Development of News Management Information System PT. PLN Persero NTT Regional Main Unit Based on Website

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Abstract

This research focuses on developing a web-based news management system for PT. State Electricity Company (Persero) Main Unit for East Nusa Tenggara Region to improve the efficiency and accuracy of the news creation and validation process. Previously, news management was carried out manually using WhatsApp, leading to inefficiencies, especially in multi-party validation. The new system integrates structured user management and tiered news validation, eliminating manual processes and ensuring that only validated news is published internally. Developed using the Waterfall model, the system includes features like multi-level login, news tracking, user data management, and progress monitoring. The implementation of this system has resulted in faster, more organized communication, improved collaboration among stakeholders, and a more secure and efficient management of news. This solution is expected to optimize internal communication and news governance within PT. State Electricity Company (Persero) Main Unit for East Nusa Tenggara Region.

Keywords: *Web-Based News Management, PT. State Electricity Company, Internal Communication, User Management, News Validation.*

1. Pendahuluan

In today's digital era, the utilization of information technology plays a crucial role in enhancing work efficiency and effectiveness, including in the process of news management [1]. At PT. PLN (Persero) Unit Induk Wilayah Nusa Tenggara Timur (UIW NTT), the news management system is still performed conventionally using the WhatsApp instant messaging application. The use of this application has resulted in low efficiency in the news management process, particularly due to the need for validation from various parties, including the Unit Pelaksana, Bidang Komunikasi, Manager of Communication, and the General Manager. As the number of news items to be managed increases, this process becomes increasingly inefficient and can potentially cause delays in delivering information [2].

Additionally, the existing system lacks adequate user management features. The process of adding, changing status, or user roles is still carried out manually through direct access to the database, which not only consumes time but also poses security risks [3]. This condition highlights the need for a system that can manage information in a more structured and secure manner and facilitate monitoring the creation and dissemination of news in a more integrated way [4].

As a solution to these issues, a web-based news management system has been developed to improve efficiency and accuracy in the process of creating and validating news. This system is also equipped with user management features, allowing the addition or modification of user roles to be performed more securely and structured, without the need for direct access to the database [5]. Furthermore, this system is designed to only display news that has passed the validation process by each responsible party, ensuring the quality and legitimacy of the information published within the company's internal environment [6].

This research aims to develop a web-based news management system that can support the management of news in a more efficient and structured way, provide more secure user management features, and allow monitoring of the news creation and validation process at PT. PLN (Persero) UIW NTT comprehensively and well-documented [7]. The expected outcome of this system development is increased efficiency in news management and validation, more secure user management without direct database access, and the availability of a news monitoring feature that can be accessed by all users to track the progress and status of news transparently and in real-time [8]. Thus, this system is expected to become an effective solution to support better internal communication processes within the company.

2. Methodology

This research adopts the Waterfall model as the methodology in software development, first introduced by Winston Royce in the 1970s. This model consists of a series of phases that are carried out sequentially, including requirement analysis, system design, coding and testing, implementation, and maintenance [9].
The system development stages begin with the requirement gathering phase, followed by the design phase, implementation, testing, and conclude with maintenance to ensure the system continues to function well after being deployed[10].

3. Result and Discussion

3.1. Analysis system

This system is designed to meet the specific needs of users, as identified through interviews and direct observations. It is concluded that the system must include features that effectively support users in managing and monitoring receivables. The key features required include monitoring for various categories of receivables such as "TK Nol," "One-Time Payments," "Bad Debts," and "Large Receivables." Additionally, the system must provide data verification capabilities and allow users to manage receivable data, including submitting requests for corrections, modifications, or deletions in case of errors [9].

The system's output includes monitoring charts, verification forms, and data tables to facilitate efficient receivable management. To ensure smooth usage, users such as super admins, admins, and general users are expected to have basic computer skills and be proficient in using web-based applications.

