

User Experience Evaluation and Recommendation for Persada Hospital's Information System

Milkhatussyafa'ah Taufiq¹, Davin Nayaka Pandya¹, Calvin Farrellino Kurniawan¹, Doddy Suryadharma¹
Bina Nusantara University¹
milkhatussyafaah.taufiq@binus.ac.id, davin.pandya@binus.ac.id, calvin.kurniawan004@binus.ac.id,
doddy.suryadharma@binus.ac.id

Abstract

Persada Hospital's information system is a website that has many features available to the user, such as doctor's schedules, facilities, and many more. The main determinants of how well this website is used are its user interface and user experience (UI/UX), reliable functionality, and usability. Therefore, to always provide a positive user experience, the web developer needs to pay attention to these aspects. In this paper, we evaluate the user experience based on a tool called User Experience Questionnaire (UEQ). Based on our research, Persada Hospital's information system has a good score with some exceptions, namely the speed and usualness of the website. Overall, Persada Hospital's information system has a good UX. However, we have adjusted our ideas to improve the hospital website's user design. Our study has shown that increasing the overall attractiveness and innovativeness of the website is critical for creating a favorable user experience.

Keywords: Information System, User Experience Questionnaire (UEQ), user experience, usability

Abstrak

Sistem informasi Rumah Sakit Persada adalah sebuah situs web yang memiliki banyak fitur yang tersedia bagi pengguna, seperti jadwal dokter, fasilitas, dan lainnya. Penentu utama seberapa baik situs web ini digunakan adalah user interface dan user experience (UI/UX), fungsionalitas yang handal, dan kegunaan. Oleh karena itu, agar selalu memberikan pengalaman pengguna yang positif, pengembang web perlu memperhatikan aspek-aspek tersebut. Dalam penelitian ini, kami mengevaluasi pengalaman pengguna berdasarkan alat yang disebut User Experience Questionnaire (UEQ). Berdasarkan penelitian kami, sistem informasi Rumah Sakit Persada memiliki skor yang baik dengan beberapa pengecualian, yaitu kecepatan dan kesamaan situs web. Secara keseluruhan, sistem informasi Rumah Sakit Persada memiliki UX yang baik. Namun, kami memberikan rekomendasi tampilan untuk meningkatkan desain pengguna situs rumah sakit. Penelitian kami menunjukkan bahwa meningkatkan daya tarik dan inovasi keseluruhan situs web adalah hal yang kritis untuk menciptakan pengalaman pengguna yang menguntungkan.

Kata kunci: Sistem Informasi, User Experience Questionnaire (UEQ), user experience, usability

I. INTRODUCTION

Health services are one of the important aspects that must be considered by the society. However, it has identified limitations in the healthcare services. Across the literature [1], some primary areas of tension have been identified: lack of integration with health and social care, insufficient knowledge and understanding, and a need for greater parity and clarity. Previous studies sought to synthesize information on healthcare services but failed to focus on service user experience in a systematic manner [2].

Healthcare is a specialist industry in which products and services must meet professional standards that most designers are unfamiliar with. Different stakeholders have highly different knowledge backgrounds, concerns, working methods, and so forth, making communication and innovation among them complex and difficult [3]. Hospitals and other types of healthcare facilities require

information systems, particularly websites that provide a variety of information. A website can aid with marketing, networking, and educating patients or the general public about patient care or good living [4]. Understanding the importance of healthcare sector quality is practical, as healthcare industry managers are increasingly faced with strategic decisions regarding which technological platforms and modalities to invest in [5].

Persada Hospital, situated in the vibrant city of Malang, is a leading healthcare institution renowned for its commitment to providing quality medical services and exceptional patient care. Central to the hospital's mission is its sophisticated information system, accessible through its user-friendly website [6]. This online platform serves as a vital hub for the dissemination of essential information to the public. Among the wealth of services available on the website, the doctor's schedule is a notable feature. Furthermore, the system boasts a comprehensive list of doctors affiliated with Persada Hospital, offering the

convenience of filtering by the specific hospital building where the doctors practice and their respective medical specialties. This feature empowers patients to make informed choices regarding their healthcare, aligning them with medical professionals best suited to address their specific needs.



