

Design of a Web-Based Human Resource Monitoring Information System on PT Putra Pratama Jaya Mandiri

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Abstract - PT Putra Pratama Jaya Mandiri was established in 2011 located Jl. Bhayangkara 1 No. 1 Paku Jaya, North Serpong, South Tangerang. PT Putra Pratama Jaya Mandiri is a company engaged in Interior Services which has 2 branch offices located in Tangerang and Bali with a total number of employees of 275 employees. Human resource data management or employee management that is currently running is not running well because it is still done using Microsoft excel so that there are still some problems, namely the absence of a system that is used as a container to collect employee work data reports every day so that HR must collect one by one to find out the results of employee work that has been done every month, There is no application used to support the optimization of employee data (new, resign, mutation, promotion and retirement) specifically in data storage, data security has not been well maintained because it can still be seen by many people. This research produces a web-based employee data system that can help HR in managing employee data (new, resign, mutation, promotion and retirement). In addition, it helps employees inform the results of work reports that have been done so that OM, HR and division heads can control the results of employee work every day. This system is created using the PHP programming language and Mysql database. This research uses the RAD method as system development and blackbox testing for system testing.

Keywords :

Employee;
Data Security;
Human Resources;
Web-based System;
RAD;

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1. INTRODUCTION

Every company requires human resources to carry out its operational activities. As a company grows, the need for effective human resource management becomes increasingly important. Improper management of human resources can lead to disorganized and inaccurate information about the company's resources (Budi Siswanto, 2008). PT Putra Pratama Jaya Mandiri, established in 2011 and located at Jl. Bhayangkara 1 No. 1 Paku Jaya, North Serpong, South Tangerang, is a company specializing in interior services. The company operates with two branch offices in Tangerang and Bali, employing a total of 275 personnel. Currently, the management of employee data at this company relies on Microsoft Excel, which has resulted in several challenges. Human Resources (HR) personnel must manually collect employee performance

reports each month, which is inefficient. Additionally, there is no dedicated system for managing employee data (such as new hires, resignations, transfers, promotions, and retirements), leaving the data vulnerable to loss and inadequate security as it remains accessible to many individuals.

A previous study by Khozin Yuliana (2019) developed a computerized system capable of tracking employee

performance efficiently and accurately, which also enabled fast report generation to assist management in recognizing outstanding employees. Meanwhile, research by Gunawan Budi Sulistio (2018) introduced a low-cost, user-friendly monitoring system utilizing CCTV accessible 24 hours a day via laptops or Android smartphones. Given the current challenges in human resource management and monitoring at PT Putra Pratama Jaya Mandiri, this study aims to address these issues by developing a web-based system titled "Web-based Human Resource Monitoring at PT Putra Pratama Jaya Mandiri." This research is expected to aid HR in managing employee data and monitoring employee work reports on a monthly basis. Data for this research were collected through observation, interviews, and a literature review. The analysis method used is PIECES, and the system development follows the Rapid Application Development (RAD) methodology. The system is coded in PHP and uses MySQL as the database, with system modeling carried out through UML diagrams, including use case, activity, sequence, and class diagrams. The system will be tested using black box testing.

The key problems identified at PT Putra Pratama Jaya Mandiri include the absence of a system to aggregate daily employee work reports, forcing HR to manually collect

individual reports every month. Additionally, there is no application to optimize the management of employee data, such as for new hires, resignations, transfers, promotions, or retirements. Data security is also lacking, as sensitive information can be easily accessed by unauthorized individuals. This research aims to develop a human resource monitoring system that not only facilitates the submission of employee performance reports but also provides more secure data management and storage.

The scope of this research focuses on the management and monitoring of human resources at PT Putra Pratama Jaya Mandiri. It includes managing employee data, such as new hires, resignations, transfers, promotions, and monthly performance reports. The human resource management and monitoring system developed in this study will be managed by the HR department of PT Putra Pratama Jaya Mandiri. The primary objective is to create a system that helps employees submit monthly work reports, securely stores these reports, and optimizes employee data management with enhanced data security features.

The expected benefits of this system include assisting employees in reporting their monthly performance and helping HR manage and store employee data securely. It will also improve the protection of sensitive information, ensuring that data is only accessible to authorized personnel.

This research employs several data collection methods, including interviews with the Operation Manager of PT Putra Pratama Jaya Mandiri, direct observation of the company's human resource monitoring processes, and a literature review of relevant books and journals. The system will be designed using UML tools to model both the current and proposed systems through use case diagrams, activity diagrams, sequence diagrams, and class diagrams. The system will be coded using PHP programming language and MySQL database. The research adopts the Rapid Application Development (RAD) methodology for system development, which is suitable for projects with short timeframes (S. Dan Shalahuddin, 2018). Finally, the system will be tested using black box testing, where functionality is evaluated by observing the output results from specific test cases.

