
User Interface Redesign Of Hidayatul Falah Islamic Boarding School Profile Website Based On User-Centered Design With System Usability Scale Evaluation

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Abstract

The rapid advancement of information technology has encouraged educational institutions to provide information that is easily accessible and usable by a wide range of users. However, in practice, users still encounter obstacles when attempting to find the information they need through Islamic boarding school websites, which serve as the primary source of information. These obstacles include insufficiently intuitive navigation, poorly organized content structures, and suboptimal usability aspects. This study aims to implement the User centered design (UCD) method in redesigning the layout and appearance of the Islamic boarding school Hidayatul Falah website in order to meet user needs more effectively. The research process encompasses four main stages, namely the analysis of usage context, identification of user needs, design solution development, and design evaluation. The application of the UCD method produced a number of significant improvements, including enhancements to the navigation structure, more systematically grouped information, and greater interface consistency. Testing results using the System usability scale (SUS) instrument yielded an average score of 86, which falls into the "Excellent" category. These results demonstrate that the proposed design possesses a high level of usability and is capable of significantly improving the overall user experience.

Keywords: User Centered Design, User Interface, Usability, Website, Islamic Boarding School

INTRODUCTION

The development of information technology has changed the way educational institutions provide information and communicate with their users. Websites have become an important medium for presenting institutional profiles, educational programs, activities, registration information, facilities, and other services. In Indonesia, the increasing number of internet users indicates the importance of providing digital information through interfaces that are accessible and easy to understand (wearesocial.com, 2024). For educational institutions, website usability is therefore an important aspect because users need to obtain relevant information efficiently. Islamic boarding school is one of the educational institutions that needs to adapt to this development. In addition to functioning as Islamic educational institutions, Islamic boarding school have social and cultural roles in Indonesian society. The availability of a profile website can support Islamic boarding school in delivering institutional information to students, parents or guardians, prospective students, and the general public. However, providing information through a website does not automatically guarantee that users can find and understand the information they need.

The quality of a website interface is closely related to user experience and usability. User interface refers to the visual and interactive elements through which users interact with a system. A good interface should support learnability, efficiency, memorability, error prevention, and user satisfaction. Usability can also be viewed through effectiveness, efficiency, and satisfaction when users achieve specified goals within a particular context of use ("ISO 9241-11," 2018). These aspects indicate that website development should not focus only on visual appearance but also on how effectively the interface supports users in completing their goals.

One approach that places users at the center of the design process is User-Centered Design. UCD emphasizes understanding the context of use, identifying user needs, developing design solutions, and evaluating the resulting design against user

requirements(ISO 9241-210, 2019). The approach involves users throughout the design process so that the resulting interface is based on actual user needs rather than assumptions made solely by designers. Previous studies have applied user-centered or user-oriented approaches to improve the interfaces of educational and other information systems. for example, implemented UCD to improve the user experience of a student admission application (Prawesty et al., 2024) . Other studies have also demonstrated the use of user-centered approaches and usability evaluation in website and information-system redesign(Noor et al., 2023).

The System Usability Scale is one of the instruments frequently used to measure perceived usability. SUS consists of 10 statements using a five-point Likert scale and provides a score ranging from 0 to 100(Brooke, 1996). The instrument is relatively simple to administer and can provide an overall indication of perceived usability. Bangor et al. (2009) further developed interpretation guidelines for SUS scores using adjective ratings, allowing usability results to be interpreted beyond a numerical value.

The profile website of Islamic boarding school Hidayatul Falah presents several interface problems related to navigation, menu organization, information grouping, and the accessibility of important information. These problems can affect users with different purposes and levels of digital familiarity. Students may primarily seek schedules and activities, parents or guardians may require registration and student-related information, while the general public may seek institutional profiles and information about facilities. Differences in these needs require an information structure that allows users to identify and access relevant content easily.

