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Redesigning the UI/UX of the Performance Monitoring Website at Pegadaian Regional Office XII Surabaya Using the Lean UX Method

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ABSTRACT

The performance monitoring website at Pegadaian Regional Office XII Surabaya is essential for evaluation and decision-making but was hindered by an ineffective interface. The layout made access to critical information difficult and required manual coordination among staff, resulting in inefficiency. A System Usability Scale (SUS) survey yielded a score of 43.5 (grade F), placing it in the "unacceptable" category, thus highlighting the need for a redesign. This study aimed to improve usability and user satisfaction by applying the Lean UX approach through assumption formulation, prototyping, experimentation, and feedback analysis. Participants included staff from Business Analysis & Performance Evaluation, Distribution Network & Services, and Marketing & Sales as primary users. Findings showed that the redesigned website achieved an average User Experience Questionnaire (UEQ) score of 1.75 out of 2.50, categorized as "Good." The results demonstrate that the redesign effectively enhanced usability and user experience, making the system more supportive of performance monitoring and decision-making. Furthermore, the study confirms the relevance of Lean UX as a practical framework for improving corporate information systems, offering valuable insights for similar organizational contexts in Indonesia.

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1. Introduction

In recent years, the rapid advancement of information and communication technologies has significantly influenced the way organizations conduct their operations. State-Owned Enterprises (SOEs) in Indonesia, including Pegadaian, have been driven to pursue digital transformation initiatives in order to enhance service quality and operational efficiency [1]. Pegadaian Regional Office XII Surabaya, which manages a wide range of financial products from pawn services to non-pawn offerings, requires a reliable digital system to support both business processes and performance evaluation activities. One of the critical tools in this effort is the performance monitoring website, which functions as a support system for business

units in evaluating achievements and facilitating informed decision-making. However, the existing website interface exhibits several usability issues, such as inconsistent layouts, non-uniform typography, and unclear navigation. These shortcomings hinder employees from effectively accessing and analyzing information, thereby reducing the efficiency of the decision-making process and lowering overall user satisfaction [2]. Preliminary evaluations using the System Usability Scale (SUS) yielded a score of 43.5, which falls into the "Not Acceptable" category [3]. This indicates that website design is not yet capable of providing a good user experience [4] [5]. Previous research has shown that implementing modern design approaches, such as Lean User Experience (Lean UX), can significantly improve usability and user engagement across various web-based systems [6] [7]. The implementation of Lean UX within domains such as education, e-commerce, and information portals has proven effective in delivering systems that are more efficient, intuitive, and enjoyable for users [8] [9]. Lean UX emphasizes iterative development through stages of hypothesis formulation, prototyping, testing, and feedback analysis, enabling design solutions to be rapidly validated and continuously refined based on user needs [10] [11]. This study applies the Lean UX methodology to redesign the performance monitoring website at Pegadaian Regional Office XII Surabaya. The novelty of this research lies in its focus on enhancing usability and user experience within a corporate monitoring system—a domain that remains relatively underexplored in the context of Indonesian SOEs. The redesigned system was evaluated using both the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ) to ensure comprehensive measurement across usability and experiential dimensions. The findings reveal a significant improvement in both aspects, offering not only practical contributions to the development of digital systems for organizational performance monitoring but also valuable insights into the broader application of Lean UX in enterprise environments [12].

2. Research Method

This study adopts the Lean UX approach, which emphasizes team collaboration and rapid user feedback. The process was carried out iteratively, beginning with the identification of user needs, formulation of assumptions, prototype development, and usability testing using SUS and UEQ, followed by evaluation of the results. The research flow diagram illustrating these stages is presented in Figure 1. Through this iterative cycle, the UI/UX redesign is better aligned with user requirements and ultimately enhances the overall user experience.

