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Heuristic Evaluation-Based User Interface Analysis and Redesign of the Talenesia Human Resource Information System Application

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Abstract

This study investigates the usability of the TALENESIA Human Resource Information System (HRIS) through Jakob Nielsen's heuristic evaluation framework. The evaluation identified 34 usability issues, comprising five critical and 29 major problems. The most commonly violated heuristics included Visibility of System Status, Recognition Rather Than Recall, and Error Prevention, indicating significant barriers to user efficiency and satisfaction. To address these concerns, a series of interface redesigns was developed based on expert recommendations and user-centered design principles. The redesigned interfaces were subsequently validated through structured feedback sessions involving both usability experts and end users. The validation phase revealed that 85% of the proposed changes were fully approved, confirming the practical value of the improvements. These enhancements led to a more intuitive, responsive, and error-tolerant system experience for users. The study highlights the importance of heuristic evaluation as a diagnostic tool and demonstrates how iterative redesign—guided by usability principles—can significantly improve the effectiveness and user experience of HRIS platforms. Ultimately, the research offers both a methodological contribution to usability testing and practical insights for organizations seeking to optimize their digital HR systems.

Keywords: Digital Transformation; Human Resources Information System; User Interface; Heuristic Evaluation; Severity Ratings

A. INTRODUCTION

Digital transformation in Human Resource Information Systems (HRIS) has significantly enhanced business efficiency in managing payroll, attendance, and employee performance (Sutrisno, 2016). In Indonesia, HRIS adoption continues to rise, accounting for 27% of Southeast Asia's HR software revenue in 2024 (Talenta, 2024). Despite this growth, many platforms face usability challenges that hinder user engagement. Talenesia, a SaaS-based HRIS platform with over 450,000 users, reported increasing user dissatisfaction, particularly in its attendance module. Although previous studies have assessed HRIS usability, many lacked integration between expert evaluation and iterative redesign. This study addresses this gap by applying Nielsen's heuristic evaluation method and incorporating redesign validation to improve Talenesia's user interface. From 40% during the pandemic to 55% in 2023, the use of HRIS is still growing (Forde, 2023). According to (Talenta, 2024), Indonesia accounted for 27% of Southeast Asia's HR software revenue in 2024. User experience and ease of use are crucial differentiators due to the growing demand propelling the arrival of both domestic and foreign HRIS providers.

PT Mekarya's flagship HRIS system, Talenesia, offers integrated functions such as payroll, attendance, and performance review. Despite having a large number of active users, internal data indicates that user engagement is declining and that interface feedback is increasing, particularly about navigation and visual appeal. For the ever-expanding HRIS market to remain competitive, this issue must be resolved right away. Usability improvements in understanding business processes are driven by innovation and business research, as highlighted by Ningsih and Widodo (2017). This condition demonstrates how important UI/UX-focused evaluation and redesign are. The main objective of the research is to identify the usability challenges of Talenesia and to develop a contemporary UI/UX solution accordingly. Methods for assessing designs, such as Design Thinking, require significant time and user engagement.

A better alternative is the Nielsen Heuristic Evaluation from 1994. This technique depends on professional knowledge grounded in established rules. This strategy is budget-friendly, based on expertise, and appropriate for contemporary items. Numerous studies have explored HRIS usability using diverse approaches. For instance, (Pratama et al., 2022) used the System Usability Scale (SUS), while

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(Prastyo and Bakhtiar, 2019) employed the USE Questionnaire and Cognitive Walkthrough. However, these methods often require direct user involvement and longer testing time. In contrast, heuristic evaluation, proposed by (Nielsen, 1994), enables experts to identify usability problems efficiently through a set of standardized principles.

While (Jeffries and Miller, 1991) showed heuristic evaluation can detect the majority of usability issues with fewer resources, it is most effective when paired with iterative design, which is underutilized in HRIS contexts. This study adopts heuristic evaluation due to its cost-effectiveness, speed, and suitability for analyzing SaaS platforms like Talenesia. The novelty lies in combining this expert-based approach with user validation feedback to guide UI redesign. (Pratama et al., 2022) noted an overall usability score of 70. 96, categorized as a "C", indicating that although the system is functional, enhancements are needed. (Yusuf et al., 2014) identified issues in the organization of menus, screen management, and error resolution within HRMIS Malaysia. As per the findings of Sriwulandari et al. (2014), various aspects of usability positively influence user satisfaction with the HRMIS application at Telkom University.

After making changes based on the USE Questionnaire and conducting a Cognitive Walkthrough, (Prastyo et al., 2019) reported an increase in HRIS effectiveness from a score of 3,67 to 4,04. This research examines the user interface and user experience of Talenesia and aims to improve design elements through the Heuristic Evaluation method. The goal is to collect assessments from experts and produce a revised UI/UX design that follows usability principles. This project aims to advance Talenesia as a more effective and user-focused human resource information system.

B. LITERATURE REVIEW

Digital Transformation

Digital transformation refers to the application of technology to improve how organizations function and to enhance customer experiences (Verhoef et al., 2021). This entails modifying business structures, enhancing customer interactions, and optimizing internal processes by utilizing data analysis, social media platforms, and various applications. The main objective is to develop new methods that utilize digital technologies effectively. Consequently, companies can offer better services such as fast delivery options, tailored shopping experiences, and seamless transactions (Fitzgerald et al, 2013). Companies can stay important in a quickly changing technological environment by making these changes.