2. CONCEPTUAL STAGE

2.1 General Theory

2.1.1 Design Concept

System design is a strategy to solve existing problems in order to obtain the best solution and achieve certain goals. Rusmawan (2019:37) defines system design as a problem-solving strategy to obtain an optimal solution. Sri Mulyani (2017:80) adds that system design encompasses the determination of processes and data required by the new system, with the aim of meeting user needs and providing a clear and comprehensive overview and design. From these definitions, it can be concluded that design is a visual representation with a clear purpose and capable of solving specific problems.

2.1.2 Data Concept

Data is the fact collected, stored, and processed by an information system. Romney and Steinbart (2016:4) state that data are collections of facts processed by information systems. Indrajani (2018:2) adds that data are raw facts or observations usually related to physical phenomena or data transactions. Thus, data can be understood as facts obtained through raw observations, whether in physical form or transactions.

2.1.3 Information Concept

Information is likened to blood flowing within an organization's body, becoming one of the main resources used by managers to control the company and achieve goals. Andri Kristanto (2018:7) defines information as a collection of data processed into more useful and meaningful forms for the recipient. Abdul Kadir (Heriyanto, 2018) adds that information is data that has been processed into meaningful and useful forms for current or future decision-making. Therefore, information is data that has been processed to be conveyed to the recipient and is useful in decision-making.

2.1.4 Basic Information Systems Concept

Information systems consist of components such as software, hardware, and brainware that process information into useful outputs to achieve certain objectives within an organization (Mulyanto in Kuswara and Kusmana, 2017:18). Kristanto (2018:8) states that data is the basic description of an object or event that is processed into useful input in the system. Overall, information systems are basic concepts and system designs within an organization that produce information to support decision-making and management activities.

2.1.5 Interview Concept

An interview is a data collection method through a meeting between two people exchanging information and ideas through questions and answers, thereby building an understanding of a particular topic (Sugiyono, 2020:114). Kriyantono (2020:291-293) explains that in-depth interviews are conducted face-to-face with informants to obtain complete and in-depth data, often used in qualitative research along with participant observation. In general, an interview is a process of collecting the essence of responses and opinions from sources tailored with supporting data according to the topic.

2.1.6 Observation Concept

Observation is a data collection method by systematically observing research objects, either directly or indirectly (Hardani et al., 2020:125). Julmi (2020) distinguishes observation into non-participant and participant, where in participant observation the researcher participates in the group being studied. The purpose of observation is to obtain information and describe activities, individuals, or events from the perspective of the observed individual.

2.1.7 Literature Study Concept

A literature study is a data collection technique through a review of literature relevant to the research problem (Nazir, 2013:93; Sugiyono, 2012). This technique is used to obtain theoretical foundations and written opinions related to the research topic, both for scientific research and non-scientific written works such as novels.

2.2 Specific Theory

2.2.1 Monitoring

Monitoring is the activity of carefully observing certain conditions or behaviors with the aim that the data obtained can serve as a basis for subsequent decision-making (Yumari, 2017:9). Maya A. (2016:32) adds that monitoring involves interaction among elements to ensure that every process runs according to procedure. Thus, monitoring is supervision to ensure that every process runs according to established procedures.

2.2.2 Human Resources

Human resources are the science or methods of managing the relationships and roles of labor efficiently and effectively to achieve organizational goals (Bintoro and Daryanto, 2017:15; Prasadja Ricardianto, 2018:15). Human resource management includes planning, organizing, coordinating, implementing, and supervising labor to maximize organizational goals.

2.2.3 Web

Web is a collection of interconnected pages containing documents and images stored on a web server and can be accessed through search engines and portals (Sebok, Vermat, et al., 2018:70; Dillon, Schonhaler, and Vossen, 2017:1). The web serves as a media storage that facilitates hosting and sharing resources, as well as a platform for commerce and information accessible from various devices.

2.2.4 Employees

Employees are individuals who work for an employer based on an employment agreement, either written or unwritten, to perform specific tasks with established compensation (Hasibuan in Mu, 2019; Subri in Mu, 2019). Employees include those who work in government positions and receive compensation based on periods or completion of work.

2.2.5 XAMPP

XAMPP is an Apache web server software that comes with the MySQL database server and supports PHP programming (Iqbal, 2019:15; Mawaddah and Fauzi, 2018). XAMPP allows the creation of dynamic websites and can be run on various platforms such as OS X, Windows, Linux, Mac, and Solaris.

