Design of an Android-based Prayer Guidance Application Based on Al-Quran and Sunnah

Novi Hendri Adi¹*, Abdul Somad¹, Farid Kassimov² and Abzal Kuanyshuly³

¹ Information Engineering Department, Faculty of Engineering, Universitas Ibnu Sina, INDONESIA
² I.V. Panfilov Kazakh-Russian Specialized School-Lyceum, Almaty, KAZAKHSTAN
³ Institute of Metallurgy and Ore Beneficiation JSC, Satbayev University, Almaty, KAZAKHSTAN

Abstract: Prayer is the cornerstone of religion, and it is an obligation for Muslims who have reached the age of accountability. Prayer is a great act of worship, because it is a direct command from Allah ta’ala to Muslims, whose command was directly received by the Messenger of Allah (peace and blessings of Allah be upon him) without the mediation of Gabriel (peace be upon him) at Sidratul Muntaha on the occasion of Isra’ and Mi’raj. Prayer is the first thing that will be judged on the Day of Judgement, as the Messenger of Allah (peace and blessings of Allah be upon him) said: "The first thing that will be judged of a slave on the Day of Judgement is prayer. If his prayer is good, all his deeds will be good. If the prayer is bad then all his deeds will be bad". Education or teaching prayer to children is so important that even Rosulullah sholallahu alaihi wassalam has firmly prescribed that prayer education begins at an early age, that is, before they reach the age of puberty. Even when children are seven years old, they have been ordered to pray. This application is multimedia-based to be more interesting and easily understood by children in learning prayers because there are images, sounds and videos in it.

Keywords: Education Software, E-learning, Multimedia, Praying Guidance

*Corresponding Author: novi.hendriadi@gmail.com

Received 25th August 2023; Revised: 26th September 2023; Accepted: 27th October 2023

https://doi.org/10.58712/jcim.v1i2.109

Copyright © Novi Hendri Adi, Abdul Somad, Farid Kassimov and Abzal Kuanyshuly. Published by Researcher and Lecturer Society. This is an open access article under the:

https://creativecommons.org/licenses/by/4.0/


1. Introduction

Prayer is the cornerstone of religion and is also the second pillar of Islam after shahadatain (Abu-Hilal et al., 2017). Prayer is the first act of worship that a servant will be held accountable for before Allah on the Day of Judgement (Zuhri, 2022). Therefore, it is obligatory for every Muslim to pay attention to the implementation of this prayer as it has been ordered by the Prophet Muhammad (peace and blessings of Allah be upon him) with the procedures that have been explained by him. Prayer requires serious attention, especially with regard to innovations and deviations in the practice of prayer. It is important to pay attention to this in order to fulfil the rights of Allah, may He be exalted, and among other mistakes that are often found are not being tuma’inah in the prayer, not completing the bowing and prostration, such as straightening the backbone and placing the forehead and nose properly on the floor or the earth, and so on.
The method used in making this application is divided into two, namely: data collection method, which is one of the important elements in the process of system analysis and development (Almaiah et al., 2020; Wankhade et al., 2022). That consists of interview techniques, literature studies, polls, observations and software application development methods. The system development method used in this research is the MDLC (Multimedia Development Life Cycle) method by Luther-Sutopo for software application development methods. This MDLC development method is carried out based on 6 stages, namely: concept, design, material collecting, assembly, testing and distribution (Samala & Amanda, 2023).

Seeing the problems that exist in the community, it is necessary to create a system or educational application to know how to pray correctly according to the Qur’an and sunnah. By utilising android or gadget (Richardo et al., 2023), This application is expected to provide learning that is interesting, not monotonous and makes it easier for users to learn prayer movements, recitation of prayers and get information based on propositions from the Qur’an and hadith, based on valid sources and sahih hadiths. Therefore, the author intends to conduct research to develop a prayer guidance application based on the Qur’an and Sunnah.

2. Methods

There are several methodologies that can be used in designing a multimedia application, one of which is the methodology used in this research, namely the Multimedia Development Life Cycle (MDLC) development (Samala et al., 2022; Winarsim et al., 2021). The development of this multimedia method is carried out based on six stages, namely concept, design, material collecting, assembly, testing, and distribution. The first stage is to create a concept, by creating a system using the MDLC method with UML (Unified Modelling Language) modelling (Wang et al., 2021). Where the UML model used consists of Use Case, Activity Diagram, Sequence Diagram and Interface.