User Interface

The objective of user interface design, or UI, is to develop software interfaces that are easy to use and meet the requirements of users. The appearance of software is frequently used to assess its quality, and poor design may result in errors and dissatisfaction among users. Error prevention, flexibility, consistency, similarity, alignment with job demands, and adaptability are among the 17 key traits of effective interface design. These instructions ensure that programs operate smoothly, are user-friendly, and help users achieve their goals. An effective interface offers transparent feedback, total control, and error correction.

Usability

Usability refers to how simply users can accomplish tasks through an application interface in a way that is effective, efficient, and pleasing. This aspect influences how much users are willing to embrace the system. Evaluation methods such as Heuristic Evaluation, Usability Testing, and Cognitive Walkthrough are employed in assessments (Jeffries and Miller, 1991). Each method has its emphasis, from expert review to hands-on testing. Developers and designers can utilize usability as a benchmark when creating systems that are aligned with and cater to the needs of users.

Heuristic Evaluation

Expert reviewers employ heuristic evaluation, a method for assessing usability, to analyze interfaces based on established heuristic guidelines. Typically, as many as ten reviewers are involved to spot design issues during the development phase. The main approaches include using surveys for user

input and conducting Cognitive Walkthroughs to determine how accessible tasks are for users, especially beginners. This research emphasizes Cognitive Walkthroughs, complemented by insights from expert interviews, to measure the effectiveness of user involvement. The evaluation utilizes Nielsen's ten heuristic principles, which encompass features that enhance user efficiency, minimize errors, ensure clear system status, promote user control, maintain consistency, and aid in preventing mistakes (Nielsen, 1994).

Evaluator

Experts who understand usability concepts and have experience in system development serve as evaluators in heuristic evaluation. They are not end users. (Wong, 2017) claims that their role is to provide expert insights instead of user opinions. (Nielsen, 1995) noted that about 35% of usability problems can be detected by just one evaluator. The ideal number of evaluators is between three and five. Having more than this can hinder the evaluation, as it often leads to identifying the same issues multiple times.

Severity Ratings

A severity scale is employed to categorize usability issues based on their significance and immediacy. This allows system developers to focus on addressing the most critical issues. Nielsen created a scale that goes from 1 to 5. A score of 1 signifies no issues, a score of 2 represents a minor concern, a score of 3 denotes a low-priority concern, a score of 4 indicates a high-priority concern, and a score of 5 emphasizes an issue that demands immediate attention. This scale focuses on addressing the most disruptive limits first, facilitating a structured enhancement of the interface.

C. METHODS

This study applied Jakob Nielsen's Heuristic Evaluation method to assess the usability of the Talenesia application. The evaluation referred to ten heuristic principles (Nielsen, 1994), including Visibility of System Status, Recognition Rather than Recall, and Error Prevention. Three expert evaluators were selected based on their experience in UI/UX design and product development, in line with (Nielsen, 1995) recommendation that three to five evaluators can detect the majority of usability issues. Although heuristic evaluation is expert-based, this study also incorporated user feedback in the redesign validation phase to ensure that solutions aligned with actual user needs. Validation involved three active users of Talenesia who participated in interviews and interface walkthroughs using the revised Figma prototype: 1) Problem Identification: Preliminary observations were conducted to recognize obstacles affecting the user experience of the Talenesia application and to formulate research questions; 2) Literature Review: The framework for this study was created by examining earlier research on heuristic evaluation and usability, along with relevant theoretical concepts; 3) Examination of User Feedback: information was collected from current Talenesia users to identify usability issues. These results were subsequently utilized to inform evaluators and develop assessment criteria; and 4) Development of the Research Plan: Expert evaluators from Gravel, Telkomsel, and former Bukalapak were selected. Meetings took place online through Google Meet, and test materials were developed based on ten heuristic principles.

The next stages focus on evaluation, data analysis, and interface redesign: 1) Heuristic Evaluation Execution: Each of the three UI/UX experts independently evaluated the Talenesia interface using Figma prototypes, identifying usability problems, and assigning severity ratings on a scale from 1 (no problem) to 5 (urgent fix needed); 2) Result Analysis: The findings were compiled and analyzed to identify which heuristic principles were violated and which usability issues held the highest severity ratings. This formed the foundation for interface improvement; 3) Mockup Design Revision: A redesign session was held with evaluators to discuss solutions for critical usability problems, leading to the development of a refined mockup using Figma; 4) Design Validation: The new interface prototype was validated through interviews involving both evaluators and active users, allowing iterative refinement of the interface; and 5) Conclusion: The final phase draws conclusions based on the evaluation results, linking them back to the heuristic variables and offering actionable recommendations to enhance the user experience in the Talenesia application.

D. RESULTS AND DISCUSSION

Ethical Statement

This study was conducted in collaboration with the Talenesia development team under a non-disclosure agreement (NDA) to ensure the confidentiality of proprietary system data. All participants involved in the expert evaluation and user validation phases provided informed consent. The study adhered to ethical guidelines for research involving human participants and ensured that all data were anonymized and used solely for academic purposes.

