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A COMPARATIVE HEURISTIC ASSESSMENT OF MUSLIM PRO AND SAJDA: EVALUATING USER-CENTERED ISLAMIC MOBILE APPLICATIONS

(Penilaian Heuristik Perbandingan terhadap Muslim Pro dan Sajda sebagai Aplikasi Mudah Alih Islam Berfokus Pengguna)

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Abstract
In recent years, Islamic mobile applications have become essential digital tools for Muslims seeking to fulfil religious obligations through convenient, technology-assisted means. Applications such as Muslim Pro and Sajda provide features including prayer time notifications, Quranic recitations, and Qibla direction, enabling users to integrate their spiritual practices into daily routines. However, despite their popularity, these applications vary significantly in terms of usability, design coherence, and user accessibility, issues which may hinder user engagement and satisfaction, particularly among non-technical or culturally diverse users. Addressing this gap, the present study offers a comparative usability evaluation of Muslim Pro and Sajda using Nielsen's heuristic framework. Employing expert review and thematic analysis, the study reveals that Muslim Pro, though rich in features and visually appealing, suffers from intrusive advertisements, complex navigation, and feature restrictions for non-premium users. Conversely, Sajda performs strongly in interface simplicity and user control, though limited in functionality, language support, and customization. The findings contribute to the growing field of usability evaluation in Islamic digital applications and offer practical insights for developers aiming to enhance the accessibility, efficiency, and cultural relevance of Islamic lifestyle apps.

Keywords: *Usability, Heuristic Evaluation, Mobile Applications, Islamic Lifestyle, Muslim Pro, Sajda*

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INTRODUCTION

Islamic mobile applications have become an essential tool for Muslims worldwide, assisting them in religious practices such as prayer time management, Quranic recitations, and Qibla direction. With the increasing reliance on digital platforms for religious guidance, usability plays a crucial role in determining user satisfaction and engagement. A well-designed interface can enhance accessibility and convenience, whereas poor usability may lead to frustration and abandonment of the application.

Muslim Pro and Sajda are two widely used Islamic applications that provide similar functionalities but differ in their interface design and user interaction. Muslim Pro offers a more feature-rich environment, including prayer time notifications, a Quran reader, and a halal restaurant finder, whereas Sajda focuses on a minimalistic and distraction-free experience. This study employs Nielsen's heuristic evaluation to compare the usability of these applications, highlighting their strengths, weaknesses, and areas for improvement. The results of this study can inform future developments in Islamic digital applications and contribute to the broader field of human-computer interaction (HCI)..

LITERATURE REVIEW

Research on the usability of mobile applications, particularly in the context of religious applications, is a crucial field of analysis. Muslim Pro and Sajda are popular applications utilized by Muslims for

several aspects of their daily religious practices, including prayer schedule, prayer direction (Qibla), and even recitation of the Quran.

Applications

Definition

A mobile software application, or "apps" is designed to offer users religious services and resources, like prayer times, Quran readings, and other Islamic-related features. These applications are designed to improve the user's religious rituals and overall spiritual journey by providing user-friendly interfaces and easily accessible functionality on mobile devices. The usability of these applications is of paramount significance, as it directly affects the efficiency of users' interactions with the app to accomplish their religious and spiritual objectives.

Types of Applications

1. Browser Access Apps

Web-based applications are not installed on the device but may be accessed using a native browser by entering the program's URL. As the app data is not stored locally on the device, the device's memory size is not of greatest significance. However, the performance and quality of the browser are crucial for the proper functioning of these apps. Some examples of browser access applications are m.yahoo.com and www.google.com.

2. Native Apps

Native apps are installed locally on a device and do not need to communicate data to a server to work. The app may function independently without a network connection as it relies on locally stored data on the device. This enables native applications to operate smoothly even in the absence of an internet connection. Native apps for iPhones, such as Notes and Reminder, serve as examples.

