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Android Shortcut Application Development as A Medium for Religious Information Using The AppsGeyser Platform

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***Abstract*— The development of information and communication technology has encouraged the use of mobile devices as a medium for disseminating information, including in the religious field [10]. Today's society requires fast, practical, and easy-to-use access to religious information through Android-based smartphones [6]. This study aims to develop a shortcut-based Android application as a medium for religious information by utilizing the AppsGeyser platform [7]. The development method used includes needs analysis, application design, implementation, and functional testing of the application using a Research and Development (R&D) approach [3]. The results of the study indicate that the Android shortcut application is able to present religious information effectively, is easily accessible, and is lightweight to use without requiring high device specifications.**

***Index Terms*— Android Application, Religious Information Media, AppsGeyser**.

I. INTRODUCTION

The development of information technology in the current digital era has had a significant impact on various aspects of life, including education and the dissemination of religious information [10], [15]. The advancement of Android devices, particularly Android-based smartphones, has driven changes in the way people access information.

The use of Android applications as an information medium has several advantages, including ease of access, interactive displays, and the ability to integrate various types of content such as text, images, audio, and video [11]. However, the application development process often requires technical programming skills that not everyone possesses [1].

Furthermore, the existence of Android shortcut applications can also increase the visibility of religious institutions because the applications can be displayed directly on the smartphone screen. This will strengthen the institution's digital identity, increase congregational engagement, and open up wider space for the spread of Islamic preaching [9]. In the context of digital technology development, the ability of religious institutions to utilize digital media is one indicator of their readiness to face the era of digital transformation.

Based on the background explained above, the research problem is formulated as follows: How is the process of developing an Android shortcut application as a medium for religious information using the AppsGeyser platform?

Developing an Android shortcut application that can facilitate user access to religious information by utilizing the AppsGeyser platform as a coding-free application development tool.

II. EASE OF USE

A. Android Application

Android applications are a rapidly growing technological innovation with the increasing use of mobile devices such as smartphones and tablets [6]. In general, an Android application can be defined as software designed and developed to run on Android devices with the aim of providing certain services, functions, or conveniences to users [6], [13], [14]. These applications work by utilizing the device's built-in features such as the touchscreen, camera, GPS, motion sensors, and internet connection to provide an optimal interactive experience [11].

Android applications are a rapidly growing technological innovation with the increasing use of mobile devices such as smartphones and tablets. In general, an Android application can be defined as software.

Fig 1. Android icons by version

B. *Shortcut Applications*

Shortcut apps are a form of innovation in Android app development that focuses on ease and speed of information access [12]. Generally, shortcut apps are simple applications that function as shortcuts to connect users directly to specific content, such as websites, digital services, or specific features, without the need for lengthy navigation. This type of app is widely used on Android-based devices because it is easy to create, lightweight, and practical for a wide range of users.

Technically, shortcut apps are generally developed using web-based app creation platforms or generator apps, such as AppsGeyser, WebView, or Progressive Web App (PWA) [7], [16]. These platforms allow developers to create apps without having to write complex programming code. This makes shortcut apps an effective solution for individuals, educational institutions, religious organizations, and small agencies with limited development resources.

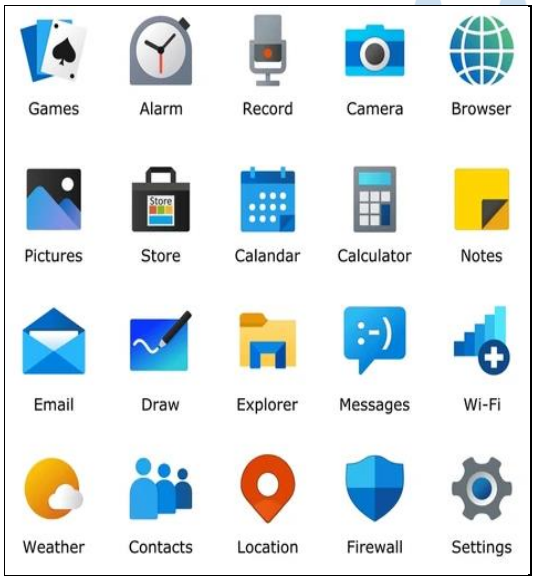

Fig 2. Shortcut applications

C. *Functions and Benefitsof Shortcuts*

A shortcut is a feature or mechanism designed to provide quick access to a specific function, application, or information without going through lengthy processing steps. In the context of information technology, shortcuts act as digital shortcuts that simplify user tasks on computers and Android devices [12]. Shortcuts are an essential part of modern interface systems because they support efficiency, speed, and convenience in technology use.