Evaluation Results

The heuristic evaluation of the Talenesia application identified 78 usability issues across dashboards, attendance logs, and time-off pages as described in Table 1. These were categorized using Nielsen's ten heuristic principles, with the most frequently violated being Visibility of System Status (23 issues), Recognition Rather than Recall (11), and Aesthetic and Minimalist Design (15). Evaluators noted recurring problems such as unclear icon functions, ambiguous color schemes, and a lack of feedback cues. Severity levels ranged from 1 to 4, with 34 issues prioritized for redesign (5 critical, 29 major). Issues rated high severity involved confusing attendance flows, insufficient instructions, and redundant layouts.

Table 1. Number of Problem Findings Based on Heuristic

Code of Principles	Heuristic Principles	Total
H1	Visibility of System Status	23
H2	Match Between System and The Real World	2
H3	User Control and Freedom	1
H4	Consistency and Standards	11
H5	Error Prevention	5
H6	Recognition Rather Than Recall	11
H7	Flexibility and Efficiency of Use	3
H8	Aesthetic and Minimalist Design	15
H10	Help and Documentation	7

Source: Research data, 2025

The most frequently violated principles included Visibility of System Status, Recognition Rather Than Recall, and Aesthetic and Minimalist Design. These categories contained problems such as unclear icon functions, excessive scrolling, hidden or redundant information, ambiguous color codes, and overlapping interface elements. Furthermore, each problem was accompanied by severity ratings ranging from 1 to 4, indicating the urgency for design revisions. Issues with higher severity often involved critical usability breakdowns, such as confusing clock-in/out icons, inadequate feedback for user actions, or layout inconsistencies that led to misinterpretation. The problems were not only assessed but also mapped to their specific pages for easier traceability during redesign. These findings form the basis for developing targeted prototype solutions that directly address user difficulties, improve interface clarity, and enhance overall efficiency.

By prioritizing fixes according to the severity and heuristic category, the evaluation outcomes guide a focused and user-centered redesign strategy, ensuring that the Talenesia application delivers a more intuitive and effective user experience. This study demonstrates how expert-driven heuristic evaluation combined with user validation can significantly enhance HRIS interfaces. The prominence of problems in system feedback, recognition, and error prevention highlights persistent weaknesses in SaaS-based HRIS design, particularly in developing contexts like Indonesia. For SaaS developers, these findings suggest that real-time feedback, consistent iconography, and contextual guidance are essential for user retention. Compared to similar international studies (e.g., Lif et al., 2019; Apraiz et al., 2023), Talenesia faced similar usability bottlenecks, reinforcing the global relevance of Nielsen's heuristics. The application of iterative prototyping, even with limited evaluators, proved effective in solving critical issues within a short time frame. This reflects the adaptability of heuristic evaluation in agile or resource-constrained environments. Future HRIS design practices in Indonesia can benefit from embedding this dual-layer method, expert audit followed by real-world validation, as a usability assurance framework.

Recommendations for Improvement

Based on expert input, the main attention is focused on problems with severity levels 3 (major) and 4 (critical) because the number of cases is quite large, namely 23 problems at level 3 and 4 at level 4. As

assessed by an expert review, the Talenesia application presented 34 significant usability issues. Five were assigned to the critical category (level 4), whereas 29 were categorized as significant (level 3). The heuristic ideas H1, H2, H4, H5, H6, H7, and H8 relate to these issues. Ambiguous information, unclear or inconsistent icons, inadequate system feedback, and design that complicates user comprehension are among the primary outcomes. The performance of tasks and the satisfaction of users are greatly affected by the View Attendance Log and Live Attendance Pages.

For instance, under H1, users could not easily track the status of their submissions or understand time-based data due to the absence of clear labels, notifications, and visual indicators. In the case of H5, the similarity between the clock-in and clock-out buttons posed a risk of accidental errors, which could lead to incorrect attendance logging. Several problems were also reported in the Request Attendance and Request Time Off pages, such as notifications blocking navigation and insufficient instructions when filling in fields. Issues under H6 revealed that users had to rely too heavily on memory due to missing contextual cues or unclear icons, leading to unnecessary cognitive load.

Under H7 and H8, problems like inefficient flow requiring extra steps, redundant button prompts, and cluttered or visually inconsistent layouts were frequently mentioned. Visual hierarchy and readability were compromised, particularly on the dashboard, where key action buttons resembled promotional banners, and hints for additional features were not communicated. These problems significantly affect the overall usability and intuitiveness of the application. As a result, a redesign process must be undertaken to address these high-severity issues through better visual structure, clearer feedback mechanisms, and a user-centered layout that aligns with established heuristic standards.

From the explanation above, it can be seen that the total number of problems that need to be fixed is 34, with a major severity of 29 and a critical severity of 5. The heuristic principles that are most violated are: H1 - Visibility of System Status, H2 - Match Between System and the Real World, H4 - Consistency and Standards, H5 - Error Prevention, H6 - Recognition Rather Than Recall, H7 - Flexibility and Efficiency of Use, and finally H8 - Aesthetic and Minimalist Design. Then the next step is the design of improvements based on the findings of the problem, following the heuristic principle.