Fig. 1. Main Page of Persada Hospital's Website

Jadwal Dokter Poliklinik Gedung A

Jadwal Praktek Gedung A Jadwal Praktek Gedung B

Spesialis	Nama Dokter	Senin	Rabu	Kamis	Jumat	Sabtu	Absen
Dokter Spesialis Penyakit Dalam	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
Dokter Spesialis Penyakit Dalam	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
Dokter Spesialis Penyakit Dalam	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
Dokter Spesialis Penyakit Dalam	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00
	Dr. H. H. H. H. H.	08.00 - 12.00	12.00 - 13.00	13.00 - 15.00	15.00 - 17.00	17.00 - 19.00	19.00 - 21.00

Fig. 2. Doctor Schedule Page of Persada Hospital's Website

This study is conducted to assess how good the User Experience (UX) of Persada Hospital's information system. UX is the experience that someone gets when the user uses or interacts with the product in a particular condition. There are a lot of factors that determine the UX, such as the user expectation and prior knowledge, and the product mobility and adaptivity [7].

The method that is being used to assess the UX level is by measuring usability. The usability test is a test to measure the UX of a website where the problem of UX and the time the participant needs to solve the task is measured in a quantitative indicator [8]. One method of measuring usability is using the User Experience Questionnaire (UEQ).

This study uses the UEQ to measure the level of user experience. We hope that this study will assess the advantages and disadvantages of Persada Hospital's information system in terms of UX.

II. RESEACH METHODOLOGY

1.1. The Usability of Healthcare Websites

Usability is one of the elements that define a software system's success. Usability means how easy it is for people to use a website. It's about how straightforward and comfortable the experience feels to users [9]. The usability of healthcare websites is an issue that must be addressed. Because doctors and patients are the key users of these websites, usability must be prioritized throughout

the design process. Previous study [10] conclude that questionnaires, observations, task-based evaluations, tool-based evaluations, and surveys are common methodologies used to assess the value of healthcare websites. Some of the basic usability features of healthcare websites include providing appropriate feedback, efficiency, iconic representation, video representation, and accuracy, while inadequate feedback, difficulty navigating, consistency, search features, cross-device interactions, and a lack of digital messaging features are some of the problems identified [10]. When performed by multiple interface designers, the outcomes of these assessments are frequently diverse, showing a lack of systematization of evaluation results. Questionnaires can be automated to help with usability testing and data collecting and summary.

Furthermore, individuals want to access and obtain information quickly and accurately. As a result, if the website is difficult to use and delivers information that does not meet the user's demands, there will be few visits, and even users will opt to go to other websites [11].

1.2. Human-Computer Interaction and User Experience

Human-Computer Interaction (HCI) and usability is closely related to UX because the main goal of these area is to create interfaces that are good and easy to use by users. This is in line with the goal of UX, where good user experience is determined by how easy and intuitive users can use the service or product. Therefore, in both the development and production of successful products or services, UX is an aspect that need to be considered in order to create satisfying products or services [12].

UX refers to the interaction between the user and the product, such as how the user behaves when using the product and how well the product makes the user's life simpler. Aside from usability, characteristics such as enjoyment and satisfaction must be the major aims of the system, and one method to do this is by increasing UX so that the system becomes more appealing. Furthermore, frequent UX reviews are required, with the key software criteria being quick, generally easy to use, light, or not demanding a lot of resources [13].

Assessing UX necessitates evaluation instruments such as the System Usability Scale (SUS), the After Scenario Questionnaire (ASQ), the Subjective Mental Effort Questionnaire (SMEQ), the Single Ease Question (SEQ), the Net Promoter Score (NPS) with a single item, and the User Experience Questionnaire (UEQ) [14]. The UEQ's primary purpose is to provide a quick and direct assessment of user experience [10]. Each UEQ item (there are 26 in total) is composed of two words having opposing meanings [15]. Each question is graded on a 7-point Likert scale, with 1 representing complete disagreement with the negative term and 7 representing complete agreement with the positive word.