2.2.6 PHP

PHP (Hypertext Preprocessor) is a server-side programming language used to translate databases and

program code into machine code understood by computers, often embedded in HTML scripts (Supono & Putratama, 2018:1; Abdulloh, 2018:127). PHP is used to create dynamic web applications with HTML integration.

2.2.7 MySQL

MySQL is a database management system used to organize and manage data within a database, including the creation and management of data structures (Enterprise, 2018:2; Rusli et al., 2019:5). MySQL functions as software that manages data management in databases.

2.2.8 Unified Modeling Language (UML)

UML is a set of diagrams, structures, and techniques for modeling and designing object-oriented programs and applications (Kroenke et al., 2018; S. Dan Shalahuddin, 2018:34). UML is used as a visual modeling method in system design, encompassing various diagrams such as use case, activity, class, and sequence diagrams.

1. UML Diagram, UML consists of 13 types of diagrams grouped into three main categories: structure, behavior, and interaction. Structure diagrams depict the static structure of the system, behavior diagrams depict the workflow or activities of the system, and interaction diagrams depict interactions between objects within the system.

2. Use Case Diagram, An activity diagram depicts the workflow or activities within a system or business process. This diagram focuses on the activities performed by the system, not by actors (Rosa and Shalahudin, 2014:161).

3. Activity Diagram, An activity diagram depicts the workflow or activities within a system or business process. This diagram focuses on the activities performed by the system, not by actors (Rosa and Shalahudin, 2014:161).

4. Class Diagram, A class diagram depicts the structure of the system in terms of class definitions, attributes, and methods. This diagram shows the relationships between classes within the system (Rosa and Shalahudin, 2014:141).

5. Sequence Diagram, A sequence diagram depicts the interactions between objects within the system based on the order of time, including messages sent between objects (Rosa and Shalahudin, 2014:165).

2.2.9 Rapid Application Development (RAD)

RAD is a software development process model that is incremental with short development timeframes (S. Dan Shalahuddin, 2018:34; Habibi et al., 2019:69). RAD stages include requirement planning, system design, development and feedback gathering, and implementation or product completion. This model emphasizes user involvement and iterative processes in development.

2.2.10 PIECES

PIECES is an analysis framework used to identify

problems in systems based on six focuses: performance, information and data, economy, control and security, efficiency, and service (Adi Supriyatna, 2017; Adhi Priyanto and Fanji, 2017:42). PIECES analysis helps in formulating system improvement recommendations.

2.2.11 Black Box Testing

Black Box Testing is a software testing technique that focuses on the functions of the system without considering its internal structure (Nurajizah & Aziz, 2019; Jaya, 2018). The main goal of black box testing is to ensure that the application or program functions according to the expected specifications.

2.2.12 Sublime Text

Sublime Text is a web editor software used to create and edit web applications (Supono & Putratama, 2018:14; Rerung, 2018:6). Sublime Text 3 is known as a reliable web editor and is often used in web development.

2.3 Literature Review

The following section reviews several relevant studies that focus on the development and implementation of systems aimed at improving employee performance monitoring and administrative processes. These studies provide valuable insights into various approaches and technologies used to enhance operational efficiency within organizations. Each study contributes to a better understanding of how information systems can be leveraged to address specific organizational challenges. Below are several key studies that have been reviewed:

1. Study by Qurotul Aini et al. (2020)

This research aims to improve the performance of financial service admins for students through a dashboard on a web-based online accounting system. The methods used include needs identification, planning, prototype design, and prototype review. The result is the GO+ system version 3.0 that facilitates students in checking registration fees and SKS online.

2. Study by Nur Septiyani Aglis et al. (2022)

This research designs an employee work monitoring application based on Android using the OpenStreetMap API. The application allows leaders to monitor employee performance online, providing easy access to employee location information without having to be present on-site.

3. Study by Gunawan Budi Sulisty (2018)

This research develops an employee surveillance system using CCTV that can be accessed through computers or Android smartphones. The system allows 24-hour surveillance, although it faces internet cost constraints for remote video access.

4. Study by M. Diego Bryllian and Kisworo (2020)

This research designs and implements an information system for monitoring HR performance at PT PLN Tarahan Generation Unit using KPI methods and PIECES analysis. The research results show that this system helps

in strategic decision-making with an employee satisfaction percentage of 89.09%.

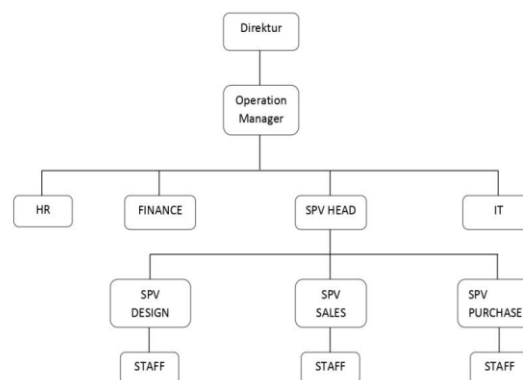
5. Study by Khozin Yuliana et al. (2019)

This research designs a marketing division assessment system to support employee performance determination in awarding rewards. The methods used include observation, interviews, and literature study. The system uses UML, MySQL, and PHP, and is expected to improve employee discipline and work spirit.

