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INTERNATIONAL SEMINAR ON INDUSTRIAL ENGINEERING AND MANAGEMENT

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PREFACE

Bismillahirrahmanirrahim,
Assalamu'alaikum Warrahmatullah Wabarrakatuh,

First of all, we apologize for the inconvience in the 13th ISIEM 2021 event, due to current condition and situation of COVID 19. The situation made us has to make some critical modification in the event, including: online presentation of keynote speaker, online presentation for all candidates that cannot attend the seminar. but we hope we all remain excited to continue to contribute to research publications. Nonetheless, we are trying to prepare this seminar as best we can.

This issue is published in line with the Thirteen International Seminar on Industrial Engineering and Management (13th ISIEM) 2021. The articles cover a broad spectrum of topics in Industrial Engineering and Management, which are Quality Engineering Management, Decision Support System and Artificial Intelligent, Ergonomics, Supply Chain Management, Production System, Operation Research, and Industrial Management. These articles provide an overview of critical research issues reflecting on past achievements and future challenges. Those papers were selected from 137 abstracts, and we send these papers to AIP to be published there as an Open Access Proceeding Scopus. This statistic shows the high competition to get published on this proceeding. This issue and seminar become special as more delegates come and join from various country as well as universities. We host 90 delegates both from abroad and local.

The 13th ISIEM is hosted by eight universities, which are Universitas Pasundan, Universitas Esa Unggul, Universitas Trisakti, Universitas Tarumanagara, Universitas Al-Azhar Indonesia, Atma Jaya Catholic University of Indonesia, Universitas Pancasila and Universitas Mercubuana. This is the thirteenth years of the collaboration of those universities, and the first time we had MOU with AIP in America to publishing the papers that is indexed by Scopus. This is also the second years of our international partnership join committee with Chung Yuan Christian University – Taiwan, Yuan Ze University – Taiwan, Kasetsart University – Thailand and Bright Star University – Libya.

In this occasion, let us give special thanks to Prof.Yung-Tsan Jou, PhD (Professor and Chair Department of Industrial and Systems Engineering, Chung Yuan Christian University – Taiwan), Prof. Yun-Chia Liang, PhD (Professor and Chair, Department of Industrial Engineering and Management, Yuan Ze University – Taiwan), Elisa Lumbantoruan (President Director & CEO at ISS Indonesia, Independent Commissioner at PT Indosat Tbk, and Independent Commissioner at Garuda Indonesia) and Naraphorn Paoprasert, Ph.D (Researcher, Department of Industrial Engineering, Faculty of Engineering, Kasetsart University – Thailand), for their contribution as keynote speakers, to Prof. Abdelnaser Omran from Brightstar University, and supported by Indonesian Association of Industrial Engineering Higher Education (BKSTI) and the Institution of Engineer Indonesia – Industrial Engineering Chapter (BKTI-PII). We are also grateful to all reviewers and editors, for their commitment, effort and dedication in undertaking the task of reviewing all of the abstracts and full papers. Without their help and dedication, it would not be possible to produce this proceeding in such a short time frame. I highly appreciate all members of committees (advisory, steering, and organizing committees) for mutual efforts and invaluable contribution for the success of seminar.

Wassalamu'alaikum Warrahmatullah Wabarrakatuh.

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Usability evaluation and improvement design of hospital mobile website

by Anonim Anonim

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Usability evaluation and improvement design of hospital mobile website FREE

Novia Rahmawati ✉; Muhammad Rizki Azhar; Winnie Septiani

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Usability Evaluation and Improvement Design of Hospital Mobile Website

Novia Rahmawati[a)], Muhammad Rizki Azhar[b)] and Winnie Septiani[c)]

Industrial Engineering, Universitas Trisakti, Jakarta, Indonesia

[a)] Corresponding author: novia.rahmawati@trisakti.ac.id
[b)] muhammadrizkiazhar@gmail.com
[c)] winnie.septiani@trisakti.ac.id