1.3. User Experience Questionnaire (UEQ)

In this research, the UX is examined using quantitative methodology. In this research, a questionnaire was used. The population that is used for this research is Indonesian people. The sample is 38 indonesian people that is willing to use the website. The user's preferred interface serves as the dependent variable. The user experience of each

individual user is the independent variable. The website's user interface for Persada Hospital serves as the control variable.

The User Experience Questionnaire (UEQ) is utilized in this study to give the necessary data. The UEQ is one of several questionnaires whose outcomes can provide a fast assessment to measure the level of a system's user experience. The UEQ takes into consideration of the pragmatic and hedonic quality aspects [15].

UEQ questions measure six factors of user experience (UX), namely efficiency, attractiveness, dependability, clarity, stimulation, and novelty. The various scale on the UEQ are shown in Figure 3. Six key components of the UEQ questionnaire are broken down into 26 questions, each with an answer column that is presented as a measurement scale with two phrases that have opposing meanings [16].

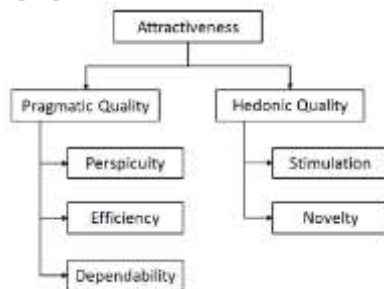


Fig. 3. Scale Structure of The UEQ

Moreover, a seven-level scale is used to each question. The following are the 6 key component or scales on the UEQ:

- **Attractiveness:** overall impression of a product or system being evaluated. Items: unpleasant or pleasant, annoying or enjoyable, good or bad, friendly or unfriendly, attractive or unattractive.
- **Perspicuity:** level of understanding. Items: easy to learn or difficult to learn, not understandable or understandable, complicated or easy, clear or confusing.
- **Efficiency:** the measure of how effectively resources is used to achieve a particular objective. Items: fast or slow, impractical or practical, inefficient or efficient, organized or disorganized.
- **Dependability:** The level of control of the system or product interaction. Items: unpredictable or predictable, obstructive or supportive, safe or unsafe, meets expectation or doesn't meet expectation.
- **Stimulation:** the level to which a product or service excites the user. Items: valuable or inferior, boring or exciting, not interesting or interesting, unattractive or attractive, motivating or demotivating.
- **Novelty:** the level of originality, and innovation of a product or service. Items: creative or boring, inventive or conventional, usual or leading edge, conservative or innovative.

Attractiveness is a pure valence dimension. The pragmatic quality aspects include Perspicuity, Efficiency, and Dependability. Meanwhile, Stimulation, and Novelty are aspects of hedonic quality.

The questionnaire, as well as some application evidence and an Excel-Tool for data analysis, are free to download at www.ueq-online.org. The questionnaire includes the items shown in Figure 4.

	1	2	3	4	5	6	7		
annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	enjoyable	1
not understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	understandable	2
creative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dull	3
easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	difficult to learn	4
valuable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inferior	5
boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	exciting	6
not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	interesting	7
unpredictable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	predictable	8
fast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	slow	9
inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conventional	10
obstructive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	supportive	11
good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	bad	12
complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy	13
unlikable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasing	14
usual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	leading edge	15
unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasant	16
secure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	not secure	17
motivating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	demotivating	18
meets expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	does not meet expectations	19
inefficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efficient	20
clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	confusing	21
impractical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	practical	22
organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	cluttered	23
attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unattractive	24
friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unfriendly	25
conservative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	innovative	26

Fig. 4. List of Questions

The questionnaire is issued to get responses from respondents regarding how they feel when utilizing the website's features. The UEQ requires little effort to set up. Typically, it takes 3-5 minutes for a participant to read the instructions and complete the questionnaire [15].