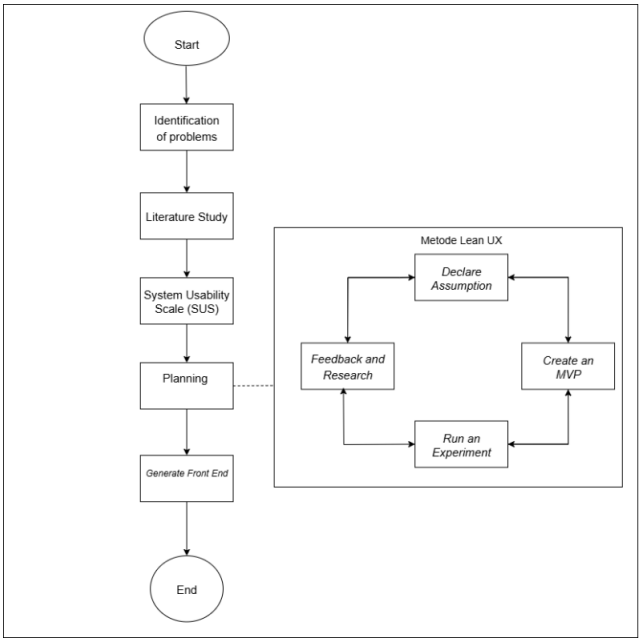

Figure 1. Research Flow Diagram

a. Identification of Problems

This stage was conducted to gain an understanding of user needs and challenges through interviews, observations, and the SUS questionnaire. The analysis revealed several issues in the interaction with the current website interface. These findings served as the foundation for designing solutions using the

Lean UX approach, with the objective of enhancing both efficiency and user satisfaction in utilizing the performance monitoring system.

b. Literature Studies

A literature study was conducted to collect, review, and analyze information from various theoretical sources relevant to this research. The literature was obtained from journals, e-books, and books related to the topic under investigation. The purpose of this study was to develop a deeper understanding of the concepts, theories, and methods underlying UI/UX design, particularly in the context of applying Lean UX. The reviewed sources emphasize the relevance of system design, user interface and user experience, as well as the Lean UX methodology

c. System Usability Scale (SUS)

At this stage, the research population was defined as the active employees of the Business Support Department at Pegadaian Regional Office XII Surabaya, totaling eight participants. The instrument used was the System Usability Scale (SUS) questionnaire, which was distributed via Google Forms. Each respondent was asked to provide ratings on statements using a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree [13]. The results of these assessments were utilized to measure the usability level of the website design. The SUS questions are presented in Table 1.

Table 1. System Usability Scale (SUS) Questions

No	Question	Score
1	I think I will use this performance monitoring again.	1-5
2	I find this performance monitoring complicated to use.	1-5
3	I find this performance monitoring easy to use.	1-5
4	I need help from another person or technician in using this performance monitoring	1-5
5	I feel like these performance monitoring features are working as they should.	1-5
6	I feel there are many things that are inconsistent (not consistent) in this performance monitoring.	1-5
7	I feel like other people will quickly understand how to use this performance monitoring.	1-5
8	I find this performance monitoring confusing	1-5
9	I feel there are no obstacles in using this performance monitoring.	1-5
10	I need to get used to it first before using this performance monitoring	1-5

d. Planning

The design phase was carried out following the four main steps of Lean UX: Declare Assumptions, Create a Minimum Viable Product (MVP), Run an Experiment, and Feedback and Research [14] [15]. In the Declare Assumptions stage, user requirements were gathered through interviews with eight employees to identify challenges and establish initial assumptions [16] [17]. Based on these findings, user personas were developed—namely Distribution and Service Network staff, Marketing and Sales staff, and Business Analysis and Performance Evaluation staff—along with a list of essential features. Subsequently, in the Create MVP stage, an initial design was developed in the form of a sitemap, wireframes, and a prototype using Figma [18]. This prototype included the core features aligned with user needs [19]. The Run an Experiment stage involved usability testing through the Maze platform and the User Experience Questionnaire (UEQ) to evaluate six dimensions: attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty [20] [21]. Finally, in the Feedback and Research stage, user feedback was analyzed to refine the design [22] [23]. The final evaluation is conducted by UI/UX experts using heuristic evaluation to provide a more objective assessment and ensure the design achieves an acceptable level of usability and user satisfaction [24] [25].

e. Generate Frontend

At this stage, after the design was evaluated and well received by users, the next process was the Generate phase. In this research, the front-end generation focused on implementing the interface design for a single feature within the UI/UX website design. The design generation process in Figma was carried out only for selected interface elements.

3. Result and Discussion

3.1. Declare Assumptions Stage

Based on the evaluation using the System Usability Scale (SUS), the website obtained an average score of 43.5. This score indicates that the performance monitoring website falls into the poor usability category, suggesting that it has not yet provided a satisfactory user experience for Pegadaian Business Support employees. To further investigate this finding, user interviews were conducted to identify more specific issues. The detailed calculation of the SUS score is presented in Table 2.