Talenesia Application Improvement Design Results

The redesign addressed 34 high-severity issues, prioritizing core features such as attendance logging, live attendance, and time-off requests. Using Figma, revised mockups were created to enhance clarity of feedback, layout structure, and error prevention. Experts and users validated the changes in iterative sessions. Validation results show that 29 solutions (85%) were fully approved by experts, while five solutions received "agree with notes" status. These notes mainly involved suggestions for simplifying information density on dashboards and improving alert positions in live attendance. Users highlighted improvements in visual clarity, navigation, and readability. A sample satisfaction score from users was 4.5 out of 5, indicating enhanced usability perception.

H1 – Visibility of System Status

The Visibility of System Status principle in heuristic evaluation emphasizes the importance of providing timely feedback to users so they are always informed about the status or outcome of their actions (Nielsen, 1994). In the evaluation of the Talenesia application, 16 issues related to this principle were identified across multiple pages, including the All Attendance Page, View Attendance Log, Request Attendance Page, Request Timeoff Page, and Live Attendance Page. Common problems included the absence of loading indicators during data processing, missing success or failure notifications after submissions, and delayed status updates. Such issues disrupt users' mental models and increase cognitive load, as users are left uncertain whether their actions were completed (Stone et al., 2009). Prior research also supports these findings: (Lif et al., 2019) noted that poor visibility reduces user trust and efficiency in HRIS systems, while (Apraiz et al., 2023) highlighted that real-time feedback is crucial for maintaining user confidence, especially in time-sensitive features like attendance tracking.

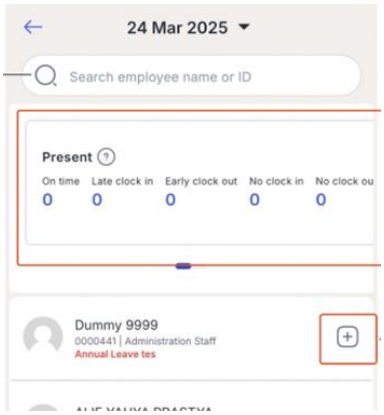


Figure 1. Design Before Improvement On the All Attendance Page
Source: Research data, 2025

Based on the series of problems above, a solution was created to enable users to search for employee attendance based on status, and then information based on attendance information is displayed on one page (not scrolling sideways).

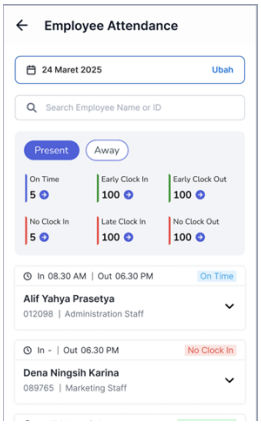


Figure 2. Design After Improvements On the All Attendance Page
Source: Research data, 2025

On the View Attendance Log page, experts identified several usability issues with major severity. One problem involves the use of ellipsis in the "Present" section, which obscures the full text and makes it difficult for users to read and understand the complete information. Additionally, the attendance details contain ambiguous information such as "Security (24hr) 07:00 (07:00 – 06.59)," which may confuse non-expert users and lead to misinterpretation. These issues highlight the need for clearer wording and more accessible presentation of critical attendance data.

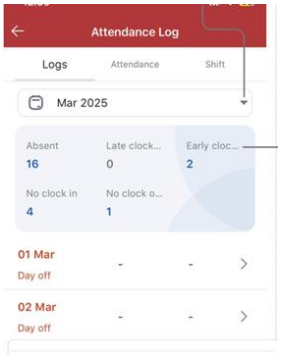


Figure 3. Design Before Improvements to the View Attendance Log
Source: Research data, 2025

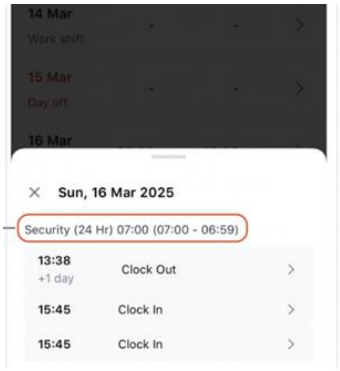


Figure 4. Design Before Improvement on Detail Attendance
Source: Research data, 2025

Based on the series of problems above, a solution was made for information based on the presence information, all displayed on one page to avoid overly long text. Then, on the attendance details page, it is separated from the homepage.

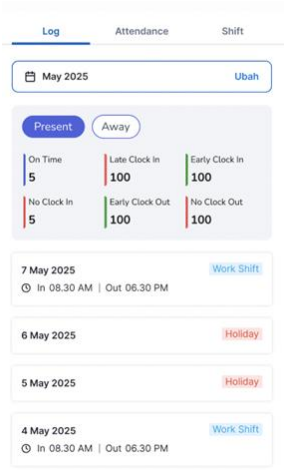


Figure 5. Design after Improvements to the View Attendance Log
Source: Research data, 2025

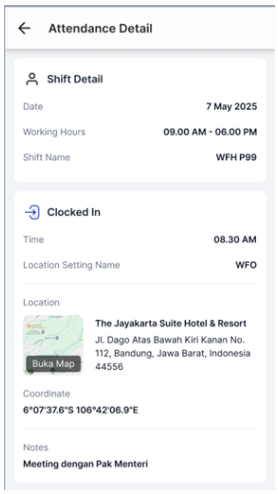


Figure 6. Design After Improvement On Detail Attendance
Source: Research data, 2025

Experts identified several serious usability issues on the Request Attendance page. The attendance submission icon is difficult to use because it is much smaller than the clock-in and clock-out buttons. Phrases such as "The maximum file size is 10 MB" and "You can delegate the approval to your teammates" are difficult to read due to inadequate visual contrast. Furthermore, users are required to pause

before advancing to the next page, as the back button and the success or error message that appears during submission coincide, disrupting the user experience.