Based on these conditions, this study aims to redesign the user interface of the Islamic boarding school Hidayatul Falah profile website using the User-Centered Design approach and evaluate the resulting usability using the System Usability Scale. The study is expected to provide a more user-oriented website interface and contribute practical considerations for designing educational institution websites, particularly websites serving users with diverse information needs.

RESEARCH METHODS

This study employed a User-Centered Design approach as the main design framework and the System Usability Scale as the usability evaluation instrument. The research process consisted of problem identification, understanding the context of use, specifying user requirements, producing design solutions, and evaluating the resulting interface. The problem identification stage was conducted through direct observation of the existing Islamic boarding school Hidayatul Falah website and initial interviews. The observation focused on navigation, menu structure, information grouping, content accessibility, and visual consistency. The initial interviews were used to identify problems experienced by potential website users.

The UCD process began with understanding the context of use. Three main user groups were identified: students, parents or guardians, and the general public. The analysis considered the goals, information needs, and context of each group. Students require information related to activities and schedules. Parents or guardians require information related to registration, fees, and student development. Meanwhile, the general public requires institutional profile and facility information. The second stage was specifying user requirements. The requirements were divided into functional and non-functional requirements. Functional requirements included institutional profile information, activities and announcements, registration information, and facilities or services. Non-functional

requirements included clear navigation, easy access to information without excessive interaction, responsive design, and a consistent and understandable interface.

The third stage was producing design solutions. The design process included information architecture, wireframes, screen flows, and a high-fidelity prototype. The prototype was developed using Figma. The redesign focused on restructuring navigation, grouping related information, improving content hierarchy, establishing visual consistency, and providing a clearer path to registration. The final stage was evaluating the design against user requirements. Usability was measured using the System Usability Scale. The evaluation involved 10 respondents representing potential website users. Each respondent answered 10 SUS statements using a five-point Likert scale. For odd-numbered items, the contribution score was calculated by subtracting one from the response score. For even-numbered items, the contribution score was calculated by subtracting the response score from five. The total score was multiplied by 2.5 to obtain the SUS score on a scale from 0 to 100.

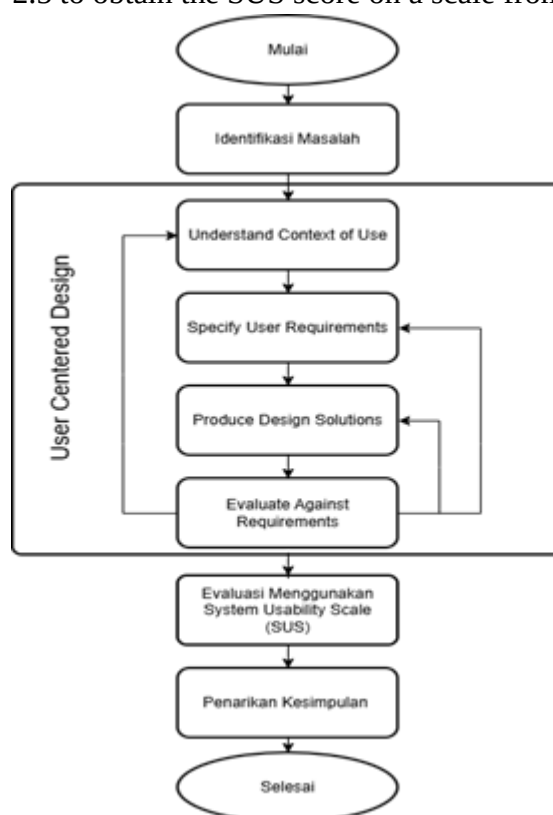


Figure 1. Research Flow Diagram

The resulting SUS scores were interpreted using established SUS interpretation guidelines. A score of 68 is commonly considered an approximate average benchmark, while higher scores indicate better perceived usability.