The primary benefit of using shortcuts is time and energy efficiency. Shortcuts enable users to complete tasks more quickly by eliminating unnecessary steps. This efficiency is crucial in modern life, which demands speed and practicality in accessing information and digital services.

Shortcuts also provide benefits in optimizing device resources. Applications or systems that utilize shortcuts are generally lightweight and do not require large storage or memory capacities. This is particularly advantageous for devices with low specifications or limited storage capacity, allowing them to still perform their primary functions optimally.

D. *Religious Information Media*

Religious information media is a means of communication used to convey religious teachings, values, and messages to the public in a systematic and sustainable manner [8]. This media plays a crucial role in the process of preaching, education, and moral and spiritual development of the community, both in print and digital formats. With the development of information technology, religious information media has undergone a transformation from conventional methods to more interactive and accessible digital-based media. Religious information media serves as a bridge between sources of religious teachings and the wider community [9]. Through this media, various religious materials such as studies of the Quran and Hadith, guidance on worship, morals, Islamic history, and information on religious activities can be effectively conveyed. The existence of this media helps the community understand religious teachings more deeply and apply them in their daily lives.

E. *The Role of Religious Information Media*

Religious information media plays a crucial role in society, particularly in conveying religious values widely, quickly, and easily accessible [9].

1. Religious information media serves as a means of preaching and disseminating religious teachings.
2. Religious information media serves as a medium for education and learning.
3. Religious information media plays a role in shaping attitudes, morals, and character in society.
4. Religious information media serves as a means of uniting the community. This media can serve as a forum for communication and fostering friendship

between religious communities and among adherents of other religions.

F. *AppsGeyser*

AppsGeyser is a web-based platform for creating Android applications (APKs) without writing any programming code. This platform allows users to convert various types of content—such as websites—into Android apps. In general, AppsGeyser can be defined as an effective, efficient, and economical no-code Android app creation solution for educational, informational, and digital promotional purposes [7], [17].

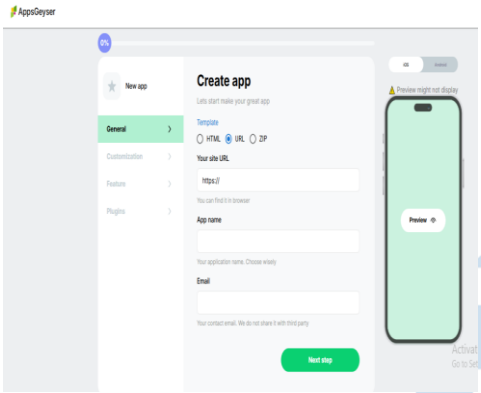

Fig 3. Form AppsGeyser

The following are the main features offered by AppsGeyser, a no-coding Android app creation platform:

a) No-Code App Builder

b) Ready-to-Use App Templates

c) Web Content to App Conversion

d) Fast App Creation

e) Design and Content Personalization

f) App Monetization

g) Push Notifications

h) Integration with Third-Party Services

i) Export & Publishing

III. RESEARCH METHOD

A. *Research Design*

This research uses the research and development (R&D) method, research method used to produce a specific product and test its effectiveness [3].

This development model has advantages and disadvantages. The advantages of this model are its ability to produce a product with a high validation value and encourage continuous product innovation. However, the disadvantages of this model are its relatively long time-consuming nature, as the procedures are relatively complex and require significant funding.

The first stage is Define, often referred to as the needs analysis stage. The second stage is Design, which prepares the conceptual framework for the model and learning tools. The third stage is Develop, which involves validation testing or assessing the feasibility of the media. Finally, the Disseminate stage is implementation on the actual target audience, the research subjects [3].

Fig 4. Development Steps

B. *Data Types and Data Collection Techniques*

The types of data used in this study consist of primary and secondary data. Primary data is data obtained directly from primary sources through direct interaction with the research subjects. This data is collected to obtain information relevant to the research objectives, such as respondents' opinions, responses, and behaviors toward the research subjects [10].

C. *Data Analysis Techniques*

The collected data is then processed. The data management steps in this research include:

1. Editing, which involves reviewing and re-examining the data collected from respondents. Through editing, researchers can improve the quality of the data to be processed and analyzed.
2. Design, which involves assigning symbols to respondents' answers to facilitate data analysis.
3. Tabulation, which involves processing data by arranging or entering data into tables, then analyzing them based on the research objectives.