3. Hybrid Apps (Web)

Hybrid apps (web) are applications that are installed on a device but rely on an online connection to operate and perform their tasks. These applications depend on uninterrupted data transmission between the device and the server to function properly. Notable instances of hybrid web applications include popular social networking platforms such as Facebook and Twitter, instant messaging applications like Skype, online shopping applications like Flipkart, and internet speed testing applications like Speedtest.

4. Hybrid Apps (Mixed)

Hybrid apps are applications that can be loaded on a device and may or may not rely on an internet connection to operate. These applications can function offline for specific features and switch to an online mode when necessary. Examples encompass medical applications and certain games that can be enjoyed individually without an internet connection or with the option to engage in multiplayer activities online. Mixed hybrid apps include a dual capability, which enhances their flexibility and userfriendliness.

Key Factors of Excellent Mobile Application

An excellent mobile application is characterized by several critical usability elements that collectively enhance user satisfaction and engagement. A user-friendly interface with intuitive navigation and aesthetically pleasing design facilitates seamless interaction and contributes significantly to positive user experiences (Kaur & Singh 2020; Hussain et al., 2017). The performance of an application, including fast loading times and minimal crashes, is also a determining factor in user retention and satisfaction (Sharma & Saini 2015). Furthermore, consistency and stability are essential, with users expecting reliable behaviour and minimal errors, which can be achieved through structured testing and quality assurance (Kaur & Singh 2020).

In today’s digital landscape, security is paramount. Applications must incorporate robust security mechanisms to protect user data and ensure privacy, thereby fostering trust (Wang et al., 2019). Compatibility across devices and operating systems further ensures that a broad range of users can access the application efficiently (Hussain et al., 2017). Additionally, offline functionality is a valuable

asset, particularly in regions with limited connectivity (Kaur & Singh 2020). Frequent updates are essential for maintaining functionality, addressing bugs, and introducing new features in response to user feedback (Al-Emran & Shaalan 2021).

Personalization also plays a crucial role in improving engagement by allowing users to tailor the experience to their preferences (Kumar & Mohan 2022). At the same time, inclusive design ensures accessibility for users with diverse physical and cognitive abilities, aligning with ethical and social responsibility in digital development (Al-Azawei et al., 2016). Lastly, optimizing resource usage, such as battery and memory efficiency, and establishing effective feedback mechanisms are fundamental for long-term app sustainability and improvement (Sharma & Saini 2015; Al-Emran & Shaalan 2021). Collectively, these elements form the foundation of a high-quality mobile application.

Usability

Definition

Usability refers to the inherent quality of a software application in terms of its ease of use and user-friendliness (Jain et al., 2019). An exemplary program should fulfil the user's needs and facilitate the user in efficiently accomplishing their objectives. According to Tractinsky (2018), the Human-Computer Interaction (HCI) community introduced the term "usability" to refer to a desired characteristic of interactive systems and products. An ideal system should possess a high level of userfriendliness, enabling users to complete tasks with minimal or no barriers. Gupta & Ahlawat (2017) asserted that researchers employ a hierarchical software paradigm to precisely define usability.

Roles of Usability Testing

Determining the specific traits to be integrated within usability elements remains a complex challenge, particularly in the context of mobile application development. According to Mylonas et al. (2018) and Jokela et al. (2019), usability plays a critical role in shaping user experience due to the inherently constrained interaction mechanisms and varied usage environments associated with mobile platforms.

Usability is widely recognized as a core quality attribute, encompassing aspects of convenience, efficiency, and user satisfaction, which collectively influence the overall success of an application. Nielsen (1993) defines usability through five foundational components: learnability, efficiency, memorability, error frequency and severity, and satisfaction. Broadly, usability refers to a system's ability to facilitate secure, effective, and efficient task completion within a given context, ensuring that users can engage with the application without confusion or unnecessary cognitive burden.

Usability Criterias

According to (Nayebi et al., 2012), the usefulness must be evaluated based on these three criteria:

i. Efficiency: Minimal time and effort required to execute a specific task.
ii. East to learn: operations can be acquired and comprehended through object observation.
iii. User satisfaction: fulfills user expectations and goals.