3. IDENTIFICATION OF PROBLEMS AND SYSTEM NEEDS

PT Putra Pratama Jaya Mandiri is a leading company in the field of interior services, established on May 6, 2011, based on the notarial deed of Mrs. Nina Helenty, SH, number 06. The company has been registered as a taxable entrepreneur by the South Tangerang Tax Service Office, holding the NPWP number 31.312.387.9-411.000. Under the leadership of Mr. Bong Parnoto, who previously worked at an interior company in Jakarta, the firm is located at Jl. Bhayangkara 1 No. 1 Paku Jaya, Serpong Utara, South Tangerang, and has expanded to include a branch in Bali. The company's vision is to become a leader in the interior and furniture industry, operating with professionalism, integrity, and a commitment to continuous innovation. Its mission focuses on establishing a reputation as a reliable and prominent enterprise, fostering customer trust through convenience, comfort, and satisfaction, while pledging to deliver superior service and optimize work productivity effectively and efficiently.

Figure 1. Organization Structure



The Director, as the leader of the company, bears the primary responsibility for strategic decision-making, effective and efficient leadership, and representing the company in various agreements. To enable informed decision-making, a comprehensive information system that provides accurate and real-time operational data is essential.

On the operational side, the Operation Manager (OM) is tasked with overseeing product quality and distribution while evaluating daily operations. The need here is for the

development of a dashboard that can monitor production and distribution activities, as well as analyze operational reports and Standard Operating Procedures (SOPs). This would facilitate the elimination of unnecessary operational expenses and enhance process effectiveness.

The Human Resources (HR) division requires a system capable of managing employee relations, recruitment processes, and employee administration, including payroll. This need can be addressed through an integrated information system that allows for the efficient management of employee data, enabling regular performance evaluations.

The finance division requires a system that can handle invoice data, debts, and the company's cash flow. A system that simplifies data reconciliation and financial reporting will significantly aid in managing the company's cash flow and monitoring payments of debts and receivables.

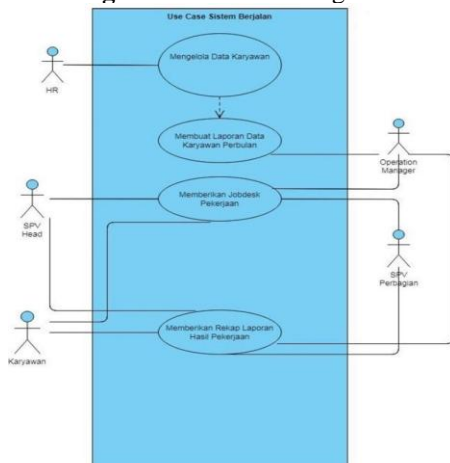
Moreover, to support effective management, supervisors (SPVs) in each division—such as SPV Design, SPV Sales, and SPV Purchase—require a system that can integrate oversight and resource management processes. For example, SPV Sales needs a system to track sales targets and provide guidance to the sales team, while SPV Purchase requires a system to evaluate supplier quality and product standards.

The IT division is responsible for ensuring that the company's technological infrastructure operates smoothly. The necessary system here includes network management and monitoring of the applications in use, ensuring that all devices and systems function effectively to support the company's operations.

Based on the needs identified across each division, the development of an integrated information system is crucial to optimizing coordination and productivity within the company. This system is expected to accommodate various operational needs, from resource management and finance to the oversight of production and distribution activities.

3.1 Current System Description

Figure 2. Use Case Diagram



Based on Figure 3.2, the following explanations are

provided:

1. Use Case Name: Managing Data for New Employees, Resignations, Transfers, and Promotions Using Excel

Actor: HR

Description: HR receives employee data for management.

2. Use Case Name: Generating Monthly Employee Reports

Actors: HR and Operation Manager

Description: HR provides the employee report results to the Operation Manager.

3. Use Case Name: Assigning Job Descriptions

Actors: Operation Manager and SPV Head

Description: The Operation Manager assigns job descriptions to the SPV Head.

4. Use Case Name: Assigning Job Descriptions

Actors: SPV of Each Division and Employees

Description: The SPV of each division assigns job descriptions to employees.

5. Use Case Name: Providing Work Result Summary Reports

Actors: Employees and SPV of Each Division

Description: Employees provide work result summary reports to the SPV of their division.