III. RESEARCH RESULT

The researchers utilized data analysis to obtain the results of the UEQ method analysis. Based on 38 respondents, the highest average dimension obtained was Perspicuity, with a score of 1.642. This indicates that the information system of Persada Hospital has a user-friendly interface, enabling users to easily comprehend and adapt to its usage. On the other hand, the lowest mean dimension was Novelty, with a score of 0.774. This indicates that improvements are needed in the Persada Hospital's information system to provide users with a more updated and appealing experience. Enhancements to the system's functionality and user interface can be made to achieve this goal. Table 1 illustrates the average values for each dimension.

Table 1: Mean for UEQ Scale

Confidence intervals (p=0.05) per scale					
Scale	Mean	Std. Dev.	Confidence	Confidence interval	
Attractiveness	1.473	1.143	0.140	1.333	1.613
Perspicuity	1.642	1.138	0.140	1.502	1.782
Efficiency	1.607	1.048	0.129	1.478	1.735
Dependability	1.243	0.908	0.111	1.132	1.355
Stimulation	1.135	1.061	0.130	1.005	1.266
Novelty	0.774	1.079	0.132	0.641	0.906

Figure 5 provides a clear visual representation of the mean values per item from the questionnaire. This figure is a valuable component of our research, as it offers a concise

overview of how respondents rated individual items in the questionnaire.

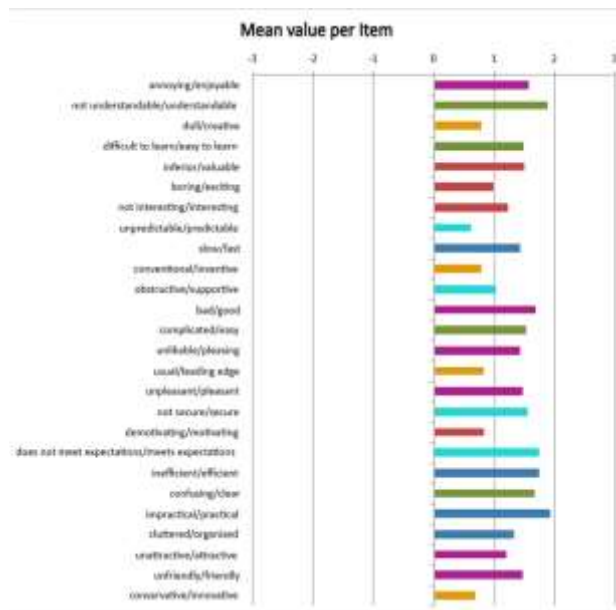


Fig. 5. Mean Value per-item questionnaire

The results of the UEQ method analysis for each dimension are displayed in Figure 6, with a standard expected value range of -0.8 to 0.8. A positive evaluation result is achieved when the scale value exceeds 0.8, while a value lower than -0.8 indicates a negative evaluation result.

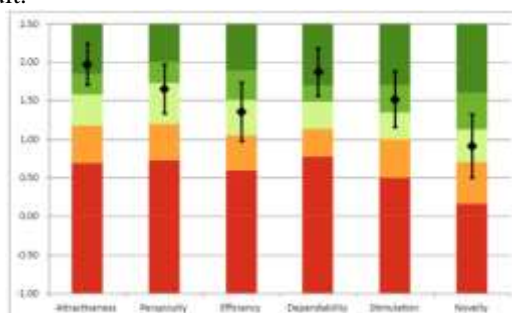


Fig. 6. Graphic of UEQ Scale Results

Based on Figure 6, it can be observed that five dimensions fall within the positive evaluation range, while only one dimension (novelty) has exceeded the standard UX average expected value. Hence, we can conclude that Persada Hospital's information system has a positive impact on attractiveness, clarity, efficiency, stimulation, and dependability, and its attractiveness level is above average.

