019).
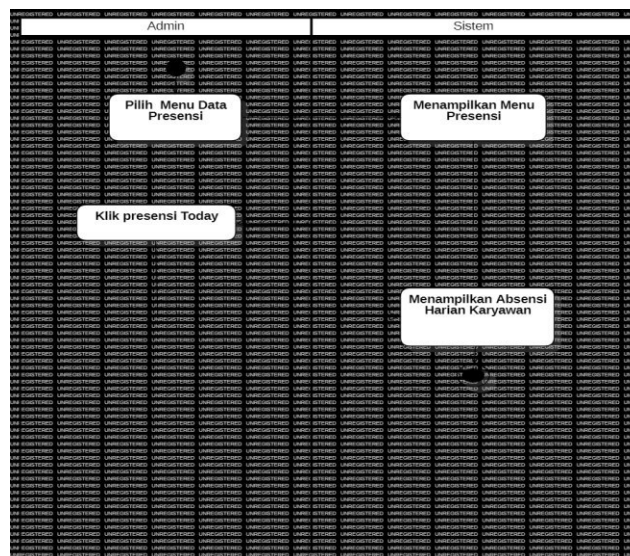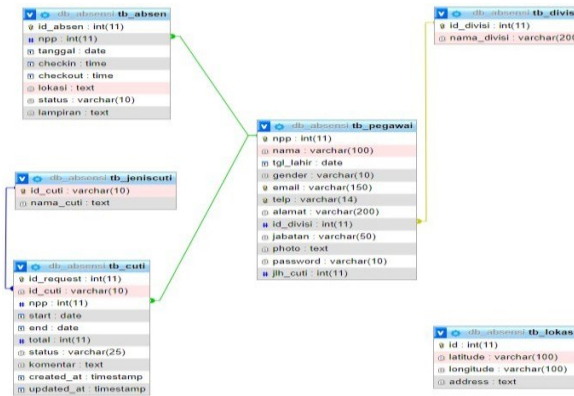

Figure 2. Activity Diagram Design

Figure 3. Class Diagram Design

RESULTS AND DISCUSSION

The login page is the first page displayed when a user or admin accesses the website. Users can log into the system using a username and password. If the user's password and username are correct, they will be directed to a page based on the access rights of each user or admin. The employee data list page, the admin has access rights to view employee data and update employee data as needed.
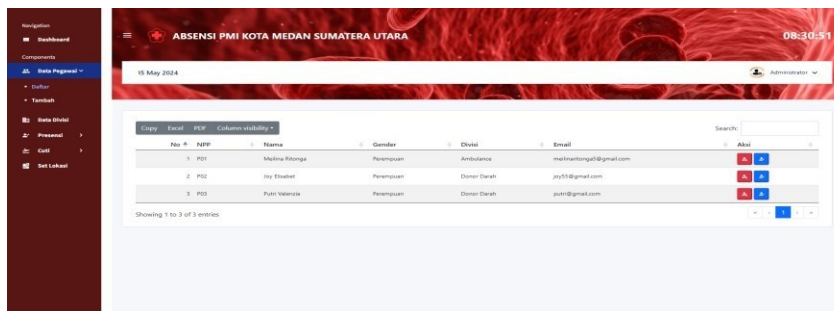

Figure 4. Employee Data List Page

The daily attendance data page, admin has access rights to view employees who are taking attendance.
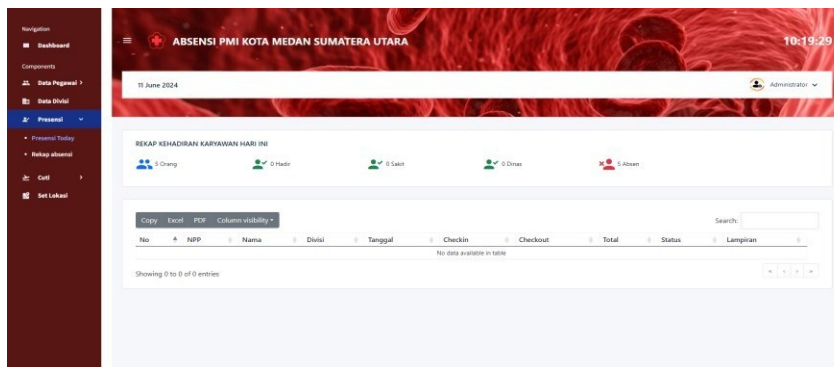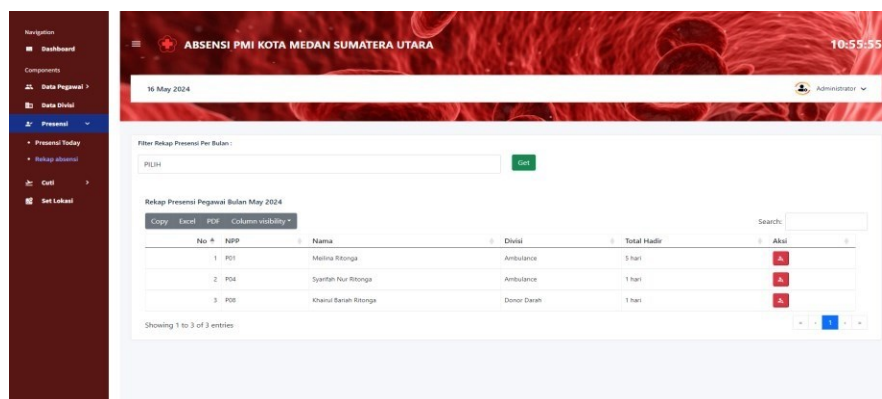

Figure 5. Daily Attendance Data Page

The attendance summary data page, admin has access rights to view employee attendance recaps and detailed employee attendance recap data.

Figure 6. Attendance Recap Data Page

CONCLUSION

The conclusion of this study is the creation of the attendance system uses php programming and a mysql database. This system consists of two users, namely admin and user/employee. Admin can process data such as viewing employee list names, adding employees, viewing division names, viewing and summarizing employee attendance data, viewing leave types, finding out employees who want to apply for leave and giving access rights or status to employees who are applying for leave, and admin can set the location. While users/employees are able to record attendance, view the history of attendance, submit sick leave and users can submit leave and through this system, users who are working outside the office location will still be able to check attendance. And with this system, the office will be able to modernize it further.

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