

UI/UX Design Analysis of the HRIS Attendance Website at PT. Gading Semesta Utama Using the Design Thinking Method

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Abstract— The rapid advancement of information technology has driven organizations to enhance the effectiveness and efficiency of human resource management through digital systems, particularly Human Resource Information Systems (HRIS). PT. Gading Semesta Utama has implemented an HRIS-based attendance website; however, several issues were identified in its User Interface (UI) and User Experience (UX), including unattractive visual design, inefficient navigation, poor layout structure, and limited responsiveness across devices. This study aims to analyze and improve the UI/UX design of the HRIS attendance website using the Design Thinking method, which emphasizes a user-centered approach through the stages of empathize, define, ideate, prototype, and test. The results indicate that the application of Design Thinking successfully produces a more visually appealing, user-friendly, well-structured, and responsive interface, leading to increased user satisfaction, reduced operational errors, and improved effectiveness and efficiency of employee attendance administration at PT. Gading Semesta Utama.

Keywords: Attendance Website, Design Thinking, HRIS, UI/UX Design, PT. Gading Semesta Utama

Abstrak— Perkembangan teknologi informasi yang pesat mendorong perusahaan untuk meningkatkan efektivitas dan efisiensi pengelolaan sumber daya manusia melalui pemanfaatan sistem informasi digital, salah satunya Human Resource Information System (HRIS). PT. Gading Semesta Utama telah menerapkan website absensi berbasis HRIS, namun dalam implementasinya masih ditemukan berbagai permasalahan pada aspek User Interface (UI) dan User Experience (UX), seperti tampilan yang kurang menarik, struktur tata letak yang belum optimal, navigasi yang tidak efisien, serta keterbatasan

responsivitas pada berbagai perangkat. Penelitian ini bertujuan untuk menganalisis dan memberikan rekomendasi perbaikan desain UI/UX pada website absensi HRIS menggunakan metode Design Thinking yang berorientasi pada pengguna melalui tahapan empathize, define, ideate, prototype, dan test. Hasil penelitian menunjukkan bahwa penerapan metode Design Thinking mampu menghasilkan desain antarmuka yang lebih menarik, mudah digunakan, terstruktur dengan baik, dan responsif, sehingga meningkatkan kepuasan pengguna, mengurangi kesalahan penggunaan, serta meningkatkan efektivitas dan efisiensi pengelolaan absensi karyawan di PT. Gading Semesta Utama.

Kata kunci: Desain UI/UX, HRIS, Website Absensi, Design Thinking, PT. Gading Semesta Utama

INTRODUCTION

The rapid development of information and communication technology has encouraged organizations to adopt technology-based information systems to improve the effectiveness and efficiency of human resource management. One of the most widely implemented systems is the Human Resource Information System (HRIS), which functions as an integrated platform for managing employee data, including attendance, leave, and administrative reporting in an automated and accurate manner. The implementation of HRIS has been proven to enhance administrative efficiency and reduce errors caused by human factors (human error) (Fauzansyah, 2024). Therefore, HRIS plays a crucial role in supporting the performance of modern organizations (Mirela 2022).

The success of HRIS implementation is not determined solely by system functionality, but is also strongly influenced by the quality of its User

Interface (UI) and User Experience (UX). Good UI/UX design significantly affects ease of use, user comfort, and overall system acceptance. Interfaces that are not intuitive, have complex navigation, or lack visual appeal may reduce users' willingness to utilize the system optimally, even when comprehensive features are available. Conversely, simple, consistent, and responsive designs can increase user satisfaction and improve system effectiveness. Previous studies have shown that user satisfaction with HRIS increases significantly when UI/UX aspects are well designed (Hermawan et al. 2023).

PT. Gading Semesta Utama is one of the companies that has implemented an HRIS-based attendance website to support employee attendance management and administrative processes. However, preliminary observations indicate several issues in the system's implementation, particularly related to interface design, layout structure, navigation efficiency, and system responsiveness across different devices. These issues cause some users to experience difficulties in understanding and utilizing the available features optimally. This condition suggests that the UI/UX design of the HRIS attendance website at PT. Gading Semesta Utama requires further analysis and improvement to better accommodate user needs and characteristics (Chiang et al. 2022).

