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USABILITY ANALYSIS ON THE ZEE STUDIO WEBSITE USING HEURISTIC EVALUATION

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ABSTRACT

Usability is an essential prerequisite for a website, serving as a benchmark for system feasibility based on effectiveness, efficiency, and user satisfaction in a given context. In the context of digital marketing and creative services, the quality of the user experience is a key determinant of platform success. This study aims to assess the usability level of the Zee Studio website, identifying potential user interaction issues that may hinder the achievement of business goals and customer satisfaction. Neglected usability issues on a platform can negatively impact the user experience, ultimately reducing efficiency and satisfaction. Therefore, the Heuristic Evaluation method was chosen as the primary instrument in this study. The evaluation was conducted by experts who reviewed the user interface based on Jakob Nielsen's ten heuristic principles to identify heuristic violations in website design. The results of this study are expected to provide a comprehensive list of detected usability issues, complete with severity levels and specific recommendations for improvement. The primary contribution of this research is improving the quality of the Zee Studio website, making it more effective in conveying information, more efficient in navigation, and able to provide optimal levels of satisfaction for its users.

Keywords: Usability, Zee Studio, Website, Heuristic Evaluation, Effectiveness, Efficiency, Satisfaction.

ABSTRAK

Usabilitas merupakan prasyarat esensial yang harus dimiliki oleh sebuah situs web, berfungsi sebagai tolok ukur kelayakan sistem berdasarkan kriteria efektivitas, efisiensi, dan tingkat kepuasan pengguna dalam konteks tertentu. Dalam konteks pemasaran digital dan layanan kreatif, kualitas pengalaman pengguna menjadi penentu utama kesuksesan platform. Penelitian ini bertujuan untuk menguji tingkat usabilitas pada situs web Zee Studio guna mengidentifikasi potensi permasalahan interaksi pengguna yang dapat menghambat pencapaian tujuan bisnis dan kepuasan pelanggan. Masalah usabilitas yang terabaikan pada sebuah platform dapat berdampak negatif terhadap pengalaman pengguna, yang pada akhirnya mengurangi tingkat efisiensi dan kepuasan. Oleh karena itu, metode Heuristic Evaluation dipilih sebagai instrumen utama dalam penelitian ini. Evaluasi dilakukan oleh pakar dengan meninjau antarmuka pengguna berdasarkan sepuluh prinsip heuristik Jakob Nielsen untuk menemukan pelanggaran heuristik pada desain situs web. Hasil penelitian ini diharapkan dapat memberikan daftar komprehensif mengenai masalah-masalah usabilitas yang terdeteksi, lengkap dengan tingkat keparahan dan rekomendasi perbaikan yang spesifik. Kontribusi utama dari penelitian ini adalah peningkatan kualitas situs web Zee Studio, menjadikannya lebih efektif dalam menyampaikan informasi, lebih efisien dalam navigasi, dan mampu memberikan tingkat satisfaction (kepuasan) yang optimal bagi penggunanya.

Kata Kunci: *Usabilitas, Zee Studio, Situs Web, Heuristic Evaluation, Efektivitas, Efisiensi, Kepuasan*.

1. INTRODUCTION

In today's era of massive digitalization, the existence and utilization of information technology have become almost mandatory, making a website a crucial prerequisite in the modern business world. A website serves not only as a digital storefront but also as a company's primary hub for interaction, marketing, and customer service. An effective online presence is crucial, especially for businesses operating in highly competitive markets that rely on visual credibility and technical details, such as the design and contracting industries.

One company that recognizes the importance of utilizing information technology to run its business is Zee Studio. Zee Studio is a company engaged in architectural design and contracting. With the domain zeestudio.co.id, this company chose Bandung as its base of operations and just started its business in early 2025. Zee Studio's main vision is to provide solutions for people planning to build or renovate a home, ensuring that the construction results match the specific desires and needs of each client.

As a start-up, Zee Studio's website plays a vital role in establishing credibility, showcasing its portfolio, and facilitating initial communication with potential clients. The quality of user interaction with the website, known as usability, will determine whether potential clients can understand the services offered, navigate the information easily, and ultimately, be motivated to use Zee

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Studio's services. Failure to achieve usability can hinder marketing effectiveness and erode user trust.

Based on this urgency, this study aims to test the usability level of the Zee Studio website. This testing is conducted to comprehensively identify potential user interaction problems and assess the system's feasibility based on the criteria of effectiveness, efficiency, and satisfaction in a specific user context. To achieve this goal, this study applies the Heuristic Evaluation method to review the website interface and identify violations of good design principles. The evaluation results are expected to provide specific improvement recommendations that will contribute to improving the quality of the Zee Studio website, thereby optimally supporting the company's business growth.