Abstract. Siti Aisyah Hospital is one of the public hospitals that has developed online information services through a website. But unfortunately, the website still does not meet several aspects of usability, namely ease of use, ease of learning, and ease of satisfaction. This study aims to improve the mobile website design by considering the usability aspect. The method used is Usability Testing and Heuristic Evaluation. Usability Testing is done by giving 15 respondents several tasks and distributing a USE Questionnaire to assess the current website. The results of the questionnaire show that the three factors still have a value below the middle value, namely 4. Then the Heuristic Evaluation is carried out by giving the questionnaire to 4 experts. The results show that some heuristic variables have a fatal error value called usability catastrophe or the website still has some problems. Then the proposed mobile website is designed according to the existing problems. Then the usability measurement was carried out again on the proposed mobile website using Usability Testing, USE Questionnaire and Heuristic Evaluation. The overall results show that there is a significant increase on the proposed website. The results of the questionnaire show that the four usability factors have a value above 4, while the Heuristic Evaluation questionnaire results show the cosmetic category which means the problem does not affect the user and don't agree which means there is no usability problem.
Keywords: mobile website, usability testing, USE Questionnaire, heuristic evaluation.

INTRODUCTION

Currently, the widespread use of the internet is also used by various public facilities to improve the quality and effectiveness of its services [1]. Ease of access and faster online service processes are important factors when compared to manual [2]. One of the public facilities that has developed its services online through the website is a hospital [3]. Hospital website services are currently indispensable to improve communication, comfort and care for patients or prospective patients [4].

One example is the Siti Aisyah Regional General Hospital belonging to the Lubuklinggau City Government, which is located in the East Lubuklinggau District 1. Siti Aisyah Hospital has a website created in 2018 which provides information about hospital profiles, medical services, doctor information, hospitalization rates, and facilities provided. Since a year of creation, the achievements of website visitors throughout 2019 have not matched the expectations of the hospital. From January to December the most visitors were in March with 445 visitors, while the lowest was in October, which totaled 290 visitors.

Preliminary research was conducted on 5 people who had used the website of the Siti Aisyah Hospital to find out about user complaints. The result showed that 5 people experienced several difficulties in operating the hospital website, including the complicated interface, information about doctor's practice that was difficult to find and incomplete medical service information.

This shows that the current website design does not yet have an interface that is easy to understand and easy to use by users (user friendly). The interface should be designed by considering the ease of use or usability [5]. ISO9241-11 International Standard Organization [6] defined usability as "the extent to which a product can be used

by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use". Usability has been studied extensively in various information system media, such as web and mobile applications [7][8][9]. Whereas website usability in particular can describe how easy a user can navigate across a website [10].

Therefore, this study aims to evaluate the usability of the Siti Aisyah Hospital website using the Usability Testing method. Usability testing aims to identify problems and to determine user satisfaction with the product being tested [11]. Usability Testing is an appropriate method for evaluating a website because it involves user's perspective [8][12]. In addition, this study also uses the Heuristic Evaluation (HE) method [13] by asking for expert opinions to improve the website so that it becomes a user friendly website. Heuristic evaluation is one of the widely used usability evaluation methods because it does not require much infrastructure, time, and is low cost [14][15][16]. Furthermore, a mobile website design will be proposed by considering the aspect of user convenience.

METHODS

In the initial stage, a preliminary research was carried out by interviewing 5 users of the Siti Aisyah Hospital website to identify whether this website was really difficult for users or not. Respondents were also asked to fill out USE questionnaires to determine the level of satisfaction of website users.

Then evaluate the Siti Aisyah Hospital website using the Usability Testing method to determine the level of user ease or usability. Usability testing is used because it involves users as participants to improve user experience and identify the attributes of website users' needs. Usability Testing is carried out by involving 3 groups of website users who are divided based on the level of experience in using the internet as a sample of the population representing 3 user levels, namely 6 regular users, 5 skilled users and 4 active users.

Then a heuristic evaluation is carried out by involving expert users to enhance the website so that it becomes a user friendly website. The questionnaire given to the expert is a descriptive questionnaire that serves to describe every aspect of the Heuristic Evaluation method with the Siti Aisyah Hospital website as its object. This questionnaire is also equipped with an assessment given directly by the expert with a 1-4 Likert scale. The Heuristic Evaluation questionnaire was distributed to 4 expert respondents and the respondents also described each aspect according to their experience using the Siti Aisyah Hospital website.

The final stage is evaluated the proposed website design involving the same 15 respondents for the usability testing method and the same 4 experts for the heuristic evaluation method.