Numerous previous studies have demonstrated that the Design Thinking method is effective for UI/UX design and evaluation, as it emphasizes a user-centered approach through the stages of empathize, define, ideate, prototype, and test. The application of this method in designing attendance applications and other information systems has been shown to improve usability and user satisfaction, as indicated by increased System Usability Scale (SUS) scores and successful system testing results (Fauziyah and Yunita 2024). By focusing on users' needs and experiences, Design Thinking enables designers to identify problems more deeply and develop relevant and practical design solutions (Rijal, Wulandari, and Hermansyah 2025).

Based on the challenges faced by PT. Gading Semesta Utama and the findings from previous studies, this research aims to analyze the User Interface and User Experience design of the HRIS attendance website used at PT. Gading Semesta Utama and to propose design improvement recommendations using the Design Thinking method. It is expected that this study will produce a more user-friendly, responsive, and effective design solution that enhances the efficiency and effectiveness of employee attendance management (Nugroho and Zulfikar 2023). Analysis

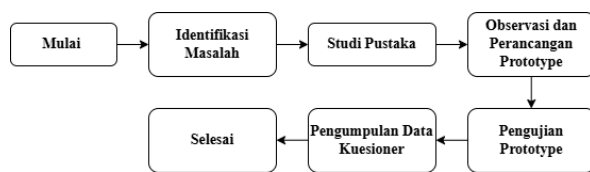
is a systematic process of organizing, ordering, grouping, coding, and categorizing data to generate themes and working hypotheses, which later develop into substantive theory and provide meaningful value in research (Undang-undang n.d.). Design is a problem-solving process focused on creating visual and functional solutions by considering user needs, usage context, and specific objectives. Design is not only about aesthetics, but also involves analysis, creativity, and evaluation to produce work that is effective and optimally usable. The design process generally includes stages such as problem identification, idea exploration, concept development, testing, and refinement. Therefore, design is understood as a strategic activity that integrates visual, technical, and user experience aspects to achieve valuable outcomes (Tinggi, Terpadu, and Fikri 2024).

Attendance is an important data collection process used to record participation in activities. In the workplace, attendance records play a crucial role in improving employee discipline and supporting organizational performance (Jannah, Nawangsih, and Edora 2023), making attendance information essential for companies and institutions. User Interface (UI) is a crucial component of an application or system that enables users to interact efficiently and effectively. A well-designed UI, based on principles such as consistency, contrast, and clarity, helps create an intuitive interface and ensures a positive user experience (Rachman et al. 2024). User Experience (UX) refers to a person's responses and perceptions resulting from their experience when using a system, product, or service. Its purpose is to enhance user satisfaction when interacting with interfaces such as websites, mobile applications, or desktop systems (Nisa and Sunaryana 2024).

A website is a collection of web pages accessible via the internet that provides information and user interaction. The quality of a website is determined by key aspects such as functionality, usability, security, and visual design, which together ensure an effective, safe, and user-friendly experience (Angga Madona and Tata Sutabri 2024). Design Thinking is a problem-solving method that emphasizes a user-centered approach. It consists of five main stages—empathize, define, ideate, prototype, and test—which work together to creatively identify user needs, develop innovative solutions, and refine designs through continuous feedback (Mas'ud Mahfudz Darmawan et al. 2024). Figma is a widely used design tool for creating application and website interfaces across various platforms. Its strong collaborative features allow multiple users to work on the same project in real time, making the design and prototyping process faster, more efficient, and well organized (Mas'ud

Mahfudz Darmawan et al. 2024). The System Usability Scale (SUS) is a reliable and cost-effective method for evaluating the usability of a system or product. Developed by John Brooke in 1986, it provides a quick assessment of users' comfort and ease of interaction with a system (Ririmasse and Badrul 2024). This study redesigned the UI/UX of the PNM Digi Employee application using the Design Thinking method, resulting in improved attendance reminders, simplified Digi balance transactions, and enhanced guidance in the Employee Digital Services (EDS) feature, which increased user comfort and satisfaction (Fauzansyah 2024).

MATERIALS AND METHODS



Source: Researcher (2026)

The image illustrates the sequence of stages that will be carried out in this research, starting from the initiation phase, problem identification, literature review, data collection, analysis and prototype design, prototype testing, and finally completion.