3.2. Design

3.2.1. Use case diagram
The use case diagram model in this study includes 5 actors, namely the admin use case diagram, the implementing unit use case diagram, the communication field use case diagram, the communication manager use case diagram, and the general manager use case diagram.
a. Admin
    The use case diagram for the admin explains that the admin must log in before accessing various features created for the admin. After successfully logging in, the admin is responsible for tasks such as verifying the data of users who register to manage news data, changing the user's position within the system, and managing system user data. The features available to the admin include managing user data, printing news reports, monitoring monthly news statistics, and monitoring monthly progress.
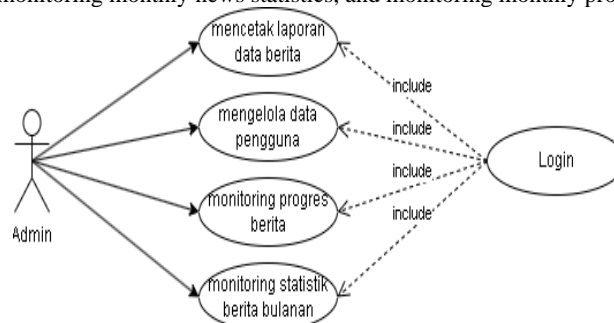

Fig. 1: Admin use case diagram

b. Implementing Unit
    The use case diagram for the implementer unit explains that the implementer unit must log in before accessing various features created for the implementer unit. After successfully logging in, the implementer unit is responsible for tasks such as adding news, modifying news, and sending the news to the communication field. The features available for the implementer unit include managing news data, printing news reports, monitoring monthly news statistics, and monitoring monthly progress.
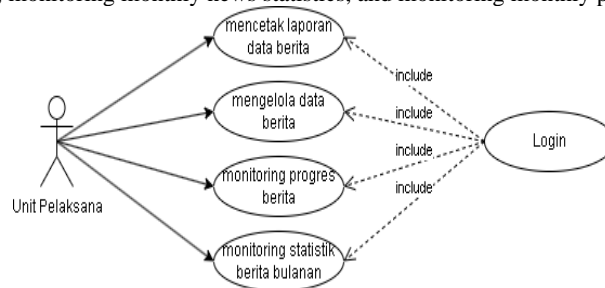

Fig. 2: News production unit use case diagram

c. Communications Division
    The use case diagram for the communication field explains that the communication field must log in before accessing various features created for the communication field. After successfully logging in, the communication field is responsible for tasks such as modifying

news and sending the news to the communication manager. The features available for the communication field include managing news data, printing news reports, monitoring monthly news statistics, and monitoring monthly progress.
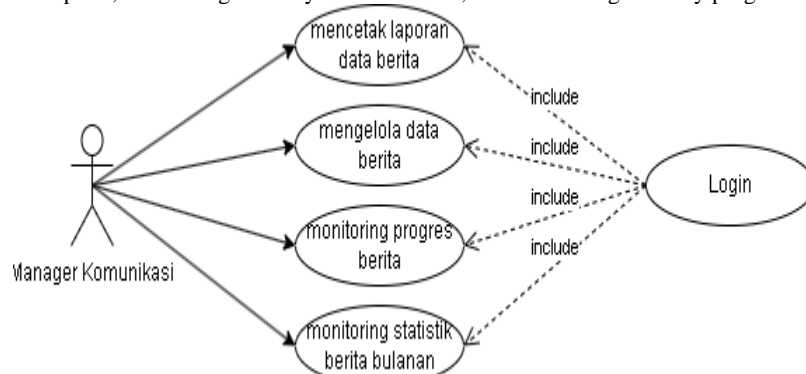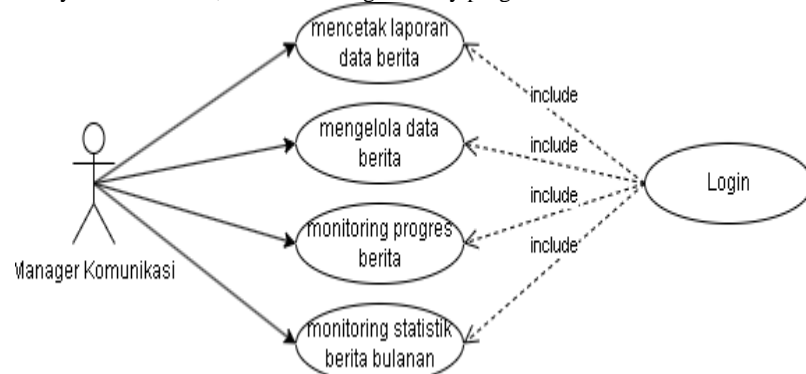

Fig. 3: Communication department use case diagram

d.   Communication Manager
The use case diagram for the communication manager explains that the communication manager must log in before accessing various features created for the communication manager. After successfully logging in, the communication manager is responsible for tasks such as modifying news and sending the news to the general manager or the communication field for revision according to the communication manager's instructions. The features available for the communication field include managing news data, printing news reports, monitoring monthly news statistics, and monitoring monthly progress.