Due to the growing use of mobile technology, several academics have concentrated on the usability difficulties associated with mobile devices (Harrison et al., 2013). Identified several usability problems associated with mobile devices, including mobile context, connectivity, tiny screen size, varying display resolutions, restricted processing capacity, and data entry techniques for mobile users. These limitations will have an impact on the usability of mobile apps.

Factors Influencing Usability in Religious Apps

Applications such as Muslim Pro and Sajda include religious functionalities that require specific usability standards to be fulfilled to achieve optimal outcomes and user happiness. Cultural compliance refers to the app's capacity to adhere to artistic and spiritual values. The significance of this feature lies in its role in determining users' adoption and engagement with the interfaces. For instance, an application that fails to adhere to the religious criteria of the intended users may be rejected (Ahmad et al., 2020). Another significant aspect to consider is the accessibility of the contents. Religious apps

should prioritize easy access to essential features such as religious texts, prayer schedules, and Qibla direction. Therefore, ensuring efficient content access ensures that individuals can quickly and seamlessly locate the necessary information, thereby enhancing the overall user experience (Khan & Shaikh, 2021).

Additionally, it is important to acknowledge that religious applications should prioritize a straightforward and unambiguous interface design, which encompasses legible language and user-friendly navigation. This study asserts that a meticulously crafted custom interface can improve usability by offering users a streamlined and comprehensible application interface (Siddiqui et al., 2022). Therefore, it is beneficial for developers of religious applications to take into account the aforementioned characteristics of app usability to offer suitable services to their consumers and generate additional favorable sentiments.

Barriers That Affect Mobile Application Usability

Various obstacles can impact the usefulness of mobile applications. The lack of standardized practices in app design and development is a major hindrance (Wirtz et al., 2019). This might lead to a proliferation of applications with distinct user interfaces and functionalities, which would make it harder for end users to find and utilize the apps that are specifically designed to meet their specific needs. Another significant obstacle in mobile application usability is the lack of cross-platform and hardware compatibility, which negatively impacts the overall effectiveness and accessibility of the application.

Many mobile applications are not optimized for diverse device specifications, screen sizes, or operating systems, thereby limiting their reach and excluding segments of the potential user base (Xu et al., 2019). This incompatibility not only hinders user adoption but also diminishes the perceived reliability and professionalism of the application in broader usage contexts. In addition, mobile devices frequently possess a lower storage capacity compared to desktop computers, thereby restricting the quantity and size of applications that may be installed. Mobile devices regularly face the issue of limited battery life, which can rapidly decrease with continuous usage. The topic of discussion is "Theory and Practice in Modern Computing: Vision 2025 during Global Crisis."

Here is a compilation of several typical barriers:

1. Lack of standardization: The design of mobile apps lacks uniformity, resulting in inconsistencies in user experience (Sobri et al., 2011).
2. Lack of Guidance: The absence of clear instructions on how to develop mobile applications that are accessible and efficient poses a significant obstacle to their general acceptance, including in the field of mHealth apps (McMillan et al., 2016).
3. Lack of evaluation: The absence of thorough evaluation of mobile apps, particularly mHealth apps, hinders the ability to ascertain their effectiveness and usability (Dick et al., 2020; McMillan et al., 2016).
4. Challenges in the usage of the technology: The utilization of mobile applications may pose technical difficulties due to the small screen size and limited input methods (Alzahrani et al., 2021).
5. Privacy and security issues: Privacy and security concerns can impact the effectiveness of mobile applications. Users may be reluctant to provide personal information to an app if they are worried about the theft or exploitation of their data.
6. Price: The financial burden of developing and sustaining a mobile application could potentially hinder its adoption (Flora et al., 2014).
7. Time limitations: The usability of mobile applications might be affected by time limitations, since users may not have the time to continuously use them due to the restrictions of their schedule (Breitinger et al., 2020).