This study employed a descriptive research design with a user-centered approach to analyze and improve the User Interface (UI) and User Experience (UX) of the HRIS attendance website at PT. Gading Semesta Utama. The research was conducted using the Design Thinking method, which provides a structured framework for identifying user problems and developing design solutions through iterative stages. The study focused specifically on the attendance module of the HRIS website, without addressing other HRIS functionalities or technical aspects such as system architecture and programming.

The primary data sources in this study consisted of users of the HRIS attendance website at PT. Gading Semesta Utama, involving 110 employees from human resource and administrative divisions who actively use the system. Secondary data were obtained from internal company documentation related to the attendance process and system usage. Data collection was carried out over a two-month period through direct observation, prototype testing, and questionnaire distribution.

Data collection techniques included observation, usability testing, and questionnaires. Observation was conducted by directly examining user interactions with the HRIS attendance website to identify usability issues related to interface

layout, navigation flow, and responsiveness. Based on the findings from the observation stage, a UI/UX prototype was designed and developed. The prototype was then tested by involving actual users to obtain direct feedback regarding ease of use, clarity of information, and overall user experience. Following the prototype testing, a usability evaluation was conducted using the System Usability Scale (SUS) questionnaire, which was distributed to all 110 respondents.

Data analysis was performed using a quantitative approach with the assistance of Statistical Package for the Social Sciences (SPSS). The analysis began with instrument validity testing using Pearson Product Moment correlation to ensure that each questionnaire item accurately measured usability aspects. Reliability testing was conducted using Cronbach's Alpha to assess the consistency of respondents' answers. Descriptive statistical analysis was then applied to summarize respondent characteristics and usability perceptions, including mean values, minimum and maximum scores, and response distributions. Finally, SUS scores were calculated according to standard scoring procedures to determine the overall usability level of the HRIS attendance website after the proposed UI/UX improvements. The results of this analysis served as the basis for refining the prototype and formulating final design recommendations.

RESULTS AND DISCUSSION

The research results were obtained from the implementation of the Design Thinking method and quantitative evaluation of the UI/UX prototype of the HRIS attendance website at PT. Gading Semesta Utama. The findings are presented based on user analysis, design solution development, and usability evaluation using statistical instruments and the System Usability Scale (SUS).

Based on observations and interviews, the main problems identified included a non-intuitive interface, confusing navigation, lack of attendance status notifications, and limited responsiveness on mobile devices. These findings indicate a gap between system design and user needs, particularly in interaction ease and information clarity. This aligns with user-centered design principles, which emphasize system suitability to user characteristics.

The *define* phase produced problem statements using the How Might We (HMW) approach, which were translated into design solutions such as layout simplification, improved visual hierarchy, addition of attendance confirmation notifications, and enhanced system responsiveness.

Prototype evaluation was conducted using a Likert scale questionnaire (1-5).

Table 1. Prototype Evaluation Statements

No	Statement	Scale
1	The prototype interface is more visually appealing	1-5
2	Menu layout is easy to understand	1-5
3	Colors and icons help identify features quickly	1-5
4	Navigation makes page transitions easier	1-5
5	The prototype is responsive	1-5
6	Attendance is easier to perform	1-5
7	Attendance time is shorter	1-5
8	Comfortable to use	1-5
9	Improves user experience	1-5
10	Satisfied with the new design	1-5

Source: Researcher (2026)

Results show that most respondents gave high scores on usability and comfort aspects, indicating that the prototype successfully addressed previously identified usability issues.

Table 2. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Dev
X (UI)	110	10	32	22.37	4.198
Y (UX)	110	9	44	23.52	6.973

Source: Researcher (2026)

The mean values of variables X and Y fall in the moderate-to-high category, reflecting positive perceptions of the new design quality. The higher standard deviation in variable Y indicates more varied user experience responses, suggesting that UX is more subjective than UI.