RESULTS AND DISCUSSION

Context of Use Analysis

The context-of-use analysis identified three primary groups of potential website users. Each group has different objectives and information requirements. Students tend to access information about activities and schedules. Parents or guardians require information related to registration, fees, and student development. The general public mainly requires information about the institution, programs, and facilities.

The analysis also identified several problems in the existing website. Users may experience difficulty identifying the appropriate navigation menu, finding important information, and understanding how information is grouped. Some information also requires users to go through several interactions before reaching the desired content.

User Type	Usage Objective	Information Needs	Identified Problems
Students	Access information about activities and schedules	Activities, schedules, announcements	Navigation is not sufficiently clear
Parents/Guardians	Obtain registration and student-related information	Registration, fees, student development	Important information is not grouped clearly
General Public	Learn about the institution	Profile, programs, facilities	Relevant information is not immediately accessible

Table 1. User context analysis

These findings indicate that the existing interface does not fully reflect the different information goals of its users. Therefore, the redesign needs to provide a clearer information architecture and navigation structure.

User Requirements Analysis

Based on the context-of-use analysis, the identified requirements were divided into functional and non-functional requirements.

Requirement Type	Requirement
Functional	Institutional profile information
Functional	Activities and announcements
Functional	Registration information
Functional	Facilities and services
Non-functional	Clear and understandable navigation
Non-functional	Easy information access
Non-functional	Responsive interface
Non-functional	Consistent visual design

Table 2. User requirements analysis

The requirements show that the redesign should not only add or rearrange content but also improve the way users navigate and understand the website. The requirements subsequently became the basis for the design solution.

Initial Interface Design

The existing website provides several main navigation options, including “Tentang Kami,” “Jadwal,” “Masuk,” and “Daftar.” However, the available navigation does not clearly represent all of the major information categories required by users. Information grouping and page layouts are also less consistent, which may make important information more difficult to locate.

The existing interface demonstrates that the website contains the basic information needed by users but does not provide an optimal information structure. In particular, profile, registration, and other important information are not organized into a sufficiently clear navigation hierarchy.