Characteristics and Perceptions Of Mobile Applications

According to Rosli and Rahim (2024), mobile applications (apps) have significantly transformed the way users interact with technology, providing a wide range of features in areas such as communication, entertainment, productivity, and religious activities. They utilize the capabilities of smartphones,

consequently boosting ease and accessibility for users globally. Categories such as communication, entertainment, productivity, and religious apps, such as 'Muslim Pro', serve the special demands of users, and each has a distinct impact on usability and user experience. Studies on user perception reveal that perceptions about app usability differ, and aspects such as design, functionality, and simplicity of use have a substantial impact on user satisfaction and adoption rates. Furthermore, frameworks such as the Technology Acceptance Model (TAM) offer valuable insights into users' perceptions of the app's utility and simplicity of use. These insights are essential for comprehending app acceptance and its integration into everyday routines.

According to the findings of a comprehensive analysis of mobile application characteristics, mobile app development is a dynamic and quickly increasing area of the technology industry. The study emphasizes the significance of comprehending the distinct characteristics of these applications to ensure their efficient design and implementation. Mobile applications, in contrast to conventional desktop software, necessitate careful attention to hardware, software, and communication elements to enhance performance and user satisfaction (MECS, 2014). The key findings emphasize the importance of hardware efficiency, including low power consumption and adaptive input modalities such as touch interfaces, which distinguish them from desktop apps (MECS, 2014).

The software prioritizes user experience (UX) and user interface (UI) design specifically for mobile contexts, guaranteeing responsiveness and intuitive interaction. Ensuring security is a major problem, and it is advised to utilize encryption and session management tactics to protect the integrity of data and the privacy of users (MECS, 2014). Furthermore, the study highlights the communication difficulties that are naturally present in mobile platforms, such as inconsistent network connectivity and limitations in bandwidth. These factors have an impact on the operation and performance of mobile applications (MECS, 2014).

Usability Studies in Mobile Applications

Conducting usability tests in mobile applications is essential for guaranteeing user pleasure and maximizing application success in many industries. Usability, which refers to how effectively, efficiently, and satisfactorily users may accomplish their objectives, is especially important in mobile situations because of the distinct limitations and patterns of interaction seen in mobile devices (ISO 9241-11, 1998).

The concept of usability may be traced back to the early 20th century in the field of human-computer interaction (HCI) research. Over time, it has evolved to emphasize the importance of user-friendliness and intuitive interaction with computer systems (Nielsen, 1993). Jakob Nielsen's contributions have played a crucial role in defining usability principles, including efficiency, memorability, and error-free use. These concepts continue to serve as the foundation for usability evaluations in the present day (Nielsen, 1993). The usability of a mobile application has a direct impact on how satisfied users are with it and how likely they are to adopt it. Positive user experiences in mobile apps are crucial for success in competitive marketplaces. This can be achieved by efficient navigation, task fulfillment, and minimizing user effort (Nielsen, 1993).

Usability testing is the process of assessing user interaction with a program to discover any usability problems and enhance the overall user experience. Methods used to evaluate interface design and operation include task completion metrics, user satisfaction surveys, and heuristic evaluations, as defined by ISO 9241-11 (1998). Mobile app usability encounters obstacles such as diverse user interfaces, constrained screen dimensions, and various device functionalities. Ensuring consistent design techniques and enhancing user-friendliness across various platforms are persistent obstacles in the field of mobile app development (Nielsen, 1993).

Islamic Lifestyle in Mobile Application

Islamic lifestyle mobile applications have increasingly become an integral part of modern Muslim life, offering digital tools that facilitate religious devotion and spiritual development. According to Kabir et al. (2022), such applications provide a wide array of functionalities including Qur’anic study tools,

prayer time reminders, community interaction features, and educational content related to Islamic jurisprudence. These applications enhance user engagement through intuitive interfaces, customizable settings, and timely notifications, thereby empowering users to perform religious practices with greater autonomy and confidence. While facing challenges such as data privacy concerns and sustainable monetization models, Islamic mobile applications continue to evolve in response to the diverse spiritual needs of users. In doing so, they help nurture a deeper connection between individuals and the values, teachings, and communal aspects of Islam.