![Figure 1: Multimedia Development Life Cycle](image)

The design stage aims to make detailed specifications regarding the architectural style, project, and material requirements needed for the application (Afikah et al., 2022). This stage is the stage to determine the objectives and who the users of the programme are. The purpose and end use of the program affects the feel of multimedia as a reflection of the identity of the organisation that wants
information to reach the end user (Silva-C et al., 2019). The design describes a detailed view of the structure of the multimedia application and the material requirements for learning media animation. At this stage, all activities, information and explanations that will be displayed in the animation begin to be considered. In this stage, tools such as the use of flowcharts to describe the flow of activities, menu structures to describe what options are in the application and do not forget to design interfaces as interfaces that are directly related to the user.

Material collection is the stage of collecting materials needed when making applications, can be done together with the assembly stage, then multimedia files such as audio, video, and images that will be included in the presentation of the multimedia project (Mahan, 2022; Taherdoost, 2021). Assembly is the stage of creating all multimedia objects or materials. Application creation is based on the design stage (Gazzotti et al., 2021), such as storyboards, flowcharts or navigation structures. In the application development stage, the author uses Adobe Dreamweaver, Android Studio, Photoshop CS5 software, while the audio is created and edited using Adobe Audition CS6 and Xmedia Recode (Purnomo et al., 2023).

After completing the manufacturing stage, the testing stage is carried out by running the system to see if there are errors or not, if there are then improvements will be made (Nidhra, 2012). And at the distribution stage is the final stage where at this stage the application can already be used by students for learning media.

1. System Design

The educational application to be built is by using interactive animation. Interactive animation must fulfil certain specifications (Berková et al., 2023). This specification is part of the programme that is directly related to user usage. The animation specification here also explains the steps of making interactive animations that aim to make an interesting animation programme and hopefully increase the effectiveness of delivering information in its use. The making of animation here is explained in the form of animation design that describes everything that appears on the monitor screen, which includes making pictures, text, giving sound, making motion effects and making interactive animation using javascript (Daskan & Yıldız, 2020; Sari & Margana, 2019).

Making this application using a storyboard. This storyboard is certainly supported by the role of javascript which is very helpful in simplifying the results of HTML publication as much as possible so that dynamic, interactive objects are obtained, and there is no excessive use of publication space. In Table 1 is a prayer movement using a story board.

<table>
<thead>
<tr>
<th>Scene</th>
<th>Board</th>
<th>Duration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Storyboard" /></td>
<td>00:00:01</td>
<td>When the &quot;left arrow&quot; is clicked, it will go to the main view. When the &quot;right arrow&quot; is clicked, it will go to scene 2. When the &quot;play button&quot; is clicked, it will play the caption sound in scene 1. When the &quot;home button&quot; is clicked, it will go to the main view..</td>
</tr>
</tbody>
</table>
2. System Development Method

This system development method uses the Multimedia Development Life Cycle (MDLC) to design it, where this MDLC consists of 6 stages, namely concept, design, Material Collecting, Assembly, Testing, Distribution.

The first stage is to create a concept, by creating a system using the MDLC method with UML (Unified Modelling Language) modelling (Khan et al., 2019). Where the UML model used consists of Use Case, Activity Diagram, Sequence Diagram and Interface. Use Case Diagrams are used to describe an interaction between one or more actors with the system to be created. The use case diagram in Figure 1 is a Usecase diagram made from the user’s point of view.

![Use Case Diagram](image)

**Figure 2. Usecase Diagram of Android-based Prayer Guidance Application**

Activity diagrams describe the flow of activities and describe system activities that are made in one operation (Jaffari et al., 2020). This android-based prayer guidance has 3 activities, namely prayer guidance, prayer practice, prayer video. In Figure 2 shows the prayer guide menu. The diagram explains the activity on the prayer guidance menu button, namely the user selects the prayer guidance
menu in the system then the system displays a list of prayer guidance menus in the form of material on the postulates of prayer guidance procedures in accordance with the Qur’an and Sunnah. Figure 2 shows the prayer guide menu.

In Figure 3 the system displays the movements, recitations and audio of prayer readings using a storyboard. Here the user can select the scene of the prayer movement sequentially or not and the user can listen to the audio description or reading in each scene. Figure 3 displays the prayer practice menu.

In Figure 4 the system displays the movements, recitation of prayers through prayer practice videos. Here the user can see the prayer practice guide through a video that displays a detailed prayer practice guide, so that the user can more easily understand the prayer movements from the combination of the three prayer guide menus. Figure 4 displays the prayer video