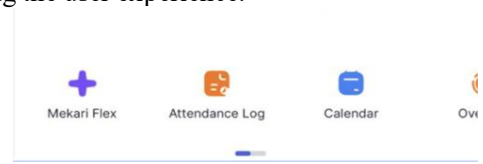


Figure 7. Design before Improvements to the Request Attendance Menu
Source: Research data, 2025

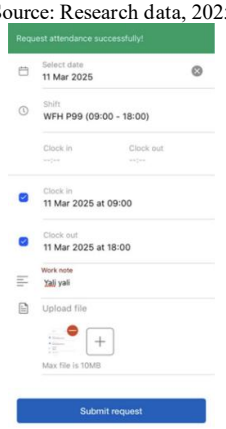


Figure 8. Design before Improvements to the Request Attendance Page
Source: Research data, 2025

Based on the series of problems above, a solution was made to make the Request Button more prominent than before. Then, the request attendance page was improved in terms of design and improvements to the alert danger and success sides.

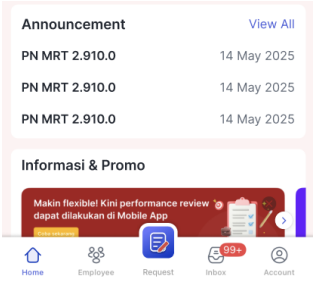


Figure 9. Design After Improvement on the Request Attendance Menu
Source: Research data, 2025

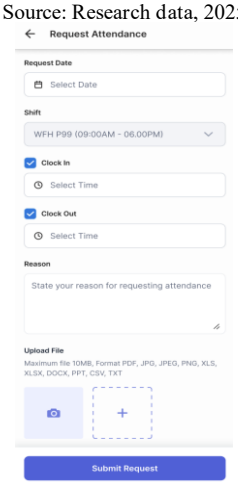


Figure 10. Design After Improvement on the Request Attendance Page
Source: Research data, 2025

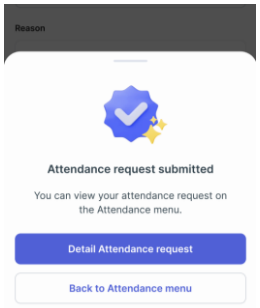


Figure 11. Design After Improvement of Alert on the Request Attendance Page
Source: Research data, 2025

On the Request Time Off page, experts found major issues such as the use of green and red colors along with plus-minus icons, which created confusion and resembled stock figures. Additionally, the success and error alerts overlapped with the back navigation button after submission, disrupting user navigation.

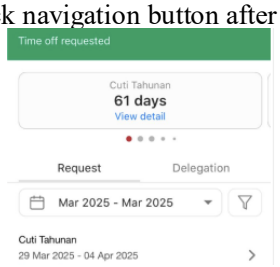


Figure 12. Design After Improvement of Alert Success on Request Attendance
Source: Research data, 2025

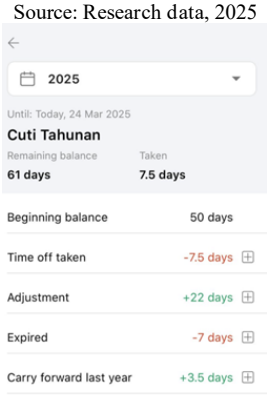


Figure 13. Design Before Improvement on Detail Request Time Off Page
Source: Research data, 2025

Based on the explanation of the problems above, the request time off page is fixed on the alert danger and success sides. Then, the design is changed on the request time-off page details.

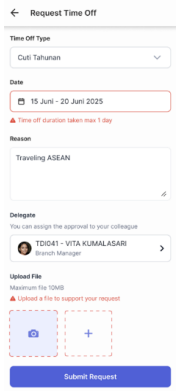


Figure 14. Design After Improvement on Request Time Off Page
Source: Research data, 2025

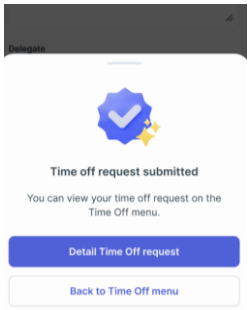


Figure 15. Design After Improvement on Alert Success on Request Time Off Page
Source: Research data, 2025

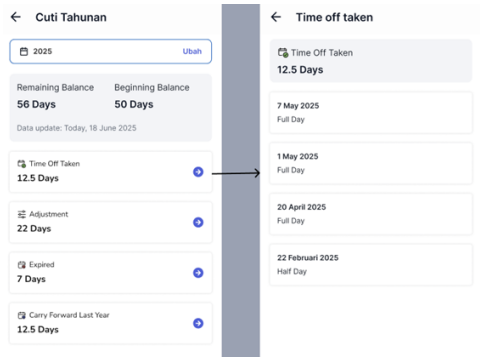


Figure 16. Design After Improvements to the Detail Request Time Off Page
Source: Research data, 2025

On the Live Attendance page, experts identified major issues such as misleading schedule time information that may cause users to mistake it for their actual clock-in time. Additionally, the proximity between the map and location details appeared too distant, making the layout seem disconnected and unclear. Based on the series of problems above, the live attendance page was improved to ensure the information presented was clear. Then, on the detail live attendance page, the design was changed so that the information looked continuous.