The integration of mobile applications into Quranic education has significantly transformed pedagogical approaches, offering innovative avenues to enhance student engagement and learning outcomes. Recent studies have underscored the effectiveness of these applications in advancing Quranic literacy and fostering deeper comprehension among learners (Alqahtani & Fayyoumi, 2015; Ghori et al., 2023). The application of mobile technologies such as speech recognition, augmented reality, and interactive interfaces has notably enriched the process of Quranic recitation and interpretation, leading to more immersive and effective educational experiences (Alqahtani & Fayyoumi, 2015; Maylawati et al., 2021).

Moreover, the accessibility of widely used platforms like Quranic and Quran Explorer has provided students with engaging and user-friendly tools to interact with Quranic teachings (Hakimi et al., 2024). These advancements highlight the profound impact of mobile technology in Islamic education, particularly in enabling innovative instructional strategies and facilitating personalized learning experiences tailored to individual learners' needs (Maylawati et al., 2021; Ghori et al., 2023).

Analysis Of Islamic Android Apps

Anum et al. (2019) conducted a comprehensive evaluation of Islamic mobile applications and identified several key categories, including Qur'an, Qibla/Prayer Times, Hadith, Zakat, and Supplications. The study revealed critical challenges in the discoverability of these applications, particularly due to the absence of a distinct "Religion" category on the Google Play Store, which complicates user access to relevant religious content. Further analysis indicated that many applications labelled as "Islamic" were, in fact, more cultural than religious in substance.

Moreover, language barriers were identified as a significant issue, with most widely used applications being predominantly available in English, Arabic, or Urdu, thereby excluding non-speakers of these languages. The study underscores the importance of developing multilingual, culturally relevant Islamic mobile applications with verified content and improved accessibility to effectively meet the diverse needs of global Muslim users.

Several previous studies have examined the usability of mobile applications, particularly in the religious domain. According to Rosli and Rahim (2024), mobile applications significantly influence user engagement by providing features tailored to communication, entertainment, productivity, and religious activities. This aligns with the findings of MECS (2014), which emphasized the importance of optimizing software for mobile environments through hardware efficiency, adaptive input methods, and enhanced security features.

Ahmad et al. (2020) emphasize the critical role of cultural and contextual adaptation in the design of Islamic mobile applications, noting that usability is closely linked to how well app functionalities align with users' religious practices and obligations. The study argues that without contextual sensitivity, even technically functional apps may fail to meet user expectations in spiritual contexts. In a related study, Khan and Shaikh (2021) examined the accessibility features of religious applications and underscored the importance of clear navigation structures and well-organized content delivery to ensure a positive user experience, especially for users with varying digital literacy levels.

These findings complement Siddiqui et al.'s (2022) research, which highlights that simplified and minimalistic user interface (UI) designs can improve user engagement by reducing cognitive overload,

a particularly important consideration in applications intended for religious learning and spiritual reflection.

METHODOLOGY

This study adopts a qualitative research approach using Nielsen's heuristic evaluation to systematically analyze the usability of the Muslim Pro and Sajda applications. By engaging usability experts instead of end-users, the study efficiently identifies interface issues, usability patterns, and interaction challenges. By leveraging expert reviews and user feedback, this study aims to identify key usability issues that influence user experience, efficiency, and satisfaction.

The collected data are examined through thematic analysis based on Nielsen's ten heuristics, allowing the research to uncover recurring concerns and generate actionable recommendations for improving user experience. This method provides deeper insights into user behavior and interaction difficulties, offering a comprehensive evaluation that considers varying user demographics and expectations for future app development.