IV. DISCUSSION

4.1. Data Analysis and Interpretation of Result

UEQ provided a spreadsheet that can be used to identify some dubious data. Only two suspicious data are available in that spreadsheet. Based on the data, the Persada Hospital's information system is limited in terms of novelty, as users find the information provided to be mundane and lacking in creativity, with no additional features or enhancements that are of a higher standard.

This is intended to keep users familiar with the system's general appearance and to facilitate quick adaptation. Based on these findings, it is hoped that researchers will be able to improve the novelty dimension of the system by introducing new features or display styles to enhance its innovativeness.

In order to evaluate the quality of Persada Hospital's information system, we can refer to benchmark data that falls into five categories. These categories are as follows:

1. Excellent: This category signifies that the evaluated product is among the top 10% of results.
2. Good: If the evaluated product falls under this category, it means that 10% of benchmark results are better than the evaluated product, while 75% are worse.
3. Above Average: The benchmark results are 25% better than the evaluated product, with 50% worse results, if it falls under this category.
4. Below Average: If the evaluated product falls under this category, it indicates that 50% of benchmark results are better than the evaluated product, while 25% are worse.
5. Poor: This category implies that the evaluated product is among the bottom 25% of results.

To determine the performance of Persada Hospital's information system, we have compared its results to the benchmark data provided in Figure 10. The benchmark data has an average value for each element, and if an element has an average value greater than 1.10, it will receive an above-average rating for efficiency. Similarly, if an element has an average value greater than 0.80, it will receive an above-average rating for novelty.

The average value of each element obtained from the UEQ questionnaire results is marked on the axis, depicting the UEQ scores for each element. Persada Hospital's information system performs at a satisfactory level for all UX dimensions, nearly reaching the good level. As all dimensions are already above average, there is no need for improvement in any UX dimension.

Therefore, based on Figure 6, Persada Hospital's information system benchmark is fairly good. The user experience questionnaire for Persada Hospital's information system indicates that it fulfills user needs across all six dimensions, including Attractiveness, Perspicuity, Efficiency, Dependability, which are superior to the aspects covered in Attractive and Pragmatic quality.

Figure 7 illustrates the Persada Hospital's information system benchmark, encompassing the technical aspects of operating and utilizing its features. This includes new features, creativity, and presentations that are not monotonous, while fulfilling user expectations. Additionally, Persada Hospital's information system has met user expectations regarding attractiveness and pragmatic quality.

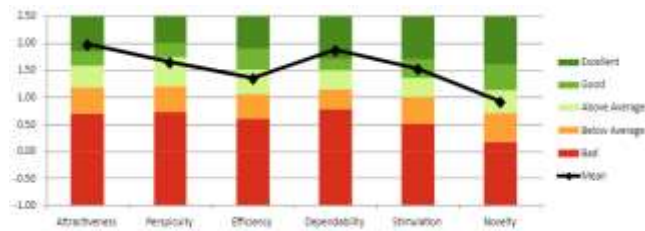


Fig. 7. Benchmark of UEQ Scale Results

According to the research variable, the user's preferred interface serves as the dependent variable, the user experience of each individual user is the independent variable, and the website's user interface for Persada Hospital serves as the control variable. From the research result, overall the Persada Hospital's website have a good UX.

4.2. User Interface Recommendation

Based on the study findings obtained through the User Experience Questionnaire (UEQ) method, we have tailored our recommendations to enhance the user interface of the hospital website. Our research has highlighted the importance of improving the website's overall appeal and innovativeness to create a positive user experience.

To achieve this, we have made several changes to the website's visual design, including updating the color palette and typography to create a more modern and visually pleasing aesthetic. We have also incorporated user-friendly navigation elements, ensuring that users can easily find the information they need. Additionally, we have improved the layout and organization of content to enhance readability and accessibility.

In Figure 8, we present a visualization of our main page website recommendations. This graphic serves as a concise summary of the key improvements and changes suggested for the website's main landing page. It offers a snapshot of our recommendations, making it easier for stakeholders and design teams to grasp the proposed enhancements at a glance.