Table 2. SUS Existing Condition

SUS	Respondents				
	P1	P2	P3	P4	P5
Q1	2	4	5	4	5
Q2	4	4	3	4	4
Q3	3	2	2	3	3
Q4	4	4	4	4	2
Q5	4	4	2	2	3
Q6	5	5	5	4	3
Q7	2	4	4	4	5
Q8	4	4	4	3	4
Q9	3	2	2	4	5
Q10	5	4	2	4	4
Nilai Sus	30	37.5	42.5	45	62.5
Rata-rata			43.5		

The interview results revealed that, although the primary objective of the website is to facilitate target monitoring and accelerate reporting, users continue to face difficulties in its utilization. Several issues were identified, including confusing navigation, an unattractive user interface, and the absence of a search feature to expedite data access. In addition, users suggested the development of new features such as target achievement notifications, more interactive data visualizations, and a responsive layout for mobile devices.

Furthermore, the interviews informed the development of user personas that represent the needs, characteristics, and goals of users in operating the performance monitoring website. The user persona is illustrated in Figure 2.

Figure 2. User Persona Staf Distribution & Service Network Staff (left), Marketing & Sales Staff (center), and Business Analysis & Performance Evaluation Staff (right)

The developed features are divided into two parts. The first part focuses on the front-end, ensuring that users can easily access information and interact with the website. The second part concerns the back-end, which provides administrators with the ability to add, edit, and delete data. The detailed breakdown of these features is presented in Table 3.

Table 3. Menu and Feature List

No	Proposed Menu and Features	Function
1	Landing Page	Directing visitors to perform a specific action, such as logging in to the homepage.
2	Login	As the main gateway that connects users to the website and determines staff roles
3	Homepage	The homepage is the main page of a performance monitoring website, containing information and several menus.
4	KPI Page	The KPI Summary Report menu is a menu that displays a summary report
5	KPI information notification feature for areas, branches, and outlets	Help remind staff to provide prompt notification regarding any areas, branches, or outlets experiencing issues.
6	View detailed KPIs for areas, branches, and outlets.	This feature displays the work unit profile, including information regarding the address, telephone number, person in charge, email

			address, and KPI status for each area, branch, and outlet.
7	Coordination notes feature		This feature provides coordination notes containing obstacles faced by area offices, branches, and outlets. However, for marketing staff, this feature will display the contents of the notes.
8	Assistance application feature		This feature allows you to request assistance from the network and service distribution section.
9	Activity status feature		Monitor the progress of ongoing activities, such as whether they have been contacted or not.
10	To Do List feature		This feature is for the marketing & sales department, displaying area offices, branches, or outlets that need assistance.
11	The promo page is equipped with add, edit, and delete features.		Page for marketing & sales section which is used to manage ongoing promo programs.
12	About us		Providing a company identity through profile presentations and introducing our team, namely our staff.
13	Profile		As a user identity center that stores personal information while providing access to manage accounts.
14	Notification		Information for staff regarding the latest updates
		Admin	
15	Dashboard management		Provides quick insights into the performance of KPIs for areas, branches, and outlets.
16	Account management		This page is used to manage user data such as name, role, email, status, and actions.
17	Data management		This page functions as the KPI data center in the KPI table on the KPI page
18	Contact management		This page provides features for adding and updating contact information for areas/branches/outlets that have been displayed.
19	Promo management		This page is used to manage sales programs, from adding, updating, to deleting promo data and coordinating with marketing & sales staff.
20	Profile admin		As a user identity center that stores personal information while providing access to manage accounts.
21	Notification admin		Information for staff regarding the latest updates

3.2. Create an MVP stage

At this stage, a Minimum Viable Product (MVP) was developed to serve as an initial representation of the system before further enhancement. The MVP began with the creation of wireframes that illustrate the page layout structure, navigation flow, and key elements of the website. These wireframes remain simple in nature, without detailed visual design. Figure 3 presents the resulting wireframe design.