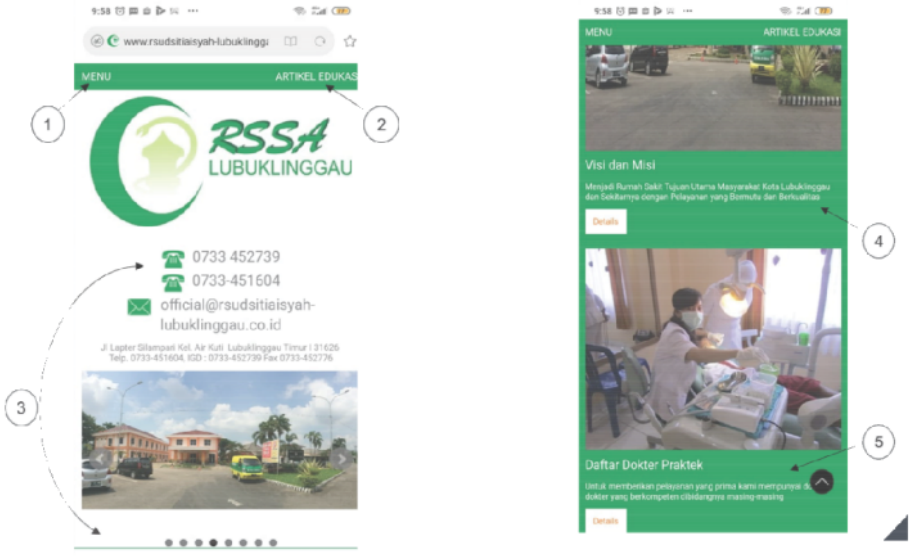
RESULT AND DISCUSSION

Current Mobile Website Identification

The usability evaluation conducted in this study only focuses on the mobile website interface. Usability problems found in preliminary research include aspects of ease of use, ease of learning, and satisfaction.

Ease of Use

The homepage on the mobile website of the Siti Aisyah Hospital is too complicated and not neatly arranged. The website is also not equipped with navigation or directions to make it easier to find information. Figure 1 shows the homepage of the mobile website of Siti Aisyah Hospital. The problem shown in number 1 is that the menu does not appear in the form of an icon / symbol, this makes it difficult for website users to open looking for menu options. Problem number 2 is that there is an educational article button that is not included in the sub menu button section, so the information display seems less neat and takes up too much space. Whereas problem number 3 is hospital contact information combined with other information, so that it shows where the information is not properly grouped. Problems in numbers 4, 5, and 6 show that the vision-mission information, doctor information, hospital director's speeches, etc. are grouped together, so that the appearance of the website seems arbitrary in classifying information.



(a) (b)

FIGURE 1. Siti Aisyah Hospital Mobile Website Homepage

Ease of Learning

Figure 2 presents an example of a doctor's schedule information menu option. The problem shown in number 1 is a double step. When the user will look for doctor's schedule information on the menu, the first step is to go to the website looking for the menu and select the doctor's schedule information sub menu but after this step the sub menu display will appear again as previously shown number 2, so it requires a double step to find information on menu.

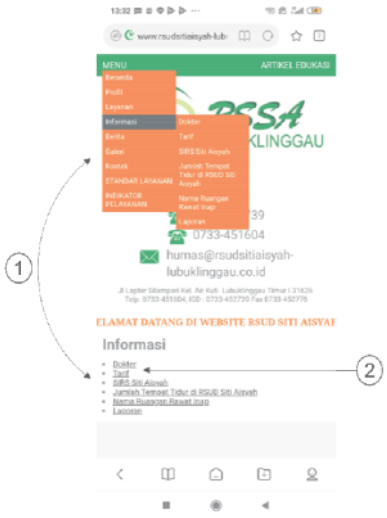
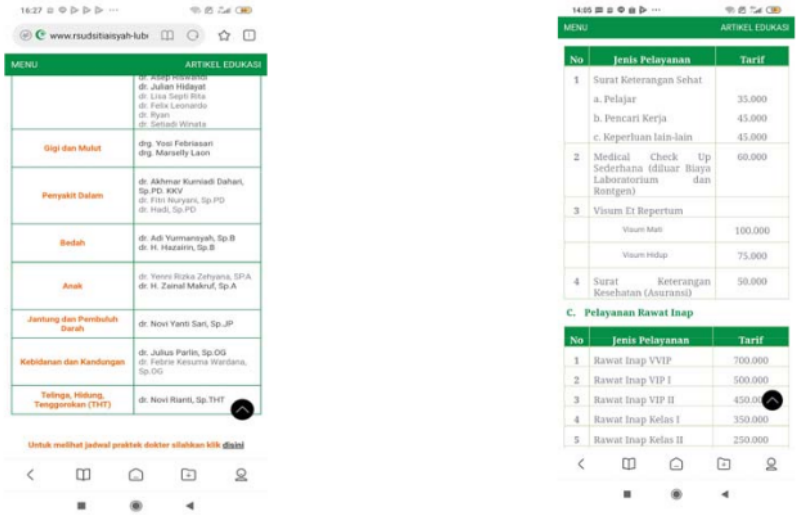