Fig. 4: Comunication manager usecase diagram

e.   General Manager
The use case diagram for the general manager explains that the general manager must log in before accessing various features created for the general manager. After successfully logging in, the general manager has responsibilities such as modifying news, performing the final validation of news, or sending the news back to the communication manager for revision according to the general manager's instructions. The features available for the communication field include managing news data, printing news reports, monitoring monthly news statistics, and monitoring monthly progress.
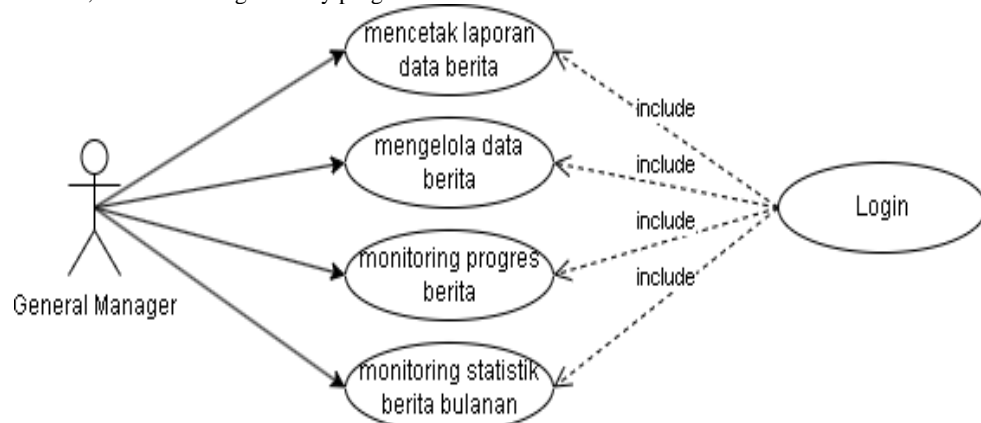
Fig. 5: General manager use case diagram

3.2.2. Entity relation diagram

ERD (Entity Relationship Diagram) is a diagram used to visualize the structure of a database, including entities (tables), attributes (columns), and relationships between entities. ERD helps in the design and understanding of how data is interconnected in a system.
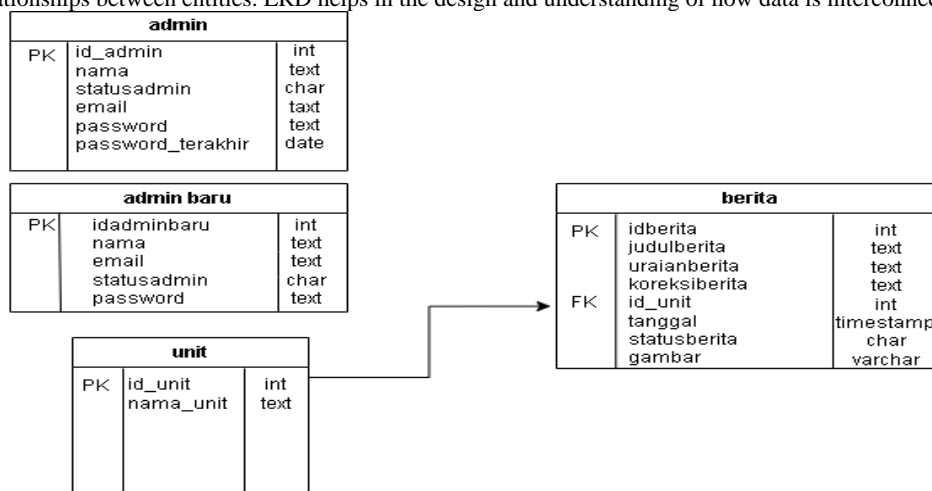
Fig. 6: ERD

3.3. System Implementation

The implementation of this system represents the result of the design developed for the news management website of PT. PLN (Persero) Unit Induk Wilayah Nusa Tenggara Timur. This website is designed to support a more structured, systematic, and efficient news management process. The system aims to facilitate the implementation unit, communications department, communication manager, and general manager in news creation and user management by the admin. With this system in place, it is expected to foster better collaboration among news creators, improve efficiency in the news preparation process, and optimize user management.

1. Display of User Login
   This login form is used by all system users as the main requirement to access the website pages, and the pages accessed will differ depending on the user's position.

Fig. 7: User login form page view

2. User Registration
   The user registration form is required for employees or staff of PT. PLN Persero Unit Induk Wilayah NTT who are responsible for the news creation process but do not yet have an account. Users must fill out the entire registration form and select the position that corresponds to their role at PT. PLN Persero Unit Induk Wilayah NTT.