H4 – Match Between System and the Real World

On the All Attendance page, experts identified a major issue where users may misinterpret the '+' button on the employee list as an add function. A more representative icon is needed to indicate that the list can be expanded or collapsed clearly. Based on the explanation of the problem above, a solution was created to change the design on the All Attendance Page, where the '+' icon was removed to avoid ambiguity when users use the TALENESIA application.

H4 – Consistency and Standards

On the All Attendance page, experts identified a major issue where the search icon within the search bar was disproportionately large. Based on this issue, the icon size was adjusted to align with the input field, and a mockup was created to reflect this improvement.

H5 – Error Prevention

On the dashboard view, experts identified a major issue where the clock-in and clock-out buttons appeared visually identical, which could cause critical user errors because of the lack of a clear distinction between the two actions. Based on the above problems, on the clock-in/clock-out dashboard menu, the icon will be made different when the user has not clocked in, when the user has clocked in, and has entered the time to clock out. On the Live Attendance Page, experts identified major issues, including the simultaneous availability of clock-in and clock-out buttons, which confused users who had not yet clocked in but could already click clock out. Additionally, after clocking in, the clock-in button remained enabled, making the user flow feel repetitive and redundant. Based on the above problems, on the live attendance page, the clock-in/clock-out dashboard icon menu will be made different when the user has not clocked

in, when the user has clocked in, and when the user has entered the time to clock out. So that users avoid crucial errors when clocking in and out.

H6 – Recognition Rather Than Recall

On the View Attendance Log page, experts identified major and critical issues, including the absence of column labels, which made it difficult for users to interpret the data, and the use of dashes ("-") to indicate missing information, which made it unclear whether the data was unavailable or not displayed. Based on the problems above, a new design was created, replacing the presented information with a card display. On the Live Attendance page, experts identified a major severity issue where, if users fail to take a selfie as proof of attendance, there is no guidance provided on what action to take next. Based on the problems above, a design was created to provide an error alert that directs the user to the necessary action. On the Request Attendance page, experts identified major severity issues, including the absence of information indicating that all required fields must be completed, and the placement of instructions, such as "upload file," being too far from the actual upload field, reducing clarity.

H7 – Flexibility and Efficiency of Use

On the Live Attendance page, experts found major severity issues, such as the clock-in button remaining clickable even after the user has clocked in, creating a repetitive and redundant flow. Additionally, users must click another button to view specific location details after clocking in, which is considered an unnecessary step. Based on the above problems, on the live attendance page, the clock-in and clock-out dashboard icon menu will be made different when the user has not clocked in, when the user has clocked in, and when the user has entered the time to clock out. So that users can avoid crucial errors when clocking in and out. So the following mockup was made.

H8 – Aesthetic and Minimalist Design

On the dashboard, experts identified several major and critical severity issues, including the clock-in and clock-out card resembling a promotional banner, and the lack of a clear clue indicating that users can swipe to access more features, which may hinder feature discoverability. Based on the problems above, a new design was created so that the card clock in is different from the promo banner, and the visible feature can be shifted to the right. On the Live Attendance Page, experts identified a major severity issue where the danger alert has the same background color as the header, making it difficult for users to notice the warning. Based on the above problems, a different design was made so that the success and danger alerts do not appear only on the header.

H9 – Help and Documentation

On the dashboard, experts identified major and critical severity issues, including the fact that only working hours are shown without displaying the current time, which could confuse users who need to track real-time attendance. Based on the above problems, the current time information is created. So that the user gets the information. On the Request Time Off Page, experts identified a major issue with high severity where the time-off details are displayed using an accordion format, which unnecessarily increases the amount of scrolling required and reduces the efficiency of navigation. Based on the above problems, a new design was created to minimize the user flow to see the details.

Talenesia Application Improvement Design Validation Results

Validation of Talenesia Application Improvement Design by Expertise

The Iterative Prototyping phase was essential in validating the Talenesia application's design by repeatedly testing and refining prototypes based on user and evaluator feedback. This process ensured the product met user needs and design goals through continuous improvement, promoting flexibility and user-centered development (Harris 2003; Tondel, 2002). Based on the validation results that have been carried out by three expertise, the following conclusions can be drawn: 1) The results of the new design validation from expert 1 contain three solutions with the status agree with notes. Found in the solution on the dashboard; 2) The results of the new design validation from expert 2 contain two solutions with the status agree with notes. Found in the solution on the live attendance page and request attendance page; 3) The

results of the new design validation from expert 2 contain three solutions with the status agree with notes. Found in the solution on the dashboard attendance page and live attendance page.