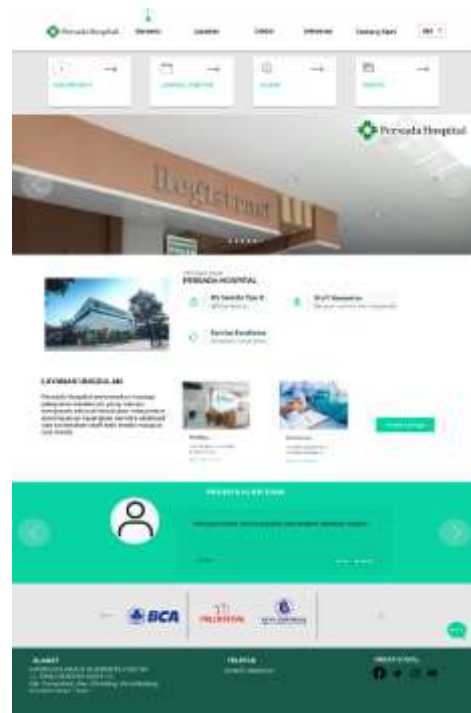


Fig. 8. Main Page Recommendation



Fig. 9. Doctor's Schedule Page Recommendation

In Figure 9, we present a visual representation of our recommendations specifically tailored for the Doctor Schedule page on the website. This graphic succinctly encapsulates the key enhancements proposed for this crucial section. The Doctor Schedule page plays a vital role in UX, as it assists patients in finding and scheduling appointments with ease.



Fig. 10. Specialist List Page Recommendation

In Figure 10, we illustrate our recommendations tailored specifically for the Specialist List page of the website.



Fig. 11. Doctor Specialist Page Recommendation

In Figure 11, we provide a visual representation of our website recommendations for the Doctor Specialist page. The Doctor Specialist page is of utmost importance, as it serves as a crucial reference point for patients seeking specialized medical expertise.



Fig. 12. News Page Recommendation

Figure 12 provides a visual summary of our website recommendations for the News Page. This graphic encapsulates the key improvements suggested for this section, which plays a significant role in keeping users informed about the latest updates and developments.

In summary, our recommendations for the hospital website focus on enhancing its visual appeal, usability, and functionality based on the insights gained from the UEQ method. By implementing these changes, we aim to provide users with an improved and more engaging experience while visiting the website, ultimately contributing to better user satisfaction and a more effective digital presence for the hospital.

V. CONCLUSION

According to the UEQ results, the information system at Persada Hospital offers a good degree of user experience, with the attractiveness component receiving the highest marks. Overall, this website scored above average in every category. The main determinants of how well this website is used are its user interface and user experience (UI/UX), reliable functionality, and usability. Therefore, in order to always provide a positive user experience, the web developer needs to pay attention to these aspects.

The Persada Hospital website could benefit from new features that are required to enhance user experience and offer more value to website visitors. Based on the data examined, the website for Persada Hospital has already attained a high level of excellence in nearly all areas. However, due to the limitation time, it was a little challenging to achieve the minimum target of respondents. But in the end, we were able to obtain the necessary number of respondents.

In order to enhance the effectiveness of our research, we recommend the incorporation of additional respondents for the questionnaire and the utilization of other usability and user experience evaluation methods. Expanding the respondent pool is essential for improving the robustness and generalizability of our findings.

In addition to questionnaires, employing a mixed-methods approach, which includes usability testing, heuristic evaluations, and eye-tracking studies, can provide a holistic view of the user experience. Usability testing allows us to observe how users interact with the interface in a controlled environment, identifying pain points and areas for improvement. Heuristic evaluations, conducted by usability experts, can uncover usability issues from a professional standpoint. Eye-tracking studies can help us gain insights into user behavior and attention patterns, shedding light on how users navigate the interface.

Furthermore, gathering feedback from users through post-interaction interviews or surveys can offer valuable qualitative insights into their experiences. Combining quantitative data from questionnaires with qualitative data from user interviews can yield a comprehensive understanding of the UX.