FIGURE 2. Siti Aisyah Hospital Mobile Website Menu options

Satisfaction

Figure 3 (a) presents the doctor's information sub menu display. When entering the doctor information display, a table of doctors' names and their specialties will appear, while the doctor's practice schedule information is packaged differently by providing a link below the table, so it requires 3 entry steps to find doctor's schedule information. Figure 3 (b) presents the hospital service rates sub menu display. The fee rates sub menu contains information on service rates ranging from outpatient and emergency services, medical check-ups, and inpatient services. However, the grouping of inpatient service rates is not accompanied by descriptions such as information on facilities, information on the number of rooms available, and information on room names.



(a) (b)

FIGURE 3. (a). The doctor's information sub menu and (b). The hospital service rates sub menu

Usability Testing

Usability testing was carried out by involving 15 respondents who were divided into 3 levels of website users based on their level of experience in using the internet. The website users level are divided into 6 regular users, 5 skilled users and 4 active users. Then a task scenario is compiled based on the usefulness of the Siti Aisyah Hospital mobile website. The task given to respondents is the stages to find information such as a doctor's practice schedule. Table 1 shows the respondent's task given. Respondents were asked to do the task with 4 repetitions to find out whether the increasing number of repetitions of the task performed by the respondent had an effect on the number of errors made by the respondent.

TABLE 1. Respondent Task

	Respondent Task
1	Opening the website of Siti Aisyah General Hospital at www.rsudsitiaisyah-lubuklinggau.co.id
2	Find and select the menu button at the top left of the website
3	Find and select the sub menu doctor's practice schedule information on the menu section
4	Click the sub menu for doctor's practice schedule information
5	Search for and select the doctor's practice schedule link at the bottom
6	Looking for a doctor's schedule according to what the respondent wants

After obtaining the total time and the number of errors from the task carried out by the respondent, efficiency and effectiveness were measured. Efficiency measurement aims to measure the length of time each respondent takes to work on the tasks that have been arranged. If the task the respondent does is getting longer, the website efficiency will get worse and vice versa. Effectiveness measurement aims to measure the success or mistakes made by respondents in carrying out tasks. In recording the time of each website user while working on a task, every time there are problems in carrying out the task, the time calculated using the stopwatch will not be recorded and will be stopped (pause) then after the constraints are no longer there, the time calculation is continued. Based on the measurement of the level of efficiency, it shows that skilled and active users of the Siti Aisyah Hospital mobile website still spend more than 1 minute looking for doctor's practice schedule information. Table 2 shows the results of measuring efficiency or tasks completion time and the results of measuring effectiveness or the number of errors.