Table 3. Validity Test Results

Variabel	Pernyataan	R Hitung	R Tabel	Keterangan
X	X1.1	0,814	0,187	VALID
	X1.2	0,893	0,187	VALID
	X1.3	0,888	0,187	VALID
	X1.4	0,896	0,187	VALID
	X1.5	0,884	0,187	VALID

Y	Y1	0,857	0,187	VALID
	Y2	0,864	0,187	VALID
	Y3	0,869	0,187	VALID
	Y4	0,881	0,187	VALID
	Y5	0,754	0,187	VALID

Source: Researcher (2026)

All questionnaire items showed r-count > r-table (0.187), meaning all items were valid.

Table 4. Reliability Test Results

Variable	Cronbach Alpha	Description
X	0.923	Reliable
Y	0.900	Reliable

Source: Researcher (2026)

Alpha values above 0.7 indicate strong internal consistency.

One-Sample Kolmogorov-Smirnov Test				
		X	Y	
N		110	110	
Normal Parameters ^{a,b}	Mean	22.37	23.52	
	Std. Deviation	4.198	6.973	
Most Extreme Differences	Absolute	.084	.079	
	Positive	.050	.079	
	Negative	-.084	-.049	
Test Statistic		.084	.079	
Asymp. Sig. (2-tailed) ^c		.052	.088	
Monte Carlo Sig. (2-tailed) ^d	Sig.	.052	.088	
	99% Confidence Interval	Lower Bound	.046	.081
		Upper Bound	.058	.095

a. Test distribution is Normal.
 b. Calculated from data.
 c. Lilliefors Significance Correction.
 d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Source: Researcher (2026)

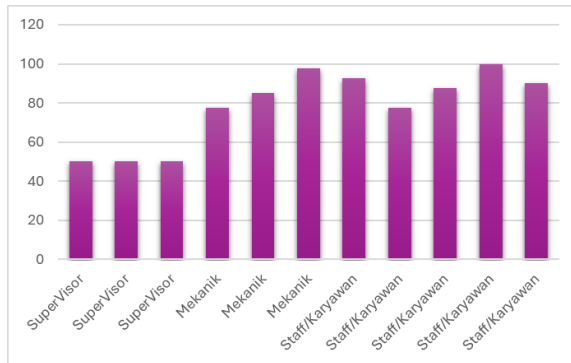
Figure 1. Kolmogorov-Smirnov

Kolmogorov-Smirnov results showed Sig. X = 0.052 and Sig. Y = 0.088 (>0.05), indicating that data were normally distributed and suitable for parametric analysis.

SUS scores were calculated using the formula:

$$SUS = \left(\sum \text{item scores} \right) \times 2.5$$

The final average SUS score was **90.91**.



Source: Researcher (2026)

Figure 2. SUS Score Graph

This score falls into **Grade A (Excellent)**, indicating very high usability and strong user acceptance. According to SUS interpretation standards, scores above 80 signify a system that is easy to use, efficient, and highly satisfying.

DISCUSSION

The results indicate that applying Design Thinking effectively improved UI/UX quality. Enhancements in layout, navigation, and system feedback significantly increased perceived ease of use. This supports previous UI/UX research stating that interface simplification and clear feedback mechanisms enhance user satisfaction.

The high SUS score (90.91) demonstrates that the system is not only functional but also provides a positive interaction experience. These findings confirm that an empathy-based design approach leads to more user-appropriate solutions.

Overall, UI/UX improvements directly contributed to increased system effectiveness, better work comfort, and reduced user errors during attendance processes.

CONCLUSION

This study demonstrates that the application of a user-centered Design Thinking approach successfully produced a UI/UX design for the HRIS attendance website at PT. Gading Semesta Utama that aligns with user needs and significantly improves system usability. The findings indicate that users perceive the redesigned interface positively, reflected in moderate-to-high mean scores for both UI and UX variables. Instrument testing confirmed that all questionnaire items were valid and reliable, and the data met the assumption of normal distribution, supporting the robustness of the analysis. Furthermore, the usability evaluation using the System Usability Scale (SUS) yielded an average score of 90.91, which falls into the "Excellent" category, indicating very high usability, efficiency, and user satisfaction. These results show that the proposed design effectively enhances ease

of interaction, reduces user difficulties, and improves overall user experience in performing attendance tasks. Therefore, the developed UI/UX design can be recommended as an effective solution to support more efficient and user-friendly attendance system operations within the company.

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