2. METHODOLOGY

This study uses a qualitative-evaluative approach by implementing the Heuristic Evaluation method. This method was chosen because it is highly effective in identifying usability issues in a system's user interface (UI), specifically the Zee Studio website. Heuristic Evaluation is a fast and cost-effective usability inspection method. Essentially, this method involves a series of activities in which usability experts (evaluators) independently and systematically examine an interface. This evaluation is conducted by comparing the interface design against a set of tested and widely accepted usability principles known as heuristics. The research flow is illustrated in Figure 1.

Figure 1 research flow

Data collection for the usability evaluation in this study was carried out in two main stages: Heuristic Evaluation (HE) and user preference testing using a questionnaire.

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In the Heuristic Evaluation stage, data collection was conducted through the development of an evaluation toolkit that included detailed guidelines for HE implementation procedures, an evaluator participation consent form, and a standardised assessment sheet. Usability issues were assessed using a four-level Likert scale (1–4). This scale measures severity, with 1 representing the lowest (minor/cosmetic) and 4 the highest (catastrophic) usability issue.

Next, to measure user preferences and satisfaction with the system, a user-preference questionnaire was developed. This questionnaire was adapted explicitly from an industry-standard instrument, the Post-Study System Usability Questionnaire (PSSUQ). To ensure the validity and reliability of the data collected, the questionnaire development process concluded with a validity test involving several users as respondents. The testing process using the Heuristic Evaluation (HE) method is carried out through the following steps:

1. **Initial Briefing:** The moderator opens the session by introducing himself and explaining the flow and procedures for the HE assessment.

2. **Document Distribution:** Evaluators receive a set of documents, including the HE guide, consent form, and assessment sheet, to record the evaluation results.

3. **Administration:** The evaluator completes the required data on the consent form.

4. **Initial Interface Exploration:** Evaluators conducted a preliminary exploration of the Zee Studio website to familiarise themselves with the interface before official testing began.

5. **Testing Implementation:** The primary test is conducted by evaluators who independently explore and inspect the Zee Studio website's usability using heuristic principles. No interruptions from moderators or any other party are permitted during this stage.

6. **Recording and Scoring:** After completing the evaluation, the evaluator records the usability issues identified and provides an assessment for each issue, including a severity rating.

7. **Submission of Results:** The evaluator returns all completed files to the researcher/moderator.

The heuristic evaluation in this study will be based on the ten usability principles developed by Jakob Nielsen, namely:

Table 1 Heuristic Principles

No.	Code	Heuristik	Concise Definition
1	H1	Visibility of system status	The system should always inform the user what is happening through instant feedback.
2	H2	Match between system and the real world	Use language and concepts familiar to users; follow real-world conventions.
3	H3	User control and freedom	Give users full control, including easily accessible undo and redo functions (clear exit).
4	H4	Consistency and standards	Maintain consistency of layout, actions, and terminology across the system and follow industry standards.
5	H5	Error prevention	Design the system to prevent users from making mistakes in the first place.

6	H6	Recognition rather than recall	Display the required information (choices and options) so that users don't have to remember them.
7	H7	Flexibility and efficiency of use	Provide flexible ways of working, including shortcuts, for novice and expert users.
8	H8	Aesthetic and minimalist design	Display only relevant information; avoid unnecessary or distracting visual elements.
9	H9	Help users recognize, diagnose, and recover from errors	Provide clear, easy-to-understand error messages and offer constructive solution suggestions.
10	H10	Help and documentation	Provide help and documentation that is easy to find, task-focused, and contains concrete steps.

Data collection using the Post-Study System Usability Questionnaire (PSSUQ) aimed to elicit user responses to the Zee Studio website. At this stage, it was crucial to conduct validity and reliability tests using SPSS software. The primary purpose of this statistical testing was to ensure that the items in the PSSUQ were appropriate and consistent for reuse in subsequent research.

3. RESULT AND DISCUSSION

The heuristic evaluation conducted by four evaluators resulted in a total of 16 usability issues. Based on the consolidation of findings and the deduplication process among the evaluators, it was agreed that the analysis and improvement recommendations would focus on seven (7main issues with the highest severity rating scores, as shown in Table 2.