6. Use Case Name: Providing Work Result Summary Reports

Actors: SPV of Each Division, SPV Head, and Operation Manager

Description: The SPV Head provides work result summary reports to the SPV Head, who then forwards the report to the Operation Manager.

A. Definition of Running System Actors

Table 1. Current System Actor Definition

No.	Nama Aktor	Deskripsi
1.	HR	An individual responsible for managing employees and employee data.
2.	Operation Manager	An individual who oversees all operations within the company.
3.	SPV Head	An individual who supervises the SPV of each division.
4.	SPV of Each Division	An individual responsible for managing and organizing their division for the smooth operation of the company.
5.	Employees	Individuals who perform assigned tasks in accordance with company regulations.

3.2 Implementation of RAD stages in research

a) Business Modeling

The business modeling process is conducted to identify the business functions that determine what information needs to be created, who is responsible for generating this information, the flow of information, and the processes associated with it. In this phase, the author gathers materials and observes the requirements for a web-based application by analyzing incoming and outgoing documents from the existing system. This information is then analyzed to derive the system requirements.

b) Data Modeling

Data modeling involves identifying the necessary data based on the business modeling phase and defining its attributes along with their relationships with other data elements. In this phase, the author utilizes class diagrams for database modeling to clarify which attributes are required and how the data relates to one another.

c) Process Modeling

This phase implements the defined business functions in relation to the defined data. The author employs use case diagrams to identify business processes and activity diagrams to model these processes.

d) Application Development

The implementation of process and data modeling into a functional program is carried out in this stage. The Rapid Application Development (RAD) model strongly encourages the use of existing components when feasible. The author programs the application using PHP, HTML, and CSS in accordance with the previously established design.

e) Testing and Iteration

This phase involves testing the created components. Once tested, the development team can proceed to develop the next components. Testing is conducted using black box testing to determine whether the application operates effectively.

3.3 Analysis Result

A. Problems Encountered

Based on the analysis of current input processes in the system, several key functions are identified. First, the input form for employee data, sourced directly from employees, serves as a means to capture essential employee information. This process utilizes paper media with a single copy, and it is conducted whenever there are new hires, transfers, resignations, or promotions. Second, job description and work outcome data are submitted by the Human Resources (HR) department, functioning as a means to inform employees about their work assignments. Similar to employee data, this process is recorded on paper with a single copy and updated whenever revisions to job descriptions are made.

In terms of process analysis, the employee monitoring

process, handled by the HR department, plays a crucial role in tracking and overseeing employee data. This process is carried out monthly to ensure the accuracy and currency of employee information, aligning with actual organizational conditions. The monitoring process is essential for maintaining a well-structured and efficient employee management system.

B. Identification of Problem Solving

The output analysis indicates that employee data reports and operational performance reports are generated from information provided by employees. These reports serve as a source of information regarding employee data and operational performance, using Excel and printed media, with a reporting frequency of once per month. The final result is a report containing employee data and their operational performance outcomes.

Meanwhile, in the needs analysis, a proposal is made to develop a web-based human resource monitoring system. The current issue is the continued use of Microsoft Excel, which is vulnerable to data loss and can be accessed by multiple individuals, thereby posing security risks. The proposed system includes features for managing new employee data, resignations, transfers, and promotions, along with a monthly upload feature for operational performance reports. This system is designed to enhance data security and improve the efficiency of data management.

4. SYSTEM IMPLEMENTATION AND PROCESS

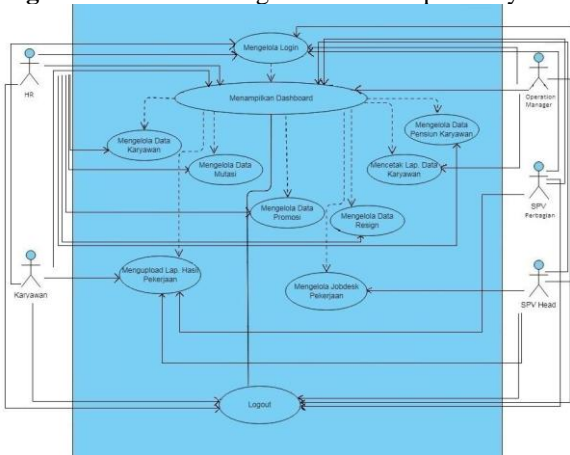
After evaluating the current system, a new system has been designed to address the shortcomings of the existing one and to reduce common issues frequently encountered. The proposed system aims to enhance the user experience by introducing several new features, such as displaying login menus for employees, verification for correct and incorrect logins, and dashboards. Additionally, the system will include request management functionalities, including adding, modifying, deleting, and searching requests, as well as history management with similar features.