TABLE 2. The results of tasks completion time and number of errors

User Level	Average Completion Time (minutes)	Number of Errors					
		Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
Regular	4,03	0	15	24	27	17	0
Skilled	2,16	0	3	14	16	3	0
Active	1,07	0	0	3	7	0	0

USE Questionnaire

The USE Questionnaire was used to measure the satisfaction level of users of the Siti Aisyah Hospital mobile website. The USE Questionnaire consists of 4 parameters, namely usefulness, ease of use, ease of learning, and satisfaction. The questionnaire is made in 30 statement points with a Likert scale range of 1-5. Table 3 shows the results of the USE Questionnaire recapitulation based on the classification of the website user level groups. The results of the questionnaire show that the three factors still have values below the middle value, namely 4. One of them is the usefulness factor with an average value of 3.51. The current mobile website is considered to have a low usability value and does not help respondents achieve their desired goals. In addition there is an ease of use factor with an average value of 3.67. This shows that the current hospital mobile websites are not easy to use so that respondents make many mistakes while doing tasks. The ease of learning factor is a factor that reaches the highest average value among other factors, which has an average value of 4. Even though the ease of learning factor reaches the highest value and is easy to learn, it still takes more effort and time to be able to understand the website system as a whole. Finally, the satisfaction is the factor with the lowest value, 3.38. This shows that the respondents are not satisfied with the usability of the website.

TABLE 3. USE Questionnaire Results

USE Questionnaire	Average
Usefulness	3,51
Ease of Use	3,67
Ease of Leraning	3,38
Satisfaction	4

Heuristic Evaluation

Heuristic Evaluation was carried out by distributing questionnaires to 4 expert respondents. Respondents were asked to describe each of the Heuristic Evaluation variables according to their experience using the Siti Aisyah Hospital mobile website. In addition, the respondents gave the error or deficiency level on each aspect related to the Siti Aisyah Hospital mobile website. Table 4 is the result of expert assessment using the Heuristic Evaluation method.

TABLE 4. Heuristic Evaluation Results

No	Heuristic Variable	R1	R2	R3	R4	Summary	Value
1	Visibility of system status	4	3	3	4	3,5	*Mayor*
2	Match between system and the real world	3	4	3	3	3,25	*Mayor*
3	User control and freedom	2	2	1	2	1,75	*Cosmetic*
4	Consistency and standard	2	1	2	3	2	*Minor*
5	Help users recognize, diagnose and recover from errors	3	4	4	3	3,75	*Catastrophe*
6	Error prevention	4	3	3	4	3,5	*Catastrophe*
7	Recognition rather than recall	3	4	3	4	3,5	*Catastrophe*
8	Aesthetic and minimalist design	3	3	4	3	3,25	*Mayor*
9	Flexibility and efficiency of use	4	4	3	4	3,75	*Catastrophe*
10	Help and documentation	4	3	4	4	3,75	*Catastrophe*

The results of expert assessments on all Heuristic Evaluation variables related to the Siti Aisyah Hospital mobile website show that many variables have a fatal error value, namely usability catastrophe, including variables number 5, 6, 7, 9 and 10. Based on the results of usability measurement using Usability Testing and Heuristic Evaluation, it can be concluded that the Siti Aisyah Hospital mobile website has several problems that make it difficult for its users to operate the website. A summary of the problems based on the results of Usability Testing and Heuristic Evaluation and the proposed improvements is shown in Table 5.