Fig. 8: User register form page view

3. Change Password
    This password change form is used by all system users to change their password to prevent their account from being temporarily frozen by the system. If the user's password is not changed within 90 days, the system will temporarily freeze the user's account.
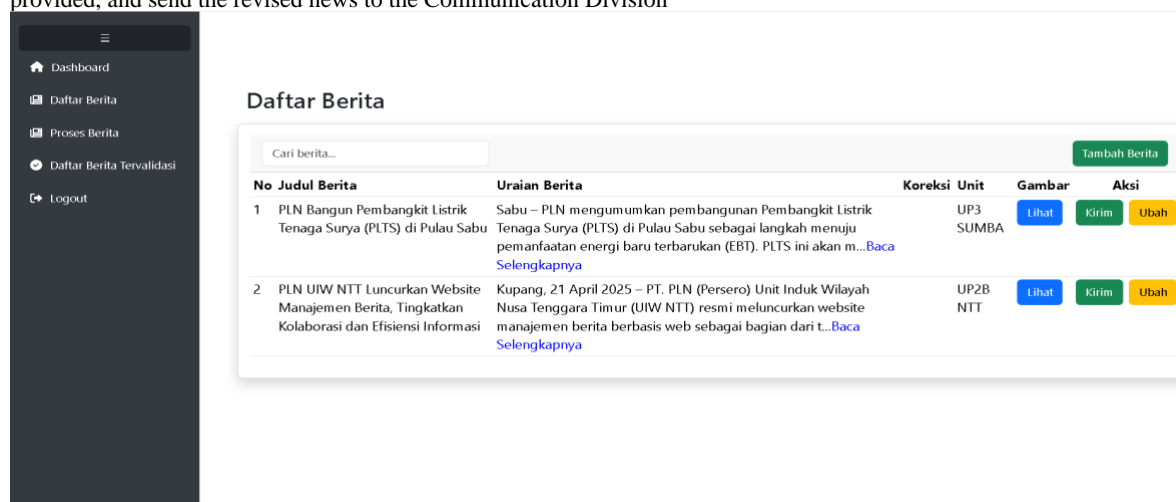
Fig. 9: User form change password page view

4. List of Implementing Unit News
    The Implementing Unit's news list page is used by the implementing unit to add news, edit news according to the corrections provided, and send the revised news to the Communication Division

Fig. 10: News production unit page

5. Communications Division News List
    The Communication Division's news list is used by communication staff to edit news submitted by implementing units and the Communication Manager if there are errors in the news content or to follow up on corrections from the Communication Manager,

and to send the revised news back to the Communication Manager for review.

Fig .11: Communication department news list page

6. Communication Manager News List

The Communication Manager's news list is used by the Communication Manager to edit news submitted by the Communication Division or provide corrections for revision before forwarding it to the General Manager for further processing.

Fig .12: Communication manager news list page

7. General Manager News List
The General Manager's news list is used by the General Manager to edit news submitted by the Communication Manager, review and provide corrections for further processing, and to perform final validation of the news.

Fig. 13: General manager news list page

8. Monthly News Diagram

Monthly news diagrams can be accessed by all system users to view the monthly news charts of each unit.
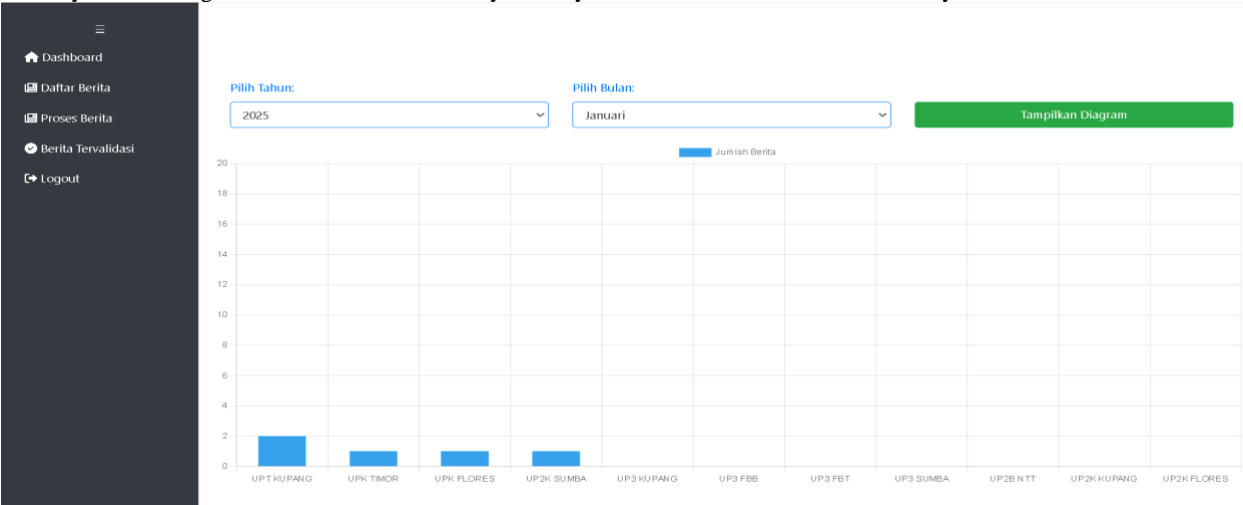