Table 2 Heuristic Evaluation Results

No Heuristic	Location/Page	Usability Problem Description	Likert Scale
H1	Home	In the hero section, there is no clear visual indicator of the total number of slides or the user's current position in the carousel.	4
H4	All Pages	There are significant differences in writing style and font size between the navigation menu, headings, and body text in some sections, which is confusing and makes the design feel inconsistent.	4
H7	Portfolio/Case Study	After clicking on a portfolio card, the “Back” or bread-crumb button for navigating back to the main portfolio list is not clearly visible.	4
H5	Contact/Order Form	When a user forgets to fill in a required field and presses the submit button, the error message that appears is general and does not directly indicate the problematic field..	4
H2	Homepage and Footer	Social media icons don't have clear text labels on hover, so users have to guess where the link will lead.	2
H2	All Pages (Navigation)	Some menu items have less specific labels (e.g. just "Services" instead of "Website Development Services").	3
H8	Page "About Us"	The page is text-heavy and poorly divided into easily digestible blocks of information, without effective use of headings.	3

The initial stage of user preference testing began by determining the population 895 users who were recorded as accessing and completing data entry on the zeestudio.co.id website. To obtain a representative and statistically valid sample, the sample size (n) is calculated using the Slovin Formula. This formula was chosen because it is effective for determining sample size from a population of known size, while accounting for the desired level of error tolerance.
Slovin's Formula

$$n = \frac{N}{1 + N \cdot e^2}$$

Where:

n = Required sample size (preference test respondents)
N = Population size (895 users)
e = Significance level or margin of error (set at 0.05 or 5%)

Calculation Steps: By entering the population value and significance level into the formula, we get:

$$n = \frac{895}{1 + 895 \cdot (0.05)^2}$$

$$n = \frac{895}{1 + 895 \cdot 0.0025}$$

$$n = \frac{895}{1 + 2.2375}$$

$$n = \frac{895}{3.2375}$$

$$n \approx 276.45$$

The calculation result is 276.45. In sampling, the number of respondents must be rounded up to ensure the test results achieve the desired confidence level. Thus, the minimum sample size (n) required for the user preference test is 277 respondents. This number ensures that the findings regarding user preferences have 95% accuracy and a 5% error tolerance.

The next stage involved testing the content validity of the Post-Study System Usability Questionnaire (PSSUQ). This process used the Expert Judgment method.

- **Purpose of Expert Judgment:** The Expert Judgment method was applied to analyze and ensure that the content of the instrument (questionnaire) was appropriate and suitable for use when distributing the questionnaire to respondents.

- **Results:** After this validation process, 19 items in the PSSUQ questionnaire were declared valid by experts.

The Post-Study System Usability Questionnaire (PSSUQ) questionnaire was distributed until the minimum sample size of 277 respondents was reached. Respondents were asked to provide an assessment on a 7-point Likert scale, with one representing Strongly Agree and seven representing Strongly Disagree. Furthermore, to ensure the instrument's reliability, a reliability test was conducted.

The test results showed a reliability coefficient of 0.897 for 19 items. A Cronbach's Alpha value of 0.897 was also obtained. Given the minimum reliability standard of 0.7, these results confirm that the PSSUQ questionnaire has high reliability and is suitable for further analysis.

Table 3 Accumulated value of each heuristic

No. Heuristik	Heuristik	Akumulasi Nilai (Total Likert)	Klasifikasi
H1	Visibility of system status	4	Mayor
H2	Match between system and real world	5	Mayor
H3	User control and freedom	0	Minor
H4	Consistency and standards	5	Mayor
H5	Error Prevention	0	Minor
H6	Recognition rather than recall	0	Minor
H7	Flexibility and efficiency of use	4	Mayor
H8	Aesthetic and minimalist design	3	Minor
H9	Help users recognize, diagnose, and recover from errors	5	Mayor
H10	Help and documentation	0	Minor

Based on the Heuristic Value Accumulation Table presented, the usability issues of the tested website can be described according to the heuristic principles most frequently violated and with the highest priority for improvement (Major).

The Table shows that several heuristic principles have high accumulated values and are classified as Major, indicating that the most serious usability issues on the website are concentrated in areas H1, H2, H7, and H9. Meanwhile, the principles with low priority for improvement (minor) are areas H3, H5, H6, H8, and H10.

In a user preference test using the Post-Study System Usability Questionnaire (PSSUQ), data were collected from 277 respondents, meeting the predetermined sample size. After collection, data from each question item was aggregated and grouped into a frequency distribution for analysis.

To analyze the questionnaire results and understand overall user perceptions, a cluster variation measurement was conducted; the response characteristics of this measurement group were classified based on a specific data range. The level of cluster variation is determined by calculating the total data range. In this study, five classes were defined in the frequency distribution Table. Based on this class assignment, the resulting interval (difference between classes) was 480.