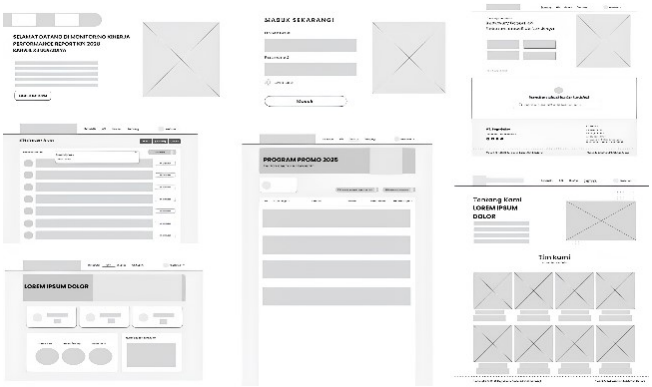

Figure 3. Wireframe Design Performance Monitoring Website

Subsequently, the wireframe was further developed into a more interactive prototype. The prototype incorporates design elements such as color, typography, icons, and simulated user flows, making it closely resemble the final version of the website. Figure Y illustrates the resulting prototype design.

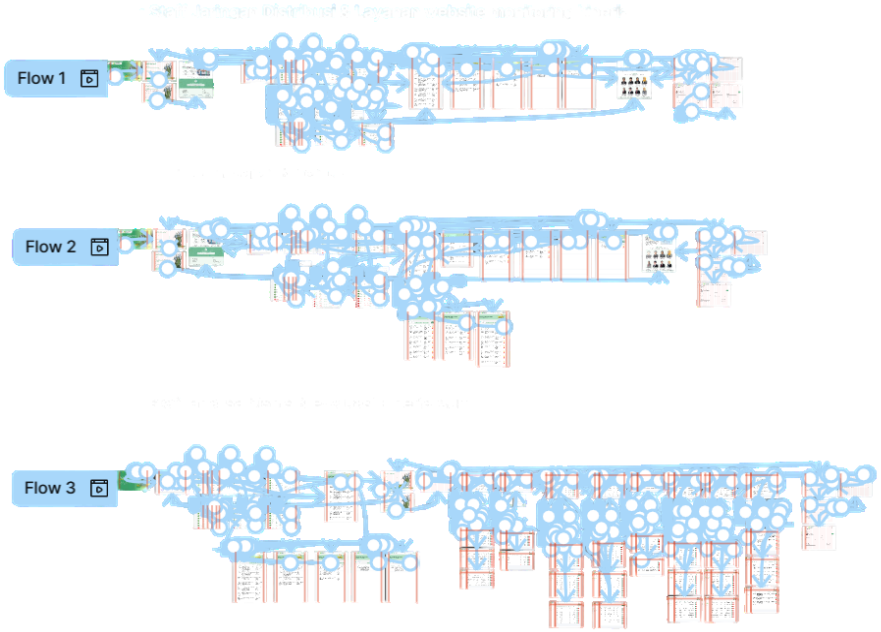

Figure 4. Prototype Performance Monitoring Website

Tahapan wireframe dan prototype ini membantu tim dalam memvalidasi desain sebelum implementasi, sehingga perbaikan dapat dilakukan lebih cepat berdasarkan masukan dari pengguna maupun pihak terkait.

3.3. Run an Experiment stage

At this stage, the system was tested through several usage scenarios tailored to the needs of each user role. These scenarios aimed to ensure that every core function operates as expected and supports the existing business processes.

Table 4 presents the test scenarios carried out by the Distribution and Service Network staff. In this scenario, the evaluation focused on how the system facilitates the management and distribution of service information to improve overall effectiveness.

Table 4. Network staff & service distribution scenarios

Code	Task	Task Description
UT-01	Login Account	Let's start using the performance monitoring website! Open the website and click the "Access Your Account" button. Next, you'll see a login page; click the login button.
UT-02	View KPI scores, provide coordination notes and request assistance for Area office KPIs	Once you're on the homepage, select KPIs from the navigation bar. Select the area office KPI, set the date filter, then click View Details for the Malang area and then View Details for the Pamekasan area to add notes and request assistance.
UT-03	View KPI scores, provide coordination notes and request assistance for Branch Office KPIs	On the branch office KPI page, specify the date filter then click view details on Kotalama and click view details on Blauran to provide notes and request assistance.
UT-04	View KPI scores, provide coordination notes and request assistance from Outlet office KPIs	On the KPI office Outlet page, select the date filter then click view details on the BRI Balerejo unit and click view details on the Pacet UPC to provide notes and request assistance.
UT-05	Accessing Promotions	On the homepage, click "Promotion" on the navigation bar. Once the promotion page appears, select the central or regional program filter. Do this sequentially. After trying all the filters, move on to the next filter: the "Select Program Target" filter. You can select the HNWI and Simpedes UMI customer filters.
UT-06	View the about us page and manage your profile and notifications.	On the Homepage, click About on the navigation bar. After the about page appears, click the user name, and a dropdown menu will appear. Then click Settings. On the settings page, you will see your profile. You can edit your profile and change the