This study employs a qualitative research approach using heuristic evaluation. Nielsen's ten usability heuristics serve as the evaluation framework, ensuring a systematic assessment of usability concerns. The study follows these key steps:

1. Expert review: Three usability experts evaluated both applications using predefined usability principles.
2. Feature analysis: A detailed examination of core functionalities such as prayer time accuracy, navigation efficiency, and overall user experience.
3. Comparative assessment: Identifying key differences between the two applications to determine which app provides a more user-friendly experience

A usability inspection method in which experts review an interface using predefined usability principles to discover usability issues. This technique is commonly used in Human-Computer Interaction (HCI) research to diagnose usability issues without significant user testing (Nielsen, 1994).

Table 1: Heuristic Principles

No.	Heuristic Principle	Core Idea (Simplified)
1	Visibility of System Status	Keep users informed with timely feedback
2	Match Between System and the Real World	Use familiar language and real-world concepts
3	User Control and Freedom	Allow easy exits from unwanted actions
4	Consistency and Standards	Follow conventions; keep terms and actions consistent
5	Error Prevention	Design to prevent issues before they happen
6	Recognition Rather Than Recall	Make options visible; reduce memory load
7	Flexibility and Efficiency of Use	Support both novices and experts with adaptable controls
8	Aesthetic and Minimalist Design	Keep interface clean and free of unnecessary elements
9	Help Users Recognize, Diagnose, and Recover from Errors	Use clear error messages with helpful solutions
10	Help and Documentation	Provide useful help, even if it's not often needed

Expert Evaluation

Two mobile applications currently under development will be assessed through expert evaluation by usability specialists with expertise in mobile application design. The expert review aims to identify

usability issues and propose evidence-based recommendations for enhancement. Expert selection was based on their academic and professional qualifications, as well as their specialization in relevant fields. Three experts were purposefully chosen to provide critical insights into the usability of the Muslim Pro and Sajda applications. Their respective backgrounds, ranging from multimedia systems and e-learning to Islamic studies and knowledge management, are closely aligned with the objectives of the study, thereby ensuring a comprehensive and contextually informed evaluation. Ethical considerations were observed throughout the study, with expert identities anonymized to maintain confidentiality and informed consent obtained following a clear explanation of the study's objectives and methodology. The following Table 2 presents a summary of the experts and their relevance to mobile application usability evaluation.

Table 2: Experts' Profiles

No.	Position	Expertise	Relevance to Study
#1	Associate Professor, Faculty of Science and Technology, USIM	• Computer Graphics & Animation • Multimedia • Computer-Assisted Instruction (CAI)	Expert in **visual and interactive design**, suitable for evaluating app interface and user experience
#2	Lecturer, Faculty of Science and Technology, USIM	• Multimedia Systems • E-Learning • Multimedia Educational Tech & Media	Specialist in **educational and functional aspects**, ideal for assessing usability in learning contexts
#3	Lecturer, Faculty of Quranic and Sunnah Studies, USIM	• Islamic Studies • Knowledge Management • Ontology • Social Networks	Brings **Islamic and cultural insights**, ensures apps align with religious values and user expectations

The selected experts were chosen based on their academic qualifications, professional experience, and relevance to the research objectives. Their input is expected to offer a well-rounded analysis of the usability and functionality of the applications, ensuring the reliability and validity of the findings in this study. These experts will conduct evaluations independently, ensuring objective and unbiased assessments. The evaluation results will be structured under Nielsen's ten usability heuristics, providing a clear assessment of the usability aspects of both applications. The data gathered from the expert reviews will be analyzed using a thematic approach, which involves qualitative coding. This approach allows for the identification and categorization of patterns, themes, and significant insights from the expert feedback. The analysis process will be carried out in the following three stages as in Table 3:

Table 3: Stages of Analysis

Stage	Description	Focus Areas
1. Problem Identification	Review expert feedback to identify key usability issues in *Muslim Pro* and *Sajda*.	Functionality, design flaws, interface problems; issues coded and linked to app features.
2. Category Classification	Classify identified problems into relevant usability categories based on expert domains.	Visual design, navigation, content structure, accessibility, cultural relevance, and user interaction.
3. Discussion of Solutions	Analyze expert suggestions to recommend improvements from both technical and user-centric viewpoints.	Actionable enhancements aimed at improving overall usability and user experience of the applications.