Fig. 14: Monthly news diagram page

9. News Progress
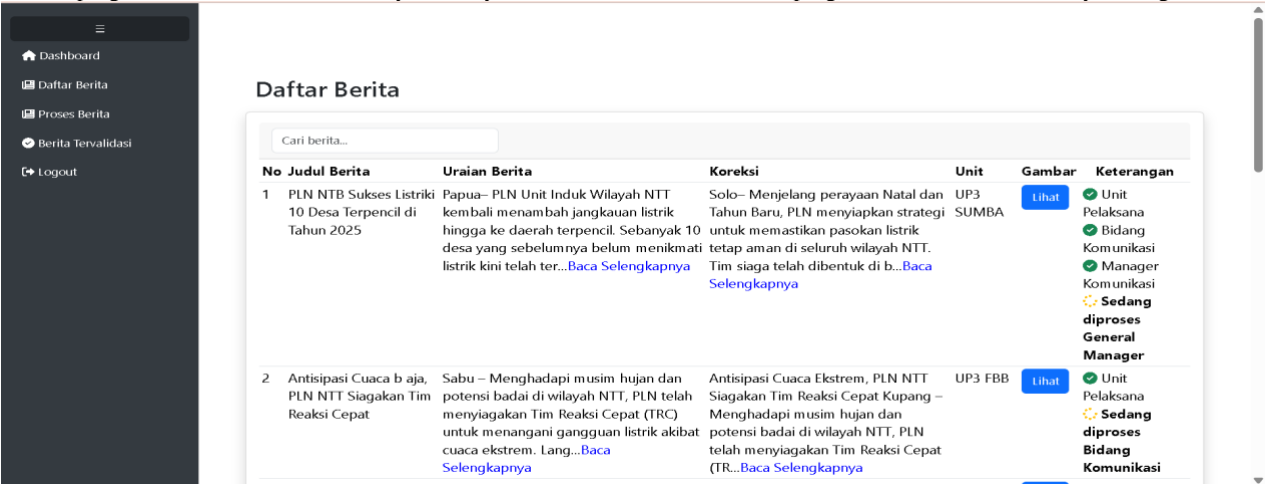News progress can be accessed by all system users to view the progress of news currently being created.

Fig. 15: News progress page

10. Validated News List

The validated news list can be accessed by all system users to print news reports in MS Word or MS Excel format.
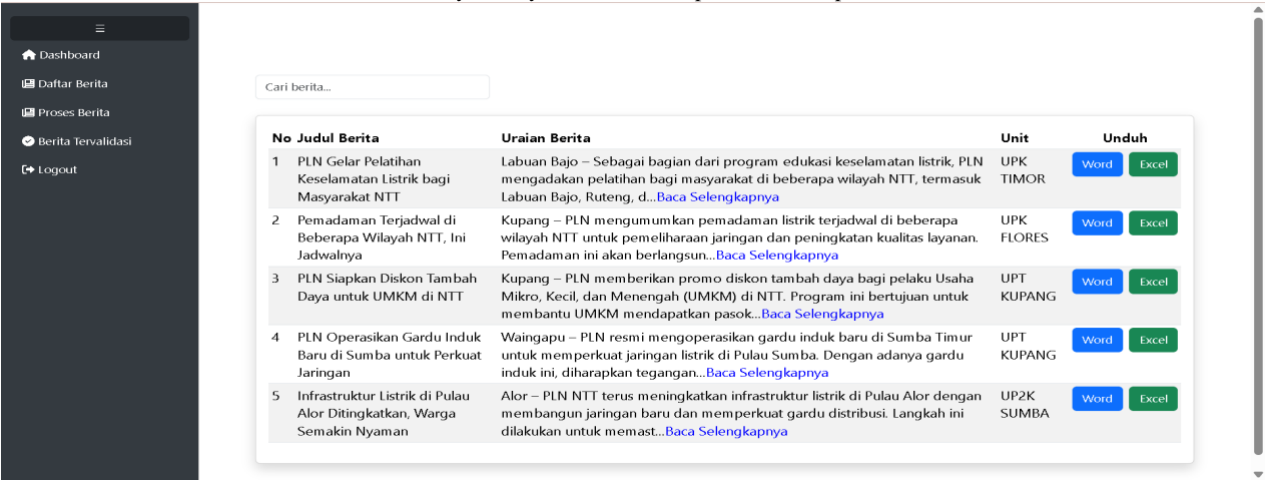