		language. In addition, you can also click Notifications to view information. Once all processes are complete, you may log out.

Next, Table 5 shows the marketing and sales staff scenario. This test focuses on how the system supports data processing related to marketing and sales activities, resulting in accurate information to support decision-making.

Table 5. Marketing & Sales staff scenario

Code	Task	Task Description
UT-01	Login Account	Let's start using the performance monitoring website! Open the website and click the "Access Your Account" button. Next, you'll see a login page; click the login button.
UT-02	View Area Office KPI scores and records	After logging in to the homepage, select KPI from the navigation bar. Choose KPI for regional offices, set the date filter, then click View Details on the Malang area and click View Details on the Pamekasan area to see the coordination notes.
UT-03	View branch office KPI scores and records	In the KPI for branch offices, set the date filter, then click View Details on Kotalama and click View Details on Blauran to view the coordination notes.
UT-04	View Outlet office KPI scores and records	In the KPI for outlet offices page, set the date filter, then click View Details on BRI Unit Balerejo and click View Details on UPC Pacet to see the coordination notes.
UT-05	Access promotions and carry out activities on the promotion page	On the Homepage, click Promo on the navigation bar. After the promo page appears, click the “TO DO LIST” button, then click Promo on the navigation bar again to return to the promo page. If you want to add recommended promotional programs, use the Add Promo feature to create a new promotional program. You can also edit a promo by clicking the yellow edit icon, or delete a promo by clicking the red trash icon.
UT-06	Access the promo and try the filters in it	On the Promo page, set the filter for central programs or regional programs. Do this step by step. After trying all filters, switch to the next filter, namely Select Program Target. You can choose the HNWI customers filter and the Simpedes Umi filter.
UT-07	View the about us page and manage your profile and notifications.	On the Homepage, click About on the navigation bar. After the about page appears, click the user name, and a dropdown menu will appear. Then click Settings. On the settings page, you will see your profile. You can edit your profile and change the language. In addition, you can also click Notifications to view information. Once all processes are complete, you may log out.

Subsequently, Table 6 presents the test scenarios for the Business Analysis and Performance Evaluation staff. In this phase, the testing was conducted to assess the extent to which the system can support data analysis and the preparation of corporate performance evaluations.

Table 6. Business analysis staff & performance evaluation scenario

Code	Task	Task Description
UT-01	Access KPI	Let’s start using the performance monitoring website! Open the website, then click the “KPI” button. After entering the KPI Page, select Area Office KPI, set the date filter, then click View Details on Malang area and click View Details on Pamekasan area to see coordination notes.
UT-02	Access branch office KPI	On the Branch Office KPI, set the date filter, then click View Details on Kotalama and click View Details on Blauran to see coordination notes.
UT-03	Access outlet office KPI	On the KPI Page, select Outlet Office KPI, set the date filter, then click View Details on BRI Unit Balerejo and click View Details on UPC Pacet to see coordination notes.
UT-04	Access promo page	On the KPI Outlet page, click Promo on the navbar. This will open the Promo Admin Page. Set the filter for Central Program or Regional Office Program. Perform this step sequentially, after testing all filters please switch to the next filter, namely Target Program filter. You may select HNWI customers and Simpedes Umi as filter options.
UT-05	Login and account management	On the Landing Page, click Login on the navbar. After entering the KPI Dashboard page, select ACCOUNT from the sidebar. You want to add an account. Add your account using the Add Account feature to register a new account program. You can also edit an account by clicking the green edit icon, or delete an account by clicking the red trash icon.