Of the 34 solutions offered, all were approved by the expertise. However, there are five solutions given the status, which agree with the notes. For example, the solution offered on the dashboard, where the clock-in and clock-out card is considered to display too much information. In addition, the design of the details of the live attendance page needs to be simplified because too much information is displayed. Directions/notifications are useful for users to clock in and clock out at the hour.

Meanwhile, 29 out of 34 solutions, or 85%, were approved by experts to provide new experiences for both existing and new users. The expert validation of the redesigned Talenesia interface involved 21 proposed solutions addressing key heuristic principles such as Visibility of System Status (H1), Match Between System and the Real World (H2), Consistency and Standards (H4), Error Prevention (H5), Recognition Rather than Recall (H6), Flexibility and Efficiency of Use (H7), Aesthetic and Minimalist Design (H8), and Help and Documentation (H10). Across these solutions, all experts agreed, with 16 solutions fully approved and five marked as "agree with notes," indicating minor suggestions for refinement. The "agree with notes" responses mainly concerned the clock-in/out functionality, visual clarity on the dashboard, and clarity of feedback in the live attendance features. Overall, the validation results demonstrate strong support for the proposed interface improvements, confirming that the redesigned elements effectively addressed the identified usability problems while aligning with established heuristic standards.

Validation of the Talenesia Application Improvement Design by the User

Users identified notable enhancements in various aspects when the new interface of Talenesia was assessed. The overall appearance of the design transitioned from flat to stylish and modern. Distinct labels and background colors facilitate the easy recognition of attendance status. Custom elements such as visuals and reasons for being late enhanced the clocking-in and clock-out process. To enhance readability and usability, the live attendance log was updated. The selection of colors enhanced both professionalism and the consistency of brand identity. Furthermore, consistency in typeface and layout was improved. Breadcrumbs and active bars simplified the navigation process. Visual preferences were divided, favoring subdued colors for daily tasks and bold contrasts for quick reading.

Analysis of Validation Results of Talenesia Application Improvement Design

The system redesign evaluation in this study was conducted using Jakob Nielsen's heuristic evaluation method, which applies ten usability principles to identify user interface problems. This method was chosen for its efficiency and effectiveness in detecting usability issues systematically without requiring a large number of participants. Three experienced evaluators from companies such as Telkom Indonesia and Klyp independently assessed the system using Nielsen's heuristics as a guide. A total of 34 usability issues were identified and classified according to their severity. Most of the problems were rated as major (severity 3) or critical (severity 4), especially those related to the principles of Visibility of System Status (13 findings), Recognition Rather Than Recall (5 findings), and Error Prevention (3 findings), indicating that the system lacked clear feedback mechanisms, relied heavily on user memory, and failed to prevent common errors.

To address these issues, a redesigned prototype was developed, focusing on solving high-severity problems by improving UI layout, enhancing feedback visibility, and restructuring user flows. Key changes included labeling and recoloring clock-in/out icons, clarifying attendance log headers, improving notification contrasts, and making core features easier to access. The redesigned prototype was then validated by the same evaluators and active users, who confirmed that most usability issues had been resolved. Feedback indicated that the new design was more intuitive and informative, significantly improving the user experience. This iterative process proved effective and highlights the value of heuristic evaluation in refining attendance systems for workplace environments.

Discussion

The heuristic evaluation conducted in this study identified 34 usability issues within the Talenesia Human Resource Information System (HRIS) interface. Most of these issues were concentrated around core features such as attendance logging, time-off requests, and live attendance tracking. Using Jakob

Nielsen's ten usability heuristics as a guiding framework, the issues were categorized and analyzed based on the severity and frequency of their occurrence. A significant proportion of the problems were rated as major (level 3) and critical (level 4), highlighting the need for immediate attention and targeted design improvements. These findings indicate that, despite Talenesia's complete HRIS capabilities, the user interface does not facilitate interactions that are straightforward, efficient, and error-free. The problems regarding feedback, display consistency, and support for recognition are the most apparent. Uneven design, unclear symbols, absence of immediate prompts, and insufficient user guidance increase cognitive strain and result in work-related dissatisfaction.

To address these challenges, a prototype redesign was developed and validated through expert review and user feedback sessions. The improved interface integrated clearer visual cues, a simplified user flow, and more coherent page structures. These solutions were not only based on heuristic violations but also aligned with user expectations and contemporary interface design practices, ensuring relevance in a SaaS context. The following discussion section elaborates on the most prominent heuristic categories where usability issues were found, explaining the context of the problems, how they were resolved, and the impact of the design changes. Each subsection discusses one or more heuristic principles in detail, supported by specific examples from the evaluation process and redesign implementation.

H1 – Visibility of System Status

In Talenesia applications, the concept of observing system status is often compromised. Due to the absence of immediate feedback, users struggle to know if tasks such as clocking in, submitting leave requests, or uploading documents have been completed. The workflow is interrupted, leading to confusion. The updated interface includes clearer indicators of progress, messages indicating success or failure, and real-time status markers. These changes reduce uncertainty and give users increased assurance when performing tasks.