TABLE 5. Summary of problems and proposed improvements

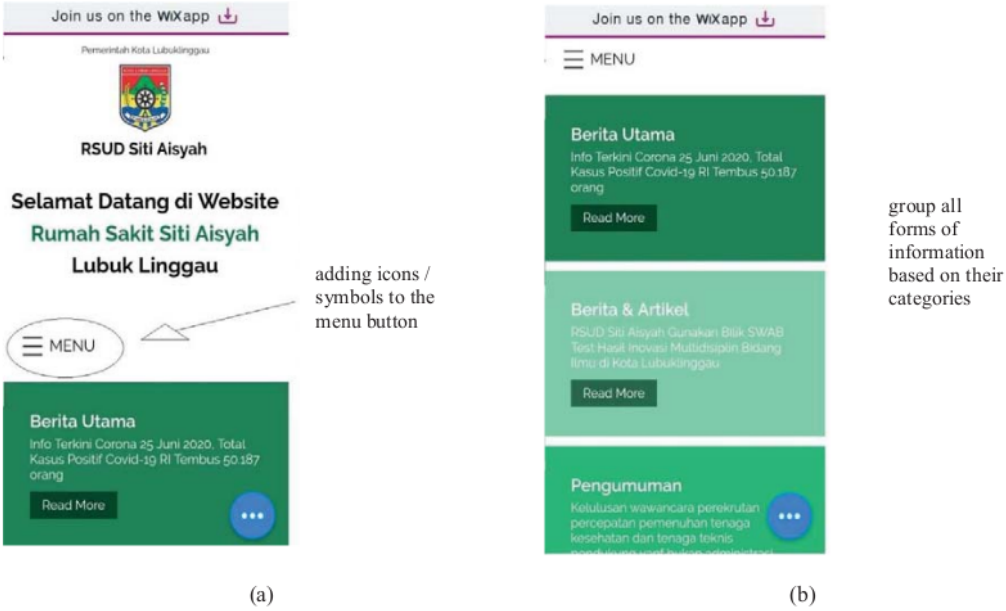
No	Factor		Causes of Problems	Proposed Improvement
	Usability Testing	***Heauristic Evaluation***		
1	Ease of Use	H5-H6, H10	There is no menu icon / symbol on the homepage of the website	Added icons / symbols in the menu section
			Menu and submenu information on the homepage is not well grouped.	Eliminate / move unnecessary content on homepage by merging into sub menu sections
			Menu or help icons are not provided on every page in the display section.	Added a live chat icon with operators to make it easier for users to contact help.
2	Ease of Learning	H7-H9	The search for a doctor's practice schedule must be carried out in double stages, so that there are repeated orders with the same meaning	Make it easier to find doctor's practice schedule information by eliminating repeated menu options with the same meaning
			Each page has no white space	Added white space in each line / paragraph
3	*Satisfaction*		The doctor information sub menu only displays the names of doctors and their specialties, while the doctor's practice schedule has a different link	Combines information on names of doctors, specialties and doctor's practice schedules to make it easier for users to know
			Service rate information does not include a description of the facilities provided because the description has a different link.	Incorporate service rate information by adding a clear and easy-to-read description

Mobile website improvement recommendations

Based on the problems that have been analyzed, then recommendations for improvement are made which is represented by making a prototype for the Siti Aisyah Hospital mobile website. The mobile website prototype is created using the Wix.com application.

Ease of Use

Recommendations for improving the ease of use factor are shown in Figure 4. Improvements were made by adding icons / symbols to the menu button and changing the typeface that is easier to read. Then group all forms of information and news according to their respective categories by changing the display layout to be neatly arranged. Then add the live chat feature to the bottom right of the mobile website.



(a) (b)

FIGURE 4. Recommendation of the Home page of the Siti Aisyah Hospital Mobile Website

Improvements in Figure 5 were made by incorporating the Educational Articles icon into the menu section. Previously, the icon had its own menu display, which caused the display to take up a lot of space and was messy.

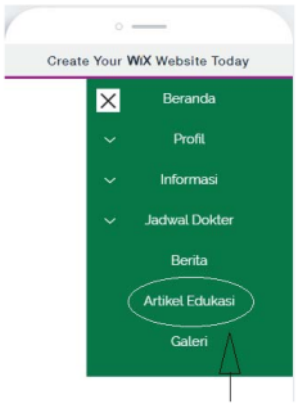
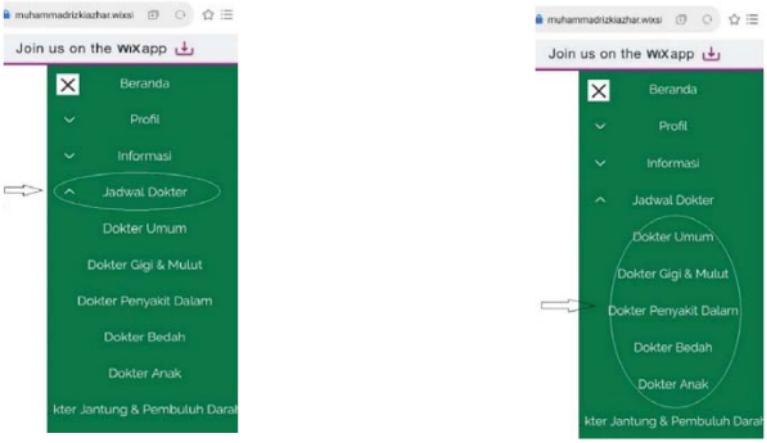


FIGURE 5. Recommended Educational Articles icon

Ease of Learning

Recommendations for improving the ease of learning factor are shown in Figure 6. Improvements were made by adding a doctor's practice schedule in the menu section to make search easier. Then the doctor's practice schedule is grouped according to their respective specialties in the submenu, and provides white space between lines / paragraphs in the body text in the submenu.