UT-06	Access area office KPI data management	On the ACCOUNT page, select DATA from the sidebar. Click AREA to perform activities on that page. You can edit data by clicking the green edit icon, or delete data by clicking the red trash icon.
UT-07	Access branch office KPI data management	On the DATA Area page, click BRANCH to perform activities on that page. You want to add branch data. Add your branch data using the Add feature to register a new branch. Click DATA on the sidebar if you want to edit branch data by clicking the green edit icon, or delete branch data by clicking the red trash icon.
UT-08	Access outlet office KPI data management	On the DATA Branch page, click OUTLET to perform activities on that page. You want to add outlet data. Add your outlet data using the Add feature to register a new outlet. Click DATA on the sidebar if you want to edit outlet data by clicking the green edit icon, or delete outlet data by clicking the red trash icon.
UT-09	Access area office KPI contact management	On the DATA Outlet page, click CONTACT from the sidebar. Click AREA to perform activities on that page. You can edit data by clicking the green edit icon, or delete data by clicking the red trash icon.
UT-10	Access branch office KPI contact management	On the CONTACT Area page, click BRANCH to perform activities on that page. You want to add branch contacts. Add branch contacts using the Add feature to register a new branch contact. Click CONTACT on the sidebar if you want to edit branch contacts by clicking the green edit icon, or delete them by clicking the red trash icon.
UT-11	Access outlet office KPI contact management	On the CONTACT Branch page, click OUTLET to perform activities on that page. You want to add outlet contacts. Add outlet contacts using the Add feature to register a new outlet contact. Click CONTACT on the sidebar if you want to edit outlet contacts by clicking the green edit icon, or delete them by clicking the red trash icon.
UT-12	Access promo management	On the CONTACT Outlet page, click PROMO from the sidebar to perform activities on that page. You want to add a promo program. Add your promo program using the Add feature to register a new promo. Click PROMO on the sidebar if you want to edit a promo program by clicking the green edit icon, or delete a promo program by clicking the red trash icon.
UT-13	Manage profile settings and view notifications	On the PROMO Page, click your username and a dropdown menu will appear, then click Settings. On the Settings page, your profile will be displayed. You can edit your profile and change the language. In addition, you may click Notifications to view information. Once all processes are complete, you may log out.

Through these three scenarios, it can be observed that the system has been tested from multiple user perspectives with different functional roles, thereby ensuring its reliability and alignment with real user needs.

3.4. Feedback and Research stage

At this stage, design improvements were carried out based on feedback from the previous phase, with the aim of simplifying workflows, enhancing the user interface, and refining features to better meet user needs. Input from respondents was utilized to finalize the prototype, ensuring that the website became more appealing and user-friendly. Several key refinements implemented include improving the consistency of month names in the date filter and region names in staff coordination notes, adjusting the navbar color on the business analysis staff login page, modifying KPI icon colors to more clearly distinguish target achievements, and enhancing the responsiveness of program and objective filters.

Tables 7–9 present the results of usability testing conducted using Maze.co, which include the average task completion time, number of misclicks, success rate, and usability level for each scenario. From these tests, Table 7 shows that the average usability score for customers was 82.71 out of 100, which falls into the medium level and indicates that usability has not yet reached an optimal state. Meanwhile, Table 8 reports an average usability score of 96.71 out of 100 for cashiers, and Table 9 shows a score of 90.38 out of 100; both of these results fall into the high usability category, suggesting that further iterations were not necessary and the process could proceed directly to the next evaluation stage.

Table 7. Average Performance Scenario of distribution network staff & service testing Usability condition after repair

Code	Average	Click Error	Status	Usability

	completion time	Rate	Instant Success	Indirect Success	Not successful	Value
UT-01	10.4s	0%	3	0	0	100
UT-02	26.7s	0%	3	0	0	100
UT-03	30.2s	7.3%	2	1	0	80
UT-04	33.0s	9.5%	2	1	0	80
UT-05	20.3s	0%	0	3	0	50
UT-06	32.4s	0%	3	0	0	94
Rata-rata			82.71			

Table 8. Average Performance of Marketing & Sales Staff Scenario Usability Testing Condition After Improvement

Code	Average completion time	Click Error Rate	Status			Usability Value
			Instant Success	Indirect Success	Not successful	
UT-01	9.3s	0%	2	0	0	100
UT-02	19.6s	0%	2	0	0	100
UT-03	13.1s	0%	2	0	0	100
UT-04	14.4s	7.7%	2	0	0	95
UT-05	34.9s	0%	2	0	0	100
UT-06	19.4s	7.7%	2	0	0	95
UT-07	22.0s	28.0%	2	0	0	87
Rata-rata			96.71			