H4 – Match Between System and the Real World

System icons that deviated from established conventions created a significant problem. In the employee list, the '+' symbol was incorrectly interpreted as a command to add information rather than displaying details. This error confused users. Larger and more commonly utilized icons improved the design. This change improved comprehension. For business systems to operate effectively, adherence to established standards is crucial.

H4 – Consistency and Standards

Discrepancies in the arrangement of panels, font thickness, and the size of icons were found during the examination. These irregularities disrupted system forecasts and obstructed user understanding. Standardizing symbols, coordinating visual elements, and applying a uniform layout style all led to enhancements. This initiative enhanced navigation and increased orders.

H5 – Error Prevention

Error-prone design elements were observed, particularly in the attendance-related features. The clock-in and clock-out buttons, which initially appeared visually identical and were accessible simultaneously, posed a risk of user error in logging work hours. Furthermore, system responses to invalid inputs or unfilled mandatory fields were not communicated. Through heuristic evaluation, these problems were addressed by differentiating button appearances and turning off irrelevant actions based on context. The system now also displays error messages when form requirements are not met. These preventive features help minimize user errors, especially in routine tasks such as time tracking.

H6 – Recognition Rather than Recall

The Talenesia application originally demanded that users remember interface functions and data associations, such as interpreting dashes or navigating through unlabeled sections. This reliance on memory increased cognitive load and decreased task efficiency. Redesign efforts addressed this by including labels, tooltips, and explanatory texts throughout the application. The card-based layout replaced vague table rows and offered a visually clear breakdown of attendance records. These

enhancements allowed users to process and recall information more intuitively, supporting smoother user interaction.

H7 – Flexibility and Efficiency of Use

The continual navigation processes and the absence of shortcuts for experienced users were identified as ineffective. To obtain attendance information or input data again, users must undertake several steps. The revised design includes contextual menus, expandable panels, and automated data gathering. These attributes sped up processes and reduced the number of steps involved. All groups of users determine that the system is simpler to operate.

H8 – Aesthetic and Minimalist Design

The interface previously suffered from visual clutter, such as overlapping banners, unsegmented sections, and a lack of visual hierarchy. Alerts for success and errors blended into header backgrounds, making them difficult to notice. The redesign employed minimalist principles by separating promotional banners from task elements, using consistent color palettes, and providing whitespace to highlight core functions. These changes improved readability and guided user attention toward actionable items, thereby enhancing the visual appeal and clarity of the interface.

H10 – Help and Documentation

Inadequate help features were also identified, with several pages lacking guidance for users facing input errors or task confusion. Documentation elements such as tooltips, instructions, and real-time prompts were minimal or absent. Improvements included embedding contextual help within forms, offering just-in-time tips, and displaying real-time error correction instructions. These adjustments supported user autonomy and reduced reliance on external support, especially for first-time users navigating unfamiliar workflows.

Design Validation

The effectiveness of the redesigned interface was validated through both expert and user feedback. Three UI/UX experts from companies such as Telkom Indonesia and Klyp provided structured evaluations of the proposed design solutions. Of the 34 recommended improvements, all were approved, with 5 receiving "agree with notes" status. Experts appreciated the clarity and functionality of the revisions but offered suggestions for refinement, such as reducing information density on certain pages and improving alert positioning. These results indicate a high level of alignment between redesign outputs and expert expectations. User validation complemented expert reviews by offering real-world insights into the system's usability post-redesign. Respondents highlighted significant improvements in visual appearance, clarity of attendance status, intuitive navigation, and branding consistency. The redesigned interface was perceived as more professional and user-friendly, with better support for both new and experienced users. A majority of users reported greater satisfaction with the system, especially in terms of visual clarity and ease of task completion.

E. CONCLUSIONS

Based on the findings from the heuristic evaluation and interface redesign of the attendance system, a total of 34 usability issues were identified and categorized under Jakob Nielsen's 10 heuristic principles, with the most violations occurring in visibility of system status, recognition rather than recall, and error prevention. Of these issues, 31 were rated with high severity, indicating an urgent need for improvements. The redesign focused on addressing key problems by enhancing visual clarity and functionality through improved icon labels, contrast colors, reorganized menus, and more noticeable notifications. Validation involving three expert evaluators and three active users showed strong approval, with 83% of proposed solutions fully accepted and an average satisfaction score of 4.5 out of 5. These results highlight the effectiveness of combining heuristic evaluation with iterative design in enhancing system usability and support the adoption of user-centered design for future system development.

The findings emphasize the importance of developing HRISs by applying a user-focused design approach. Iterative prototyping and heuristic evaluation have proven effective in enhancing usability,

especially in short-term projects. Improvements to the design increased task precision, user involvement, and confidence. It is recommended to carry out continuous usability testing during the development of a Human Resource Information System (HRIS). This research can serve as a framework for similar studies in payroll systems, online education, and internal communication frameworks. It also demonstrates the scholarly significance of heuristic evaluation in the study of SaaS. Despite its contributions, this study has limitations. The absence of A/B testing and a small sample size for user validation limit the generalizability of results. Additionally, the long-term impact on task completion rates was not measured. Future research should consider longitudinal usability testing and integration of quantitative metrics, such as task efficiency, to validate interface effectiveness over time.

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