(a) (b)

FIGURE 6. Recommended doctor's practice schedule menu

Satisfaction

Improvement of the satisfaction factor is carried out by combining doctor's practice schedule information according to each specialization and added with the time schedule that has been determined by the hospital, so that the information becomes complete and makes users feel satisfied when viewing the information schedule. Figure 7 shows the improved doctor schedule content.

FIGURE 7. Recommended doctor's practice schedule content

Furthermore, it is proposed improvements to increase user satisfaction when viewing the service rate information display. Improvements are made by combining rate information and descriptions of available facilities, such as room facilities for inpatient care according to each class. Figure 8 shows the service rate menu improvements.

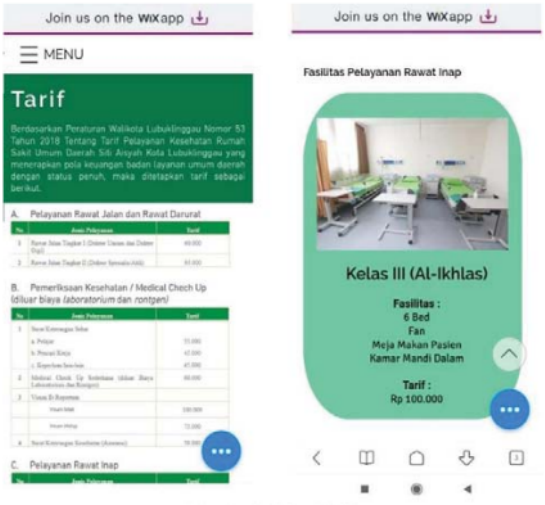


FIGURE 8. Recommended menu service rates

Usability Measurement for Mobile Website Prototype Improvement

Usability Testing

Usability testing was repeated using the same 15 respondents and the same task to measure efficiency, effectiveness and satisfaction on the proposed mobile website prototype. The results of testing the effectiveness of

the prototype showed that the respondents easily carried out any given task because there were no mistakes made by all respondents from each user level group or amounting to 0. While the average result of the task completion time is shown in Table 6. The time it takes respondents to do the task has a significant increase, namely the average is under 1 minute.

TABLE 6. The results of tasks completion time of the mobile website prototype

User Level	Average Completion Time (minutes)
Regular	0,433
Skilled	0,412
Active	0,412

USE Questionnaire

The USE Questionnaire was also conducted using the same respondents. The results of measuring the level of user satisfaction with the USE Questionnaire in Table 7 show an increase, namely the average is above the number 4 (middle value). This shows that the proposed mobile website prototype is easier to use and more satisfying to users in every factor.

TABLE 7. USE Questionnaire Results of the mobile website prototype

USE Questionnaire	Average
Usefulness	4,387
Ease of Use	4,392
Ease of Learning	4,513
Satisfaction	4,424

Heuristic Evaluation

The results of the Heuristic Evaluation measurement on the same 4 expert respondents showed a better value than before. A total of 8 variables found a value of don't agree which states that there are no usability problems on the proposed mobile website and 2 principles have a cosmetic value that indicates a problem that does not really affect the user. Table 8 shows the comparison results of Heuristic Evaluation before and after improvement the mobile website.

TABLE 8. The comparison result of Heuristic Evaluation

No	Heuristic Variable	Before improvement	Category	After improvement	Category
1	Visibility of system status	3,5	Mayor	0	Don't Agree
2	Match between system and the real world	3,25	Mayor	0	Don't Agree
3	User control and freedom	1,75	Cosmetic	0	Don't Agree
4	Consistency and standard	2	Minor	0	Don't Agree
5	Help users recognize, diagnose and recover from errors	3,75	Catastrophe	1,5	Cosmetic
6	Error prevention	3,5	Catastrophe	1,5	Cosmetic
7	Recognition rather than recall	3,5	Catastrophe	0	Don't Agree
8	Aesthetic and minimalist design	3,25	Mayor	0	Don't Agree
9	Flexibility and efficiency of use	3,75	Catastrophe	0	Don't Agree
10	Help and documentation	3,75	Catastrophe	0	Don't Agree

Based on Usability Testing, USE Questionnaire and Heuristic Evaluation testing, it shows that there is a significant increase in the proposed mobile website. Therefore, it can be concluded that the proposed mobile website has met the usability factor for users. The proposed mobile website prototype will be very useful for website users if implemented. However, this research still has limitations, including only focusing on the appearance of the mobile website. Future research is expected to be developed on the desktop version display.