Technician-specific functionalities will include work acceptance forms, job data management (input, update, delete, search), and job history tracking. The system will also provide dedicated access for head technicians, including login verification, dashboard views, request forms, detailed request information, department management (add, edit, delete, search), and user management features. Report generation and logout functionalities are also integrated into the system to enhance usability and efficiency. The proposed system design is developed using Unified Modeling Language (UML) diagrams to ensure a clear and structured representation of the system's workflow. The web-based application is developed using PHP as the programming language and MySQL as the database system. The implementation includes four key UML diagrams: use case diagrams, activity diagrams, sequence diagrams, class diagrams, and state chart diagrams, which collectively serve to outline the system's architecture and

operational processes. This new system aims to significantly improve the management of IT Helpdesk services by addressing the existing issues and enhancing overall system performance.

4.1 Use Case

Figure 3. Use Case Diagram of the Proposed System



Based on Figure 4.1, the Use Case Diagram of the proposed system is explained as follows:

Definition of the Use Case for the proposed system:

- Use Case Name:** Managing Login
Actor: HR, Operation Manager, Employee, SPV Head, SPV per Division
Description: HR, Operation Manager, Employees, SPV Head, and SPV per Division log in before using the system.
- Use Case Name:** Displaying Dashboard
Actor: HR, Operation Manager, Employee, SPV Head, SPV per Division
Description: HR, Operation Manager, Employees, SPV Head, and SPV per Division can display the dashboard menu.
- Use Case Name:** Managing Employee Data
Actor: HR
Description: HR can display the menu to manage employee data.
- Use Case Name:** Managing Transfer Data
Actor: HR
Description: HR can display the menu to manage employee transfer data.
- Use Case Name:** Managing Promotion Data
Actor: HR
Description: HR can display the menu to manage employee promotion data.
- Use Case Name:** Managing Resignation Data
Actor: HR
Description: HR can display the menu to manage resignation data.
- Use Case Name:** Managing Employee Retirement Data
Actor: HR

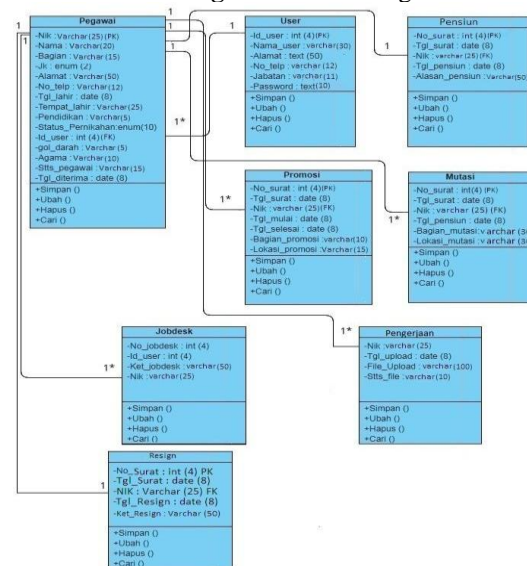
Description: HR can display the menu to manage employee retirement data.

- Use Case Name:** Uploading Work Report
Actor: Employee, SPV per Division, SPV Head
Description: Employees, SPV per Division, and SPV Head can display the menu to upload work reports.
- Use Case Name:** Managing Job Descriptions
Actor: SPV Head
Description: SPV Head can display the menu to manage job descriptions.
- Use Case Name:** Printing Employee Data Report
Actor: Operation Manager
Description: The Operation Manager can select the menu to print the employee data report.
- Use Case Name:** Logout
Actor: HR, Operation Manager, Employee, SPV Head, SPV per Division
Description: HR, Operation Manager, Employee, SPV Head, and SPV per Division can log out of the system.

4.2 Proposed Class Diagram

Visualization of the structure object proposed system, depicted in class diagram. Below are class diagram proposed:

Figure 4. Class Diagram



Based on figure 4.22 Class Diagram proposed there are:

- Has 8 classes namely as a table in which there are attributes.
- Has 7 association namely as a relationship between attribute tables in class with the same operation.

4.3 Proposed Specifications

A. HARDWARE

The hardware required by an application or system is a unit personal computer. The proposed hardware is created based on current system needs and anticipated future needs. The requirements specifications are as follows:

Hardware Server

- Processor : Core I5
- RAM : 64 GB.

3. Hard drive : 500 GB SSD.
 Hardware Client

1. Processor : Intel Core i3-4005U, 1.7Ghz.
2. RAM : 32 GB.
3. Hard drive : 500 GB.
4. Monitor : 14,5 Inches.

B. SOFTWARE

Software needed in the process of creating an information system:

- a. Operating system Windows.
- b. XAMPP Control Panel v3.2.1 (Apache 80,443, PHP 5.6.23, MySQL 1.8.3).
- c. Browser (Google Chrome, Mozilla Firefox, and others).