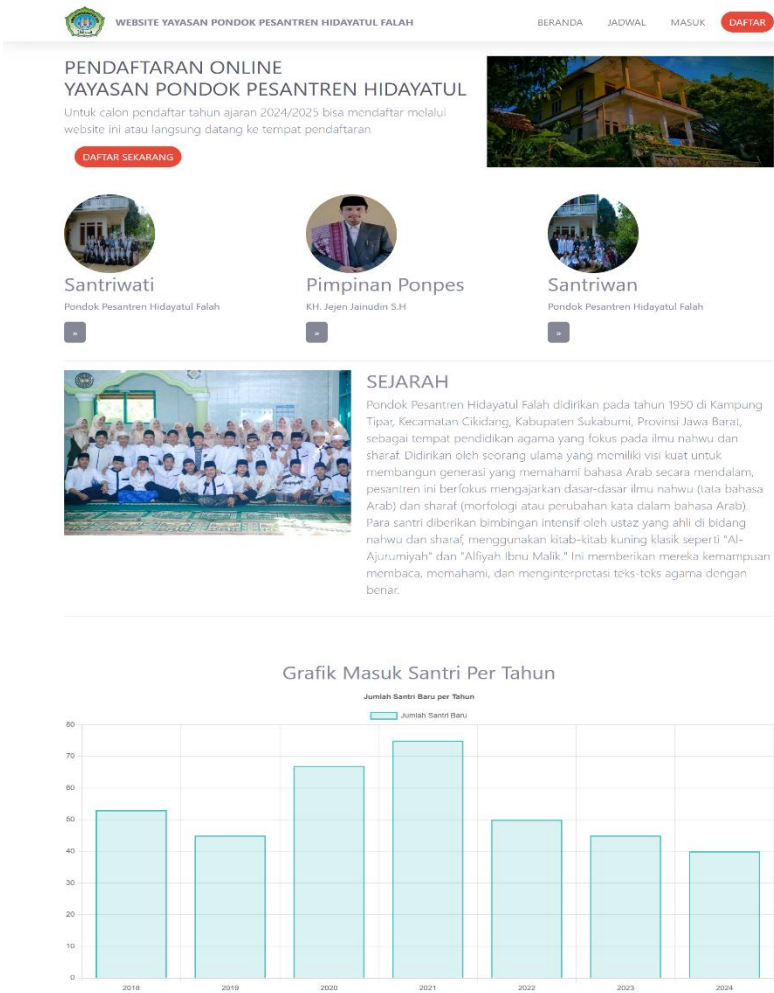


Figure 2. Existing Website Homepage

Proposed Interface Redesign

The proposed redesign restructures the main navigation into “Home page,” “Profile,” “Curriculum,” “Registration,” and “Service.” A “Sign Up Now” call-to-action is also provided to make the registration path more visible. The homepage uses a hero section containing the institutional identity and primary message. Supporting information is presented through structured sections for profile, curriculum, registration, facilities, and other services. Statistical information regarding students, alumni, and teachers is also presented as supporting institutional information.

The redesign also applies a more consistent visual hierarchy through typography, spacing, layout, and component organization. The interface is designed to support responsive access so that users can access the website through different screen sizes.

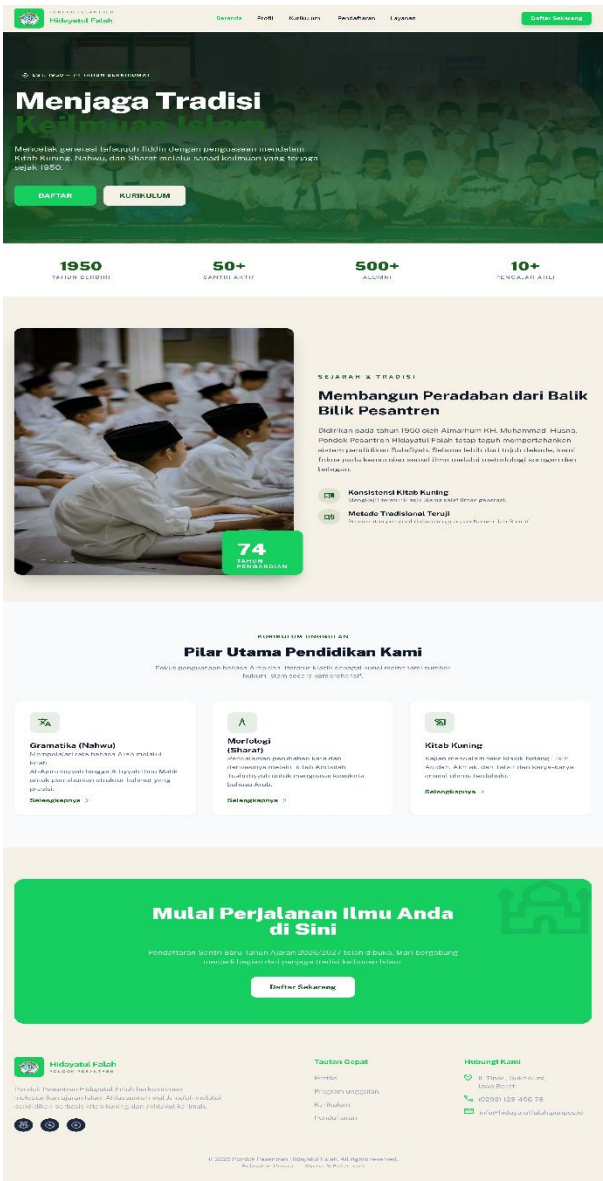


Figure 3. Proposed Homepage After Redesign

The main differences between the existing and proposed interfaces are summarized below.