By following these stages, the expert feedback will be systematically analyzed, providing a detailed understanding of the usability challenges and offering practical solutions for the improvement of the Muslim Pro and Sajda applications.

FINDINGS AND DISCUSSION

Comparative Usability Strengths and Weaknesses of Muslim Pro and Sajda

The comparative analysis of Muslim Pro and Sajda highlights distinct usability profiles shaped by their respective design philosophies and feature sets as summarized in Table 4. Muslim Pro demonstrates a strong emphasis on functional richness, integrating a wide range of features such as Quranic recitation, prayer scheduling, Qibla direction, and a halal locator. This breadth of services, supported by a visually structured interface and multilingual accessibility, caters to a global user base seeking comprehensive Islamic utilities. However, these advantages are offset by key usability drawbacks. The presence of intrusive advertisements, complicated navigation pathways, and limitations imposed on non-premium users significantly hinder the seamlessness and inclusivity of the user experience, particularly for users with limited digital literacy or financial means.

Table 4: Comparative Usability of Strengths and Weaknesses

Application	Strengths	Weaknesses
Muslim Pro	• Comprehensive feature set, including prayer time management, Quran recitation, and halal dining locator. • Visually appealing interface with well-structured UI elements. • Wide user base and multilingual support.	• Intrusive advertisements that disrupt the user experience. • Complex navigation requiring multiple steps to access certain features. • Some essential features are restricted to premium users, limiting accessibility for free users.
Sajda	• Clean, minimalistic interface that enhances ease of use. • Ad-free experience ensures uninterrupted navigation. • Simple and intuitive prayer time management.	• Lacks customization options found in Muslim Pro. • Limited additional features beyond core prayer functionalities. • Fewer language options compared to Muslim Pro, reducing accessibility for non-English speakers.

In contrast, Sajda adopts a minimalist design that prioritizes simplicity and user focus. Its ad-free environment and intuitive interface enhance usability by reducing cognitive friction and enabling quick access to core features. This approach is particularly beneficial for users who prefer streamlined, distraction-free engagement with prayer-related content. Nevertheless, Sajda's narrower functionality and limited customization options may restrict its appeal to users seeking more robust or versatile applications. Additionally, the lack of multilingual support constrains its accessibility for non-English speakers. Overall, while Muslim Pro offers a broader scope with trade-offs in complexity and monetization, Sajda excels in delivering a clean and efficient user experience within a more focused functional range.

Heuristic Evaluation Comparative Analysis

While both applications serve the same purpose, they differ in usability efficiency. Muslim Pro provides more features but is hampered by intrusive advertisements and complex navigation. In contrast, Sajda offers a more user-friendly experience with minimal distractions, making it ideal for users who prioritize simplicity.

Table 5: Heuristic Evaluation Comparative Analysis

#	Heuristic Principle	Muslim Pro	Sajda
1	Visibility of System Status	Provides real-time feedback, but pop-up ads disrupt interface visibility.	Seamless user feedback without interruptions.

#	Heuristic Principle	Muslim Pro	Sajda
2	Match Between System and the Real World	Uses appropriate religious terms but interface feels overloaded.	Focuses on essential Islamic terms with clear, simple design.
3	User Control and Freedom	Navigation tools exist, but key features are locked behind premium access.	Easy navigation; lacks customization or advanced user control.
4	Consistency and Standards	Maintains consistent design but may feel visually cluttered.	Clean, minimal layout follows consistency principles well.
5	Error Prevention	Some settings may cause user confusion.	Clear instructions help prevent user errors.
6	Recognition Rather Than Recall	Well-labeled icons and text aid recognition.	Minimal design enhances recall and ease of use.
7	Flexibility and Efficiency of Use	Offers advanced features; can overwhelm novice users.	Simple and accessible but lacks shortcuts or expert-level options.
8	Aesthetic and Minimalist Design	Visually appealing but affected by ad clutter.	Clean, focused interface with minimal distractions.
9	Help Users Recognize, Diagnose, and Recover from Errors	Limited troubleshooting options available.	Straightforward guides assist with problem-solving.
10	Help and Documentation	Includes FAQs and customer support features.	Limited documentation, but clear and user-friendly.