C. USER

User (Brainware) is the person who uses and maintains the system to be implemented, therefore resources are needed that can fulfill these needs. In this case, users are divided into five, namely:

1. HR, namely the person in charge of managing human resources.
2. Operation Manager, namely the person responsible for managing and providing work.
3. SPV Head, namely the person in charge of providing and monitoring work.
4. Divisional SPV, namely the person in charge of providing and managing the results of the work.
5. Employees, carry out assigned tasks and input work results reports.

4.3 Proposed System View

1. Login Form Display

Figure 5 shows form login which functions to maintain the security of ordering data from people who are not registered to use the system.



Figure 5. Views Form Login

2. Dashboard Form Menu Display

Figure 6 shows form dashboard which functions to display visuals of all data.

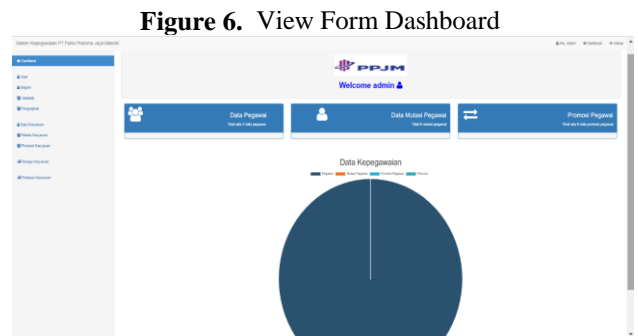


Figure 6. View Form Dashboard

3. Employee Form Menu Display

Figure 7 shows employee form which functions to input employee data.

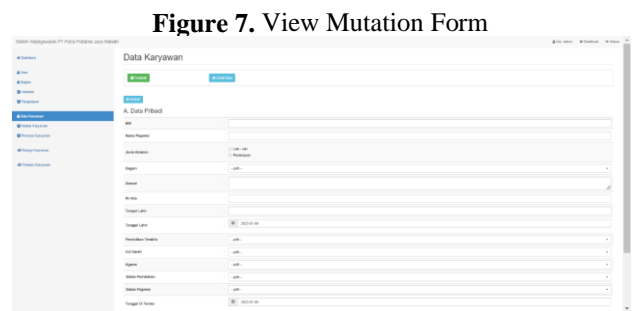


Figure 7. View Mutation Form

4. Mutation Form Menu Display

Figure 8 shows mutation form which functions to input employee mutation data.



Figure 8. View Promotion Form

5. Promotion Form Menu Display

Figure 9 shows promotion form which functions to input employee promotion data.

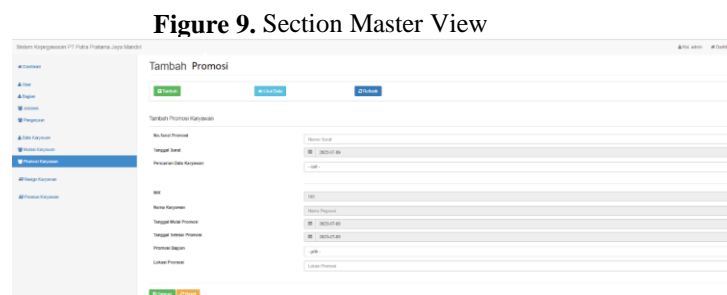
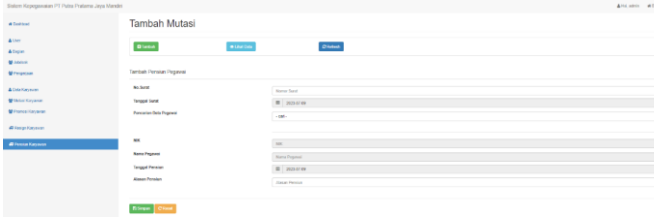


Figure 9. Section Master View

6. Retirement Form Menu Display

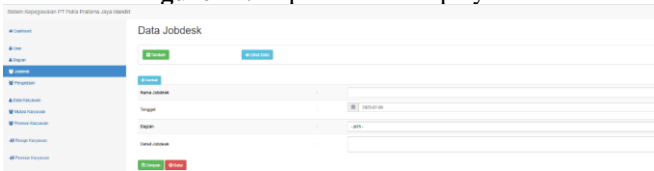
Figure 10 shows retirement form which functions to input employee pension data.