Table 9. Average performance of Scenario staff business analysis & Usability testing evaluation condition after improvement

Code	Average completion time	Click Error Rate	Status			Usability Value
			Instant Success	Indirect Success	Not successful	
UT-01	32.0s	14.3%	3	0	0	93
UT-02	12.3s	10.0%	3	0	0	94
UT-03	19.2s	0%	2	1	0	83
UT-04	20.7s	0%	0	3	0	50
UT-05	5.8s	0%	3	0	0	100
UT-06	24.8s	17.6%	3	0	0	97
UT-07	17.7s	0%	3	0	0	100
UT-08	20.0s	0%	3	0	0	100
UT-09	17.4s	0%	3	0	0	100
UT-10	20.8s	9.4%	2	1	0	81
UT-11	23.5s	12.2%	2	1	0	79
UT-12	17.5s	4.5%	3	0	0	99
UT-13	24.3s	2.3%	3	0	0	99
UT-14	13.6s	20.0%	3	0	0	93
Rata-rata			90.38			

The process resulted in a refined final design, as illustrated in Figure 5. This final design reflects a more optimal solution to support operational needs, encompassing service distribution, marketing and sales, as well as business analysis and performance evaluation. With these improvements, the finalized design can serve as a reference for the comprehensive implementation of the system.

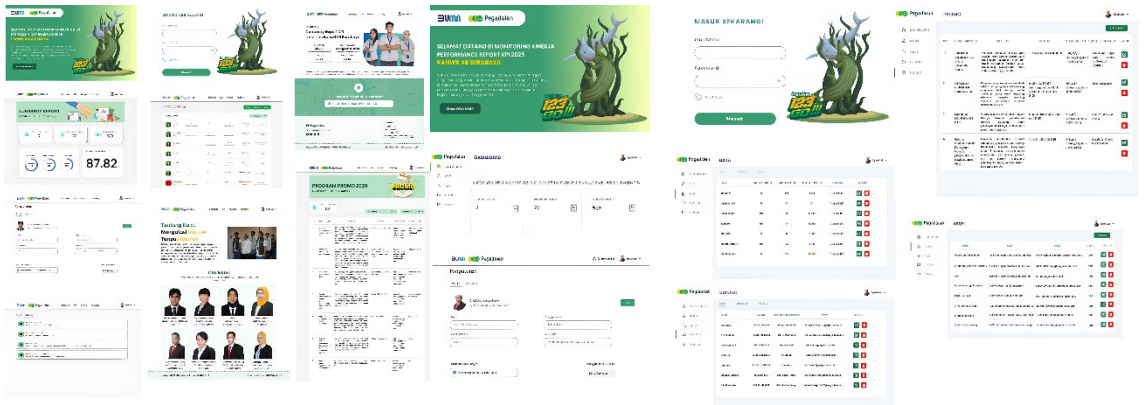

Figure 5. Final Website Design after UI/UX Redesign

4. Conclusion

Based on the research findings, the UI/UX redesign of the performance monitoring website at Pegadaian Regional Office XII Surabaya using the Lean UX method successfully produced an improved interface in terms of both usability and user experience. The development process was carried out through the stages of declaring assumptions, creating a Minimum Viable Product (MVP), running experiments, and conducting feedback and research, with the active involvement of key users, namely the Business Analysis & Performance Evaluation staff, the Distribution & Service Network staff, and the Marketing & Sales staff.

The results of the study showed that the initial website design using the User Experience Questionnaire test obtained an average score of 1.75 out of 2.50 with the 'Good' category. results across all dimensions—attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty. Accordingly, the new design is considered more user-friendly, supports greater work efficiency, and delivers an overall enhanced user experience for Pegadaian employees. For Pegadaian, the redesign process not only improved the usability score from “Not Acceptable” to “Good” but also demonstrated how iterative, feedback-driven methods can significantly enhance efficiency in performance evaluation and decision-making processes. This suggests that Lean UX can serve as a practical framework for continuous system improvement, particularly in organizations where rapid adaptation and responsiveness to user needs are essential.

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