VI. REFERENCES

- [1] A. Ahad, A. M. Thompson, and K. E. Hall,

- “Identifying service users’ experience of the education, health and care plan process: A systematic literature review,” no. January, pp. 1–24, 2022, doi: 10.1002/rev3.3333.
- [2] H. Cochrane and A. Soni, “Education, health and care plans: What do we know so far?,” 2020, doi: 10.1111/1467-9604.12316.
- [3] L. Liu, W. Zhang, J. Li, and H. Dong, “HEDI: An online platform for healthcare engineering design and innovation,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 10912 LNCS, pp. 308–319, 2018, doi: 10.1007/978-3-319-92252-2_25.
- [4] B. Al Aufa, F. A. Djawas, and W. Sulistiadi, “The Implication of Accessing Hospital’s Social Media and Other Digital Communication Channels during COVID-19 Pandemic,” *Proc. - 2nd Int. Conf. Informatics, Multimedia, Cyber, Inf. Syst. ICIMCIS 2020*, pp. 265–268, 2020, doi: 10.1109/ICIMCIS51567.2020.9354294.
- [5] Y. Guo, H. Chen, and M. Yang, *Innovation method of health products design for elderly adults based on perceived quality and user experience*, vol. 10927 LNCS. Springer International Publishing, 2018, doi: 10.1007/978-3-319-92037-5_5.
- [6] “Persada Hospital.” <https://persadahospital.co.id/> (accessed Nov. 01, 2023).
- [7] L. Arhippainen and M. Tähti, “Empirical Evaluation of User Experience in Two Adaptive Mobile Application Prototypes,” pp. 27–34, 2002.
- [8] M. Schrepp, A. Hinderks, and J. Thomaschewski, “Construction of a Benchmark for the User Experience Questionnaire (UEQ),” no. June, 2017, doi: 10.9781/ijimai.2017.445.
- [9] L. G. Pee and G. Klein, “Signaling effect of website usability on repurchase intention,” no. August, 2018, doi: 10.1016/j.ijinfomgt.2017.12.010.
- [10] M. Saad, A. Zia, M. Raza, M. Kundi, and M. Haleem, “A comprehensive analysis of healthcare websites usability features, testing techniques and issues,” *IEEE Access*, vol. PP, p. 1, 2022, doi: 10.1109/ACCESS.2022.3193378.
- [11] R. N. Dasmen, A. Wijaya, B. Tujni, and S. Nabila, “Pelatihan Uji Kegunaan Website Menggunakan System Usability Scale (SUS),” vol. 2, no. 2, pp. 146–158, 2021, doi: 10.29408/ab.v2i2.4031.
- [12] Y. Shibuya, A. Hamm, and T. Cerratto, “Computers in Human Behavior Mapping HCI research methods for studying social media interaction: A systematic literature review,” *Comput. Human Behav.*, vol. 129, no. November 2021, p. 107131, 2022, doi: 10.1016/j.chb.2021.107131.
- [13] T. Online, S. R. Henim, and R. P. Sari, “Evaluasi User Experience Sistem Informasi Akademik Mahasiswa pada Perguruan Tinggi Menggunakan User Experience Questionnaire,” vol. 6, no. 1, pp. 69–78, 2020.
- [14] B. Setiaji, M. Hayaty, A. Setyanto, Krisnawati, and H. B. Santoso, “Assessing User Experience of a Secure Mobile Exam Application using UEQ+,” vol. 8, 2021.
- [15] K. Denecke, S. Vaaheesan, and A. Arulnathan, “A Mental Health Chatbot for Regulating Emotions (SERMO) - Concept and Usability Test,” *IEEE Trans. Emerg. Top. Comput.*, vol. 9, no. 3, pp. 1170–1182, 2021, doi: 10.1109/TETC.2020.2974478.
- [16] M. Schrepp, “User Experience Questionnaire Handbook,” no. June, 2016.