Aspect	Initial Design	Proposed Design
Navigation	Limited and less structured	Structured according to information categories
Information structure	Information grouping is unclear	Information is grouped according to user needs
Information access	Some information requires multiple interactions	Important information is easier to identify
Features	Basic information presentation	Profile, curriculum, registration, and services
Visual consistency	Layout and content presentation are less consistent	More consistent typography, spacing, and layout
Call-to-action	Registration access is less prominent	“Daftar Sekarang” is clearly presented

Table 3. Comparison of initial and proposed designs

The comparison demonstrates that the redesign addresses the main problems identified during the context and requirement analysis. The navigation is reorganized according to major information categories, while important content is given clearer placement. This approach is consistent with the principles of UCD because design decisions are derived from identified user goals and requirements rather than visual considerations alone.

Usability Evaluation

The redesigned interface was evaluated using the System Usability Scale. Ten respondents completed the 10 SUS statements using a five-point Likert scale. The total SUS score obtained from the respondents was 860, resulting in an average score of 86.

Question										Amount	Mark
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		(Amount x 2.5)
4	4	3	3	3	3	4	4	3	2	33	82.5
4	2	3	3	4	3	4	2	3	3	31	77.5
3	4	4	3	3	2	4	4	3	4	34	85
4	3	3	3	4	4	2	4	4	2	33	82.5
4	4	3	3	4	4	3	4	4	4	37	92.5
4	4	3	3	4	4	4	3	3	3	35	87.5
4	4	4	3	4	4	4	4	4	4	39	97.5
4	4	3	2	4	3	3	4	3	3	33	82.5
4	4	4	3	3	3	4	4	4	2	35	87.5
4	4	4	3	3	3	3	4	4	2	34	85
Final Total Score											860
Average Final Score											86

Figure 4. SUS Evaluation Results

An average score of 86 indicates that the redesigned website achieved a high level of perceived usability and falls within the excellent category based on established SUS interpretation guidelines. The result suggests that the redesigned interface was generally considered easy to use by the respondents. The result is also consistent with the objectives of the redesign. Improvements were concentrated on navigation, information grouping, consistency, and access to important content. These changes were intended to reduce unnecessary interaction and make the information hierarchy easier to understand.

Discussion

The results show that applying UCD provided a structured basis for identifying user needs and translating those needs into interface improvements. The three identified user groups have different information priorities, which explains the need for a navigation structure that clearly separates profile, curriculum, registration, and services. The redesign also improves the visibility of registration information through the “Sign Up Now” call-to-action. This change directly addresses the identified requirement for easier access to registration information. Rather than relying on users to discover the registration path through less prominent navigation, the redesign places the action in a more visible position.

The SUS result of 86 provides quantitative evidence that the redesigned interface was perceived positively by the respondents. This result is in line with previous studies that applied user-centered approaches to improve website or information-system interfaces (Subiyakto et al., 2022). Similar research has also shown that usability evaluation can be used to assess whether redesigned interfaces provide acceptable experiences for users (Wulansari et al., 2023). Nevertheless, the evaluation has limitations. The number of respondents was limited to 10 users, and usability was evaluated primarily through SUS. Therefore, the findings should be interpreted as an indication of perceived usability rather than a comprehensive assessment of all aspects of user experience. Future studies may involve a larger and more diverse sample and combine SUS with task-based usability testing, interviews, or other user-experience evaluation instruments.

CONCLUSION

This study redesigned the user interface of the Islamic boarding school Hidayatul Falah profile website using the User-Centered Design approach. The redesign was based on the needs of three main user groups: students, parents or guardians, and the general public. The resulting interface improves navigation structure, information grouping, content accessibility, visual consistency, and access to registration information. The redesigned website also provides clearer categories for profile, curriculum, registration, and services. Usability evaluation involving 10 respondents resulted in an average System Usability Scale score of 86, which is classified as excellent. These findings indicate that the UCD approach can support the development of a website interface that is more aligned with identified user requirements. Further research can involve more respondents and additional usability or user-experience evaluation methods to obtain a broader assessment of the redesigned website.

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