Fig. 16: Validated news list page

11. Manage User Data
   User data management is used by the admin to delete user accounts that are no longer responsible for the news creation process or whose roles have changed in the news creation workflow.
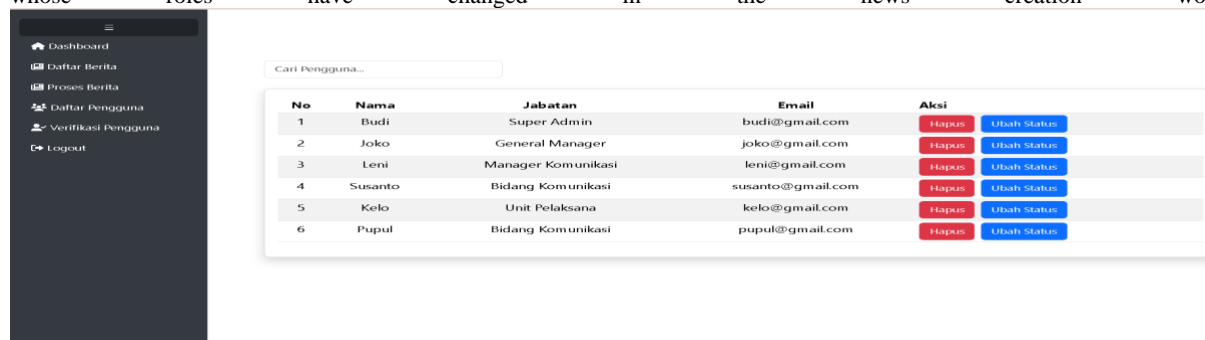

Fig. 17: Manage user data page

12. Verify User Data
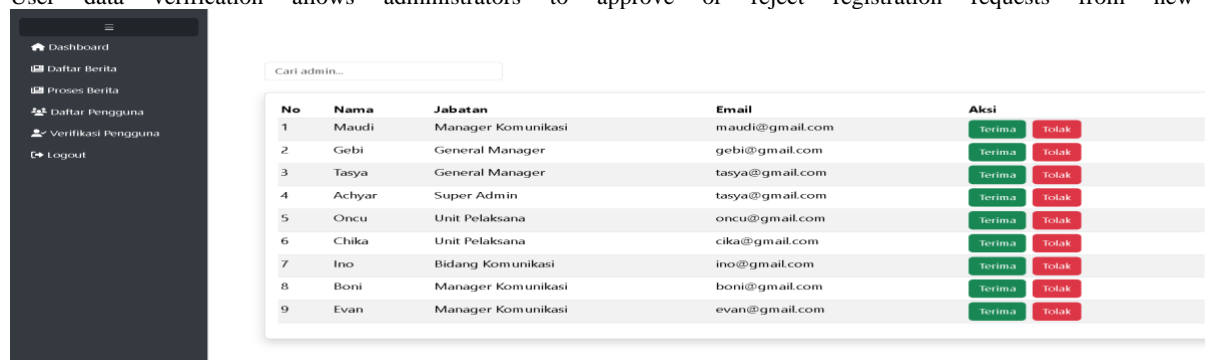   User data verification allows administrators to approve or reject registration requests from new users.

Fig. 18: Verify user data page

4. Conclusion

The web-based news management system developed for PT. PLN (Persero) UIW NTT has successfully improved efficiency and accuracy in managing internal news. This system replaces manual processes via WhatsApp with digital features such as multi-level login, tiered news validation, and structured user management. As a result, communication between admins becomes faster, more organized, and well-documented, supporting a more professional and efficient information governance within the company.

Acknowledgement

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