Table 4 Frequency distribution table

Value Accumulation	Frequency (Number of Statement Items)	Value
>1800	0	Very bad
1320-1800	0	Bad
840-1320	4	Average
360-840	15	Good
< 360	0	Very Good

Table 4 shows that the majority of the 15 statements received a Good rating from users, but four statements were still rated Adequate. Although the heuristic evaluation identified 5 Major issues, the user preference test showed that, in general, user satisfaction with the zeestudio.co.id website was Good. However, the four statements that received the Adequate rating should be the primary focus of improvement recommendations, as these areas reflect the gap between expert perception and user experience.

CONCLUSIONS AND SUGGESTIONS

This study aims to analyze the usability of the zeestudio.co.id website using a combination of the Heuristic Evaluation (HE) and Post-Study System Usability Questionnaire (PSSUQ) methods. The evaluation by experts (HE) identified a total of 16 usability

issues, of which four (4) heuristic principles were classified as having a high improvement priority (Major): H1 (System Status), H2 (Real-World Conformity), H7 (Usability Efficiency), and H9 (Error Handling). The other five heuristics (H3, H5, H6, H8, and H10) were classified as low priority (Minor).

These results were supported by a preference test involving 277 respondents. Although the majority of statements (15 items) received a Good rating, four items were rated Fair by users. This indicates significant usability issues in aspects related to Mayor HE's priorities. In conclusion, the zeestudio.co.id website is overall usable. However, immediate improvement focus is needed in system feedback and error handling to maximize the user experience.

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The support provided, whether in the form of materials, workforce, or ideas, was crucial to the smooth and successful implementation of the Zee Studio usability analysis. The results of this research will make a significant, measurable contribution to the development of the zeestudio.co.id website, thereby improving its quality and garnering more positive user feedback.

BIBLIOGRAPHY

Bela Aulia, M.Chandra, A. Pinandito (2016). Analisis Usability Pada Website Universitas Brawijaya Dengan Heuristic Evaluation.. Jurnal Teknologi Informasi Dan Ilmu Komputer, 3(3), 188-192. https://doi.org/10.25126/jtiik.201633194. Conference on Advances in ComputerHuman Interactions. Hlm. 60-65.

D. Komalasari and M. Ulfa (2020), “Pengujian Usability Heuristic Terhadap Perangkat Lunak Pembelajaran Matematika”, MATRIK, vol. 19, no. 2, pp. 257–265.

Granollers, Toni. (2018). Usability Evaluation with Heuristics, Beyond Nielsen’s List. ACHI 2018 : The Eleventh International

Hanif, M. Y., Jati, H., & Nurkhamid. (2023). Usability Analysis With Heuristic Evaluation Method On The Paperlust.Co Website. Journal of Information Technology and Education (JITED), 1(2), 1–11. https://doi.org/10.21831/jited.v1i2.76.

I. Khairina and N. H. W. Suprapto (2017) “Analisis Usability pada Website Jawa Timur Park Group dengan Heuristic Evaluation,” J. Pengemb. Teknol. Inf. dan Ilmu Komput. e-ISSN, vol. 2548, p. 964X, 2017.

Lukmanul Hakim, M., & Rio Adriyanto, A. (2025). Evaluasi Usability Tampilan Desain Antarmuka Aplikasi Maxim dengan Metode Heuristic Evaluation. Jurnal Pendidikan Dan Teknologi Indonesia, 5(9). https://doi.org/10.52436/1.jpti.1049.

Nielsen, Jakob. Introduction (2012). Usability 101: to Usability: https://www.nngroup.com/articles/usability-101-introduction-to-usability/.

Silalahi, M. R., Michelli, L. M., Umayasyah, H., Mu’adin, D. A., & Parga Zen, B. (2024). Evaluasi Heuristik Dan System Usability Scale UI/UX pada Aplikasi “Makan Kuy”. Jurnal Ilmiah Media Sisfo, 18(1), 57–67. https://doi.org/10.33998/mediasisfo.2024.18.1.1475.

Syaifulloh, R. F., & Anggraeni, S. (2024). Analisis Usability Menggunakan Metode Heuristic Evaluation pada Website SMA Hang Tuah 1 Jakarta. JSI: Jurnal Sistem Informasi (E-Journal), 16(1), 84–94. https://doi.org/10.18495/jsi.v16i1.147.

T. Wahyuningrum (2021), Buku Referensi Mengukur Usability Perangkat Lunak, Edisi Pert. Yogyakarta: Deepublish Publisher,