In development research, the results of data analysis are also used to evaluate and refine the product being developed. Data from expert validation and user trials are analyzed to determine the product's feasibility and effectiveness, allowing for improvements based on the feedback and findings obtained [3].

IV. RESEARCH RESULTS AND DISCUSSION

A. Research Results

The result of this research is an Android Shortcut application developed using the AppsGeyser platform and functioning as a religious information medium. This application is designed to facilitate users' quick, practical, and integrated access to religious information via Android-based smartphones [7].

This Android Shortcut application utilizes the web-based shortcut concept, where the application's main content comes from websites or online sources and is packaged as an Android application without requiring complex programming.

B. Application Development Process

1. Need Analysis

   This stage aims to identify user needs for religious information media. Based on observations and literature review, it was found that users require media that is easy to access, easy to use, and contains up-to-date and relevant religious information.

2. Application Design

   The application design was carried out by selecting the AppsGeyser platform with its Website to App feature. At this stage, the application name, application icon, content source website address, and initial application display (a simple splash screen) were determined.

3. Implementation

   Implementation was carried out by utilizing AppsGeyser features, converting the website to an Android Shortcut application, as well as setting up navigation and creating an APK file.

4. Application Testing

   Tests were conducted by installing the application on several Android devices to ensure the application runs properly and displays religious information as intended.

C. Application Display

1. Main Application Display

   The Android Shortcut application, a religious information medium developed using the AppsGeyser platform, is displayed as an application icon on the user's smartphone home screen. The application icon is designed to be simple and represents religious identity for easy user recognition.

Fig 5. Main applications on the smartphone screen

2. Application Icon

   On the smartphone screen. The application icon is the main visual element displayed on the smartphone screen after the Android Shortcut application installation process is complete. In this study, the application icon was designed using symbols and colors that reflect religious identity so that it is easily recognized by users

Fig 6. Application icons on the smartphone screen

3. Navigation Menu (if available on the source website)

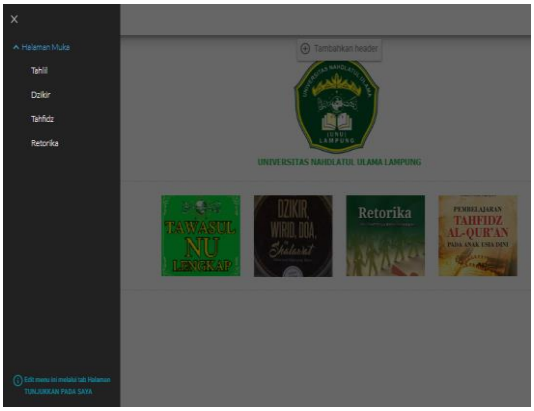

Fig 6. Navigation Menu

D. Application Testing Results

Application testing was conducted using the black box testing method to ensure the application functions as expected.

TABLE I. APPLICATION TESTING RESULT

No	Skenario Pengujian	Hasil yang Diharapkan	Hasil Pengujian	Keterangan
1	Application installation	Application can be installed	Successful	Valid
2	Application run	Application opens normally	Successful	Valid
3	Content access	Religious content appears	Successful	Valid
4	Page navigation	Navigation works well	Successful	Valid

Based on the test results, it can be concluded that the Android Shortcut application runs well and meets its development objectives.

V. CONCLUSIONS AND SUGGESTIONS

A. Conclusions

Based on the research results and discussion regarding the development of the Android Shortcut application as a medium for religious information using the AppsGeyser platform, the following conclusions can be drawn:

1. This research has successfully developed an Android Shortcut application utilizing the AppsGeyser platform as a medium for delivering religious information that is easily accessible via Android-based smartphones.
2. The developed application is capable of displaying religious information quickly and practically without requiring complex Android programming processes, thus providing an alternative solution for religious institutions or communities in disseminating information.
3. Application testing results indicate that the Android Shortcut application runs well on Android devices, and all main functions, such as installation, opening the application, and accessing religious information content, function as expected.

The use of the AppsGeyser platform has proven effective in the development process of simple applications, particularly for website-based applications packaged as Android Shortcuts.

B. Suggestions

Based on the research results, the author offers the following suggestions:

1. The application can be further developed by adding a notification feature to provide users with the latest religious information.
2. Further development could consider using a more complex Android platform or framework to allow the application to run offline and include interactive features.
3. The application interface design could be improved to be more attractive and tailored to user needs.

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