The heuristic evaluation of *Muslim Pro* and *Sajda* as summarized in Table 5 above, conducted using Nielsen's ten usability principles, highlights notable contrasts in their alignment with established user interface standards. *Muslim Pro* demonstrates strengths in the areas of system visibility, recognition over recall, and functional flexibility. The application provides users with real-time feedback and clearly labeled icons, which support ease of navigation and enhance task recognition. However, its overall usability is impeded by a cluttered interface and the presence of intrusive advertisements, which conflict with the principles of minimalist design and user control. Furthermore, restrictions imposed on certain features for non-premium users limit the application's inclusivity and accessibility. Although *Muslim Pro* maintains consistency in terminology and iconography, the high cognitive load and potential for user error, particularly among novice users, detract from its overall heuristic performance.

Conversely, *Sajda* exhibits a high degree of conformity with core usability heuristics, particularly in terms of aesthetic design, error prevention, and user control. Its minimalist interface reduces distractions and facilitates task execution, thereby enhancing usability and reducing the likelihood of user confusion or error. The application's streamlined design supports a clear match between system functions and user expectations, making it especially effective for users seeking simplicity and efficiency. Nonetheless, *Sajda* demonstrates limitations in areas such as flexibility of use and help documentation, with a lack of advanced customization features and multilingual support potentially constraining its utility for diverse user demographics. Overall, while *Muslim Pro* offers a feature-rich environment with certain usability trade-offs, *Sajda* prioritizes usability clarity and simplicity, resulting in a more focused yet potentially less versatile user experience.

RECOMMENDATIONS

Based on the heuristic evaluation, several key recommendations are proposed to enhance the usability of both Muslim Pro and Sajda. Muslim Pro should reduce the intrusiveness of advertisements and simplify its navigation structure to alleviate cognitive load and improve overall user engagement. Additionally, both applications would benefit from improved consistency in navigation design and more robust error prevention mechanisms. For Sajda, expanding customization options and increasing language support would help accommodate a broader, more diverse user base. Finally, enhancing error

recovery features and providing clearer help documentation across both platforms would further support a seamless and user-friendly experience.

CONCLUSION

Mobile applications have a wide range of importance in several areas, including religious activities. They help make religious practices more accessible and engaging for users (Turel et al., 2020; Bawack et al., 2019). It is important to comprehend the many categories of applications, such as browser access apps, native apps, hybrid apps (web), and hybrid apps (mixed), to assess their usability in religious settings (Chen et al., 2016; Sahandi et al., 2018). High-quality applications are characterized by userfriendly interfaces, strong performance, security features, compatibility across devices, offline capabilities, regular updates, personalized experiences, accessibility provisions, and efficient resource management (Taleb et al., 2017; Lim et al., 2019).

The usability of religious apps depends on aspects such as cultural sensitivity, the availability of religious material, and interface designs customized to address specific religious requirements (Islam et al., 2021; Zhang et al., 2018). Obstacles to usability, such as the absence of standardization, compatibility problems, restricted storage, and privacy concerns, are highlighted by challenges (Taleb et al., 2017; Lim et al., 2019).

This study highlights the usability strengths and challenges of Muslim Pro and Sajda apps using Nielsen's heuristic evaluation. Findings suggest that while Muslim Pro is feature-rich, its user experience could be improved by reducing advertisements and streamlining navigation. Meanwhile, Sajda's simplicity makes it accessible but may benefit from enhanced customization features. Future research may incorporate user testing to validate these findings and explore further usability enhancements, ensuring that Islamic mobile applications continue to meet the evolving needs of Muslim users worldwide. The insights gained from this study contribute to the broader field of human-computer interaction and can be used to develop more effective and user-friendly religious mobile applications.

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