CONCLUSION

This research focuses on conducting Usability Testing and Heuristic Evaluation on the Siti Aisyah Hospital mobile website. The test results show that the website still has several problems, causing difficulties for users to operate the website. Based on the existing problems, several recommendations were made to improve the mobile website interface prototype. After retesting with the same method and respondents, it shows that there is an increase in the aspects of effectiveness, efficiency and user satisfaction.

REFERENCES

1. M. Middleton, "Approaches to evaluation of websites for public sector services," in P. Kommers (Ed.), Proceedings of the IADIS International Conference, e-Society. (Lisbon, Portugal, 2007), pp. 279-284.
2. S. Banna, K. Alkayid, H. M. Hasan and J. A. Meloche, "Usability testing of public health web-based information systems," European and Mediterranean Conference on Information Systems (Crown Plaza Hotel, Izmir, July 13-14 2009), pp. 1-24.
3. F. Patsioura, S. Kitsiou, and A. Markos, "Evaluation of Greek Public Hospital Websites," ICE-B-2009-International Conference on E-Business, 2009.
4. O. R. Shakirat, M. Murni and A. Adamu, "Evaluation of University Teaching Hospital Websites in Nigeria", Procedia Technology 9, 1058 – 1064 (2013).
5. J. Preece, H. Sharp and Y. Rogers, *Interaction Design – Beyond Human-Computer Interaction 4E* (Wiley, Chichester, 2015)
6. ISO/IEC (International Organization for Standardization), Standard 9241: Ergonomic Requirements for Office Work with Visual Display Terminals (VDT)s, Part 11. Guidance on Usability,1998. Available at: https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:ed-1:v1:en (accessed 18 February 2021)
7. V. Venkatesh, H. Hoehle and R. Aljafari, "A Usability Evaluation of The Obamacare Website", Government Information Quarterly 31, 669–680, (2014).
8. K. Kous, M. Pušnik, M. Heričko and G. Polančič, "Usability Evaluation of a Library Website with Different End User Groups", Journal of Librarianship and Information Science, 1–16, (2018).
9. A. Valerian, H. B. Santoso, M. Schrepp and G. Guarddin, "Usability Evaluation and Development of a University Staff Website", Third International Conference on Informatics and Computing (ICIC), (Palembang, Indonesia, 2018) pp. 1-6 doi: 10.1109/IAC.2018.8780456
10. S. Roy, P. K. Pattnaik and R. Mall, "A Quantitative Approach to Evaluate Usability of Academic Websites Based on Human Perception", Egyptian Informatics Journal 15(3), 159–167 (2014).
11. J. Dumas and J. Redish, *A Practical Guide to Usability Testing Exeter* (Intellect, England, 1999)
12. M. Okhovati, F. Karami and R. Khajouei, "Exploring the usability of the central library websites of medical sciences universities", Journal of Librarianship and Information Science 49(3), 246–255, (2017).
13. J. Nielsen, "Heuristic evaluation", in J. Nielsen & R. L. Mack (Eds.) *Usability inspection methods* pp. 25–62 (Wiley, New York, NY, 1994)
14. N. Schaffer, "Heuristic evaluation of games", in K. Isbister, and N. Schaffer (Eds.) *Game usability - Advice from the experts for advancing the player experience* pp. 79-90 (Morgan Kaufmann, Burlington, MA, USA)
15. H. Desurvire and M. S. El-Nasr, "Methods for game user research: Studying player behavior to enhance game "design Computer Graphics and Applications", IEEE, vol. 33(4), 82-87, (2013).
16. A. Yeratziotis and P. Zaphiris, "A Heuristic Evaluation for Deaf Web User Experience (HE4DWUX)", International Journal of Human–Computer Interaction 34:3, 195-217, (2018).

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