Figure 10. Master user display



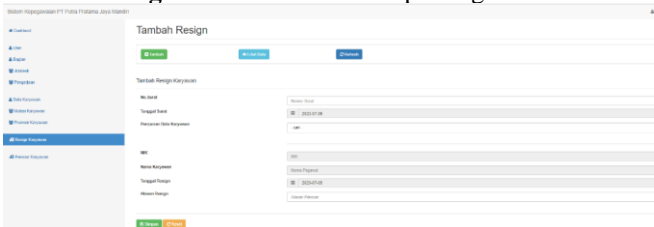
7. Employee Job Desk Form Menu Display
 Figure 11 shows employee job desk form which functions to display employee job desks.

Figure 11. Report Form Display



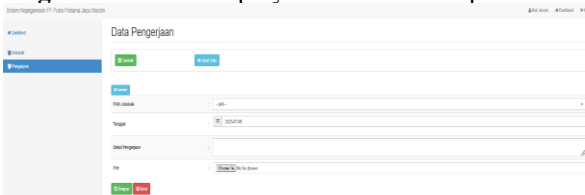
8. Lap.Resign Form Menu Display
 Figure 12 shows employee resignation form which functions to input employee resignation data.

Figure 12. View Form Lap.Resign



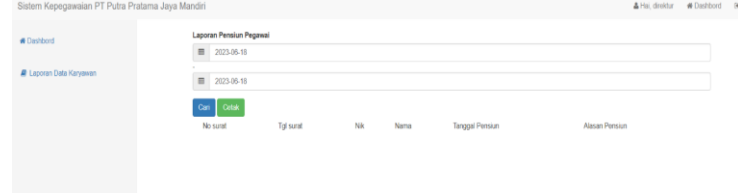
9. Job Input Form Display
 Figure 13 shows employee work data report form which functions to input employee work data reports.

Figure 13. View Employee Work Data Report Form



10. Lap Form Menu Display. Employee
 Figure 14 shows wipe form. officer which serves to display lap.pengawai.

Figure 14. View Wipe form. Officer



4.4 Blackbox Testing

The black box testing conducted on various components of the proposed system demonstrates the system's behavior in different scenarios. Below is a summary of the black box test results for different parts of the system :

1. The user data was tested to ensure that incomplete or incorrect information results in the system denying access to add the user data and displaying a failure message. When user data is entered correctly, the system saves the data successfully, confirming that both scenarios return valid results.
2. Similarly, the black box testing on the "Parts" section indicates that if the part data is not entered completely or correctly, the system denies access and gives a failure message. However, when the data is accurate, the system saves it, with both test results being valid.
3. For the "Job Desk" section, testing follows the same pattern. If jobdesk data is incomplete or incorrect, the system denies access and provides an error message. On entering the correct jobdesk data, the system successfully saves the data, validating the test results.
4. The "Workmanship" section was also tested, revealing that incomplete or incorrect work data leads to a system failure in saving the data. Correct work data allows the system to save it properly, with both results marked as valid.
5. When testing the "Resignation" section, the system similarly rejects incomplete or incorrect resignation data by showing a failure message. Correctly entered resignation data is saved without issues, and both tests conclude as valid.
6. Testing on "Employee Data" shows that incomplete or incorrect employee information prevents the system from adding new employee data, and a failure message is issued. On the other hand, accurate employee data is saved by the system, confirming the validity of these tests.
7. The "Mutation" data testing reveals that incomplete or incorrect mutation data leads to denial of access and a failure message. When mutation data is accurate, the system saves it successfully, resulting in valid test outcomes.
8. Finally, testing on "Employee Data Reports" shows that if employee report data is not searched completely or correctly, the system refuses to print the report and gives an error message. When the report data is searched correctly, the system proceeds to print the data, validating both scenarios. This testing process confirms that the system consistently handles incomplete or incorrect data by preventing actions

and issuing failure messages, while correct data inputs allow the system to function as expected. Each component tested has returned valid results, ensuring that the system performs reliably under the specified conditions.

5. CONCLUSIONS

Based on the issues encountered in managing employee data at PT Putra Pratama Jaya Mandiri, a human resources management system has been developed to address or mitigate these problems. Consequently, the following conclusions can be drawn:

1. The human resources management system created serves as a platform for collecting daily employee work reports, allowing HR to monitor the performance of employees on a daily basis.
2. The system effectively supports the optimization of employee data (new hires, resignations, transfers, promotions, and retirements), particularly in the storage of employee information.
3. Data security within the human resources system has been implemented by granting access rights to each user, ensuring that employees can utilize the system according to their respective access levels.

6. SUGGESTION

1. Providing both hardware and software infrastructure at PT Putra Pratama Jaya Mandiri is essential to support the developed human resources management system.
2. Additionally, training for employees is necessary before using the system to ensure they can operate it effectively.
3. Regular maintenance is also required to keep the human resources system functioning optimally.

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