

# Web-Based Absention Information System Design in PT Bimavi

Kristin Matulina Rosa Djaro<sup>1</sup>, Onny Marleen<sup>2</sup>

<sup>1,2</sup>Department of Technology and Engineering, Gunadarma University, Depok, Indonesia

**Abstract**— Information technology at this time has developed very rapidly so that it has an impact in increasing the effectiveness and efficiency in doing every job. The attendance system is important for PT Bimavi which is located on street Bebonuk, Comoro, Dili, East Timor. PT Bimavi is a PT which is engaged in construction services which has several projects spread out in various areas far from the head office. In the case of absenteeism PT Bimavi still uses a manual system which can cause several separate problems, such as attendance lists that still use paper so that it can cause the possibility of missing or scattered, there is fraud in filling the attendance list by the employees, wrong input in recording attendance in the attendance book by the admin, as well as attendance processing for the report requires a relatively long time because they have to find data one by one.

The method used in this study is the waterfall method and tools used to describe the initial design of the system to be built is UML (Unified Modeling Language). This study aims to design an attendance system, with the attendance system is expected to help solve the problems that have been faced and the results of this study in the form of attendance systems.

**Keywords**— System, Absention, Design, UML.

## I. INTRODUCTION

A company that has employees will definitely be absent. Attendance is a document that records the attendance of every employee in the company. These employee attendance records can be in the form of a list of hand records or bookkeeping. Work records the working time basically can be separated into two parts, namely the recording of attendance time and recording of time to go home from work.

The attendance system is important for PT Bimavi which is located on street Bebonuk, Comoro, Dili, East Timor. PT Bimavi is a PT which is engaged in construction services which has several projects spread out in various areas far from the head office. So that the attendance process is currently still done per each employee. In the case of absenteeism PT Bimavi still uses a manual system that can cause several separate problems, such as a attendance list that still uses paper so that it can cause the possibility of missing or scattered, cheating occurs in filling the attendance list by the employee, wrong input in recording attendance in the attendance book by the admin, as well as attendance processing for the report requires a relatively long time because they have to look for data one by one.

Some studies that discuss attendance include Raymon Rotikan in research on web-based attendance information systems for conference activities. Web-based attendance system using a barcode that can be used for each conference activity. Development of attendance systems using the spiral

method, the result of this study is an attendance system that can be used to take attendance at each attendance session in a conference activity. The system can also display attendance reports for each presentation session as well as the most desirable presentation sessions. Likewise, research conducted by Jayaningpang kinantang, Darjat, and Ajub Ajulian Zahra in the final project research on the design of a patient's medical record information system at the Semarang City Hospital based on RFID. RFID technology is used in medical records information systems for inpatients, as an information service system in the form of patient identity. RFID-based medical record information system aims to increase efficiency in the data collection of patients regularly and correctly. Data is stored in a small object (RFID) in the form of a card. In this study also conducted employee attendance with RFID where the method used is the waterfall method and the tools used to describe the initial design of the system to be built is UML (Unified Modeling Language). This study aims to design an attendance system, with the attendance system is expected to help solve the problems that have been faced and the results of this study in the form of attendance systems.

## II. RESEARCH BACKGROUND

### 2.1 Waterfall / SDLC (Systems Development Life Cycle)

Waterfall method is a system development method where between one phase to another phase is carried out sequentially. In the process of implementing this Waterfall method, a step will be completed first starting from the first stage before proceeding to the next stage.

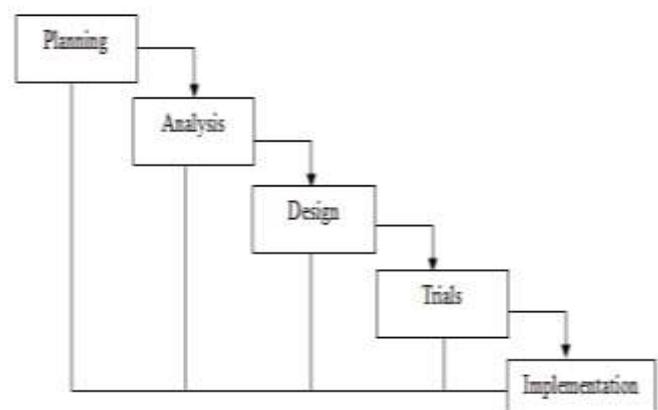


Figure.1. Waterfall /System Development Life Cycle

### 2.2 Attendance System

Employee attendance is often used by human resource management (HR) to make important decisions regarding the

placement and regulation of human resources (HR) within the company they lead.

According to the Big Indonesian Dictionary, absence is the absence of a student / employee on the day of entry / work due to illness, permission, neglect, or leave. Whereas attendance is the attendance list of employees / students, which contains the hours of arrival, hours of return, as well as reasons / information on attendance of employees.

### III. METHODOLOGY

#### 3.1 Research Framework

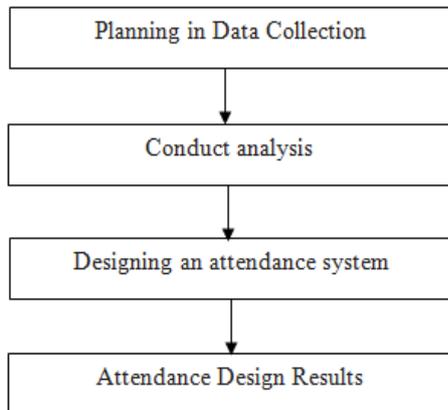


Figure.2. Research Framework

In Figure 2 the research framework consists of several stages in collection.

#### 1. Planning Phase in Data Collection

At this stage the planning where this research is planning the attendance system design to replace the attendance system manually at PT Bimavi. stage carried out in planning in data collection by conducting observations, interviews and literature study.

#### 2. Analisis Phase

In the next stage, which is the Analysis phase where this research analyzes what data needs are needed to change attendance from manual to computerized. Data requirements needed in the analysis phase are employee data and attendance forms.

#### 3. Stage of Attending Attendance System

At the design stage of the employee attendance system includes UML (Usecase, Activity, Sequence, Class Diagrams), navigation structure, database design and design of website pages.

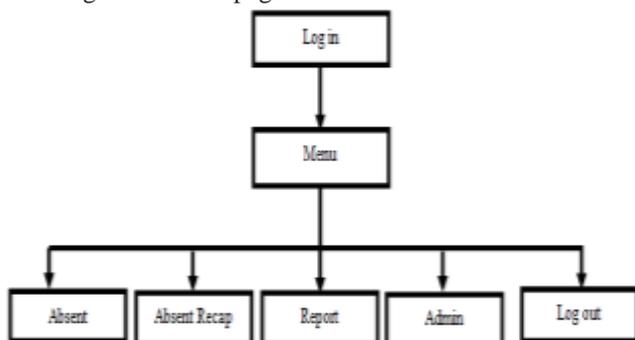


Figure.3. Attendance Navigation System Structure

The navigation structure used is a mixed navigation structure, where at home there is a layer and below there are absences, recap absences, reports, admin, and logout. The flow of this navigation structure must access the login page. After logging in the admin is on the menu page where the admin can access the 5 main menus, namely the absent menu, absent recap, reports, the admin can access the absent menu to see the absences of each employee used for, reports, admin, log out. 5 main menus can be directly accessed from each other while in one of the main menu pages. When the admin accesses one page then logs out, the admin cannot return to the previous page.

#### 4. UML (Unified Modeling Language) Design

In the attendance design process, attendance is designed using several types of diagrams. The diagrams used are usecase, activity, sequence, and class diagrams.

##### - Use Case Diagrams

Use case diagrams are used to illustrate what activities are carried out in a system. The use case diagram is related to events.



Figure.4. Use Case Diagram

##### - Activity Diagram

Activity diagram or activity diagram illustrates the workflow (work flow) or activity of a system or business process. The order or grouping of views from the system / user interface where each activity is considered to have a display interface design.

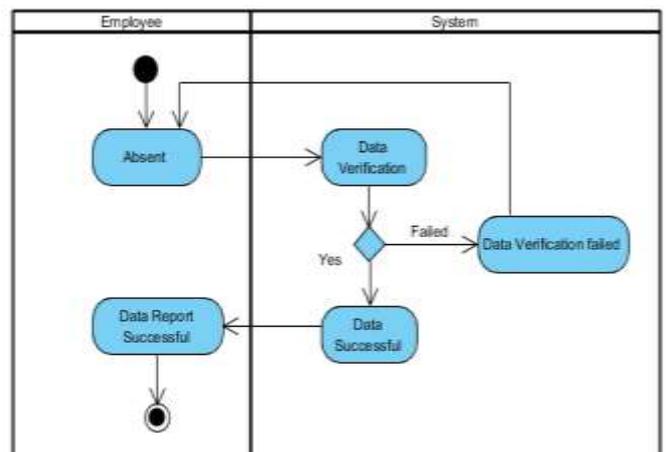


Figure.5. Activity Diagram of Employees

- Sequence Diagrams

Sequence diagrams are used to illustrate system flow. Used in chronological order and used to describe scenarios or steps taken in response to an event to produce a specific output. The sequence diagram can be as follows.

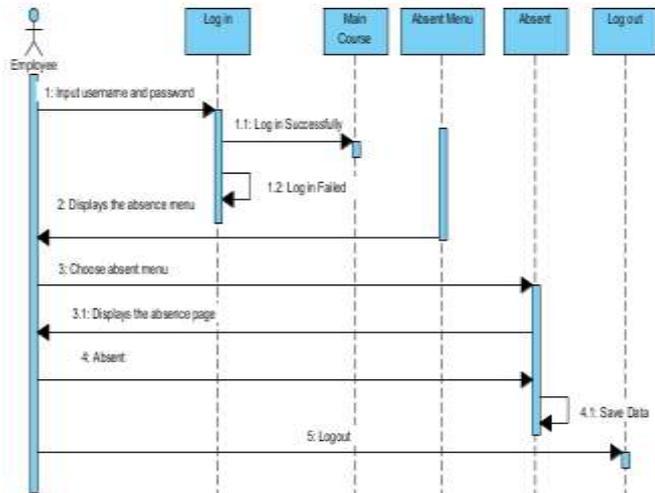


Figure.6. Sequence Diagram of Employees

IV. RESEARCH RESULT AND DISCUSSION

4.1 Interface Design (User Interface)

The design of the interface is needed in making an application because in addition to interacting with the user also to get an idea of what application pages are made and to facilitate the design of the application. The resulting display is more structured and attractive. The following is the admin's design.

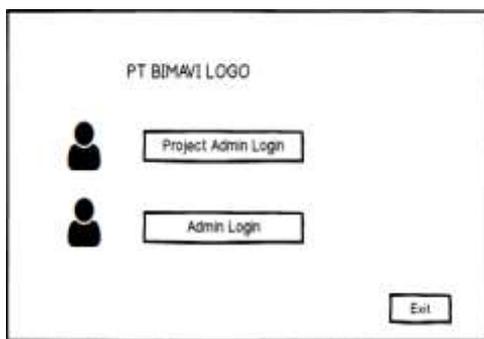


Figure.7. Designing the Login Page Display

4.2 Design Display Admin Menu Page

This design is an admin menu page. There are 6 main menus that can be used by admin, namely employee data, attendance, attendance recap, report, admin and logout. On the admin page there is the name of the system, the PT Bimavi logo, and welcome. The design of the admin menu page can be seen in Figure 8.

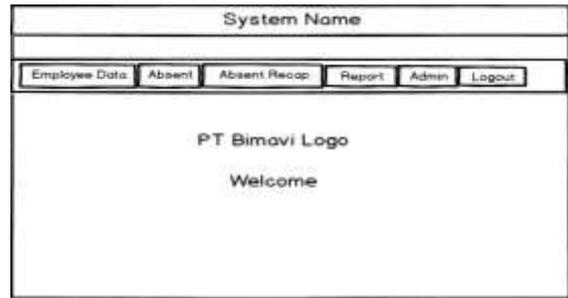


Figure.8. Designing the Admin Menu Page Display

4.3 Designing Employee Data Page Views

Employee data page design is the page used to display forms to add employee data.

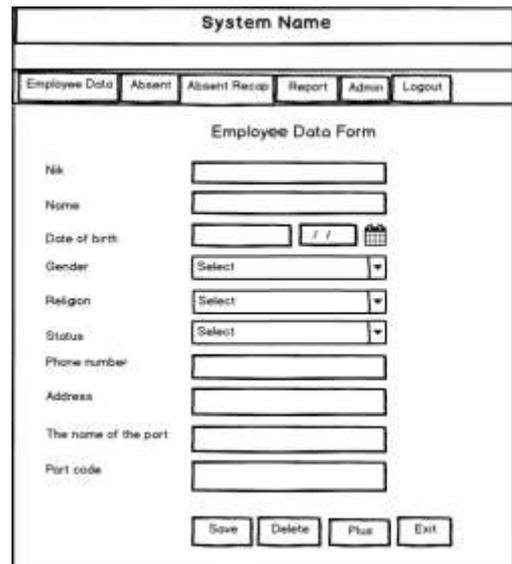


Figure.9. Designing Employee Data Page Views

4.4 Design of Absent Page Views

This design is an absent menu page. On this page the admin can see, process, delete, and print. With a display like this makes it easier for the admin to monitor all the attendance of employees.

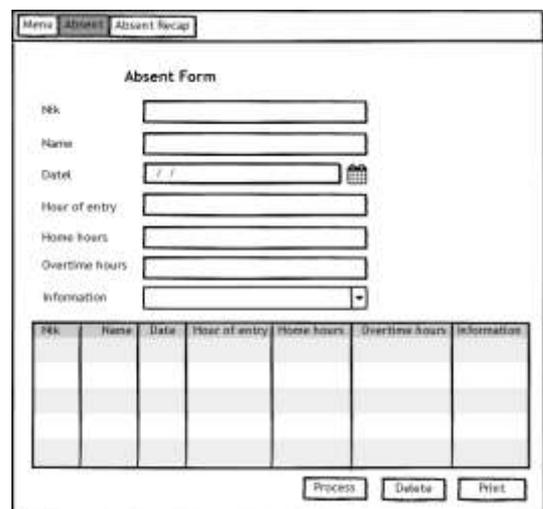


Figure.10. Design of Absent Page Views

## V. CONCLUSION

The design of attendance systems at PT. Bimavi which is located on street Bebonuk, Comoro, Dili, East Timor. Has been completed, with a new attendance system, making it easy for HRD (Human Resources Department) in managing attendance so that the part that handles attendance does not need to do the data input process again but data verification. By using a web-based attendance application with RFID tools can minimize the risk of loss and error in recording data both in the attendance process itself.

## REFERENCES

- [1] Ministry of National Education, 2008. *Big Indonesian Dictionary Language Center Fourth Edition, Jakarta: PT. Gramedia Main Library.*
- [2] Ardianto Moenir, Fajar Yuliyanto (2017). *Web-Based Payroll Information System Design with Waterfall Method at PT. Sinar Metrindo Perkasa (SIMETRI)* <https://www.neliti.com/...4/3/2019 8:43 PM>.
- [3] Al Husain, Abdul Haqy Aji Prastian, Andre Ramadhan (2017) *Online Attendance System Design Using Android To Speed Up the Process of Employee Attendance at PT. Sintech Enduring Blessings* <https://zenodo.org/record/1324982/files/319-291-2-PB.pdf> 3/29/2019 8:56 AM.
- [4] Bixon Natanael, Herry Mulyono (2017). *Analysis and Design of Employee Performance Evaluation Information System at PT. BPR Universal Sentosa* DOI:<http://dx.doi.org/10.11591/jurnalmsi.v12i4.xxxx/5/9/2019 10:32 AM>.
- [5] Muhamad Yasin Simargolang, Wiyoga Agung Warsito (2017). *Analysis of Employee Attendance Processing Systems at PT. Bakrie Sumatera Plantations TBK Bunut.* <http://www.jurnal.una.ac.id/index.php/jurti/article/download/285/235/3/29/2019 11:37 AM>.
- [6] Subiantoro, Sardiarinto (2018) *Designing WEB-Based Employee Attendance System.* <https://ejournal.bsi.ac.id/ejurnal/index.php/swabumi/article/download/4868/2837/6/24/2019 12:12 PM>
- [7] Muslihudin, Muhamad and Oktavianto. (2016). *Analysis and Design of Information Systems Using Structured Models and UML.* Yogyakarta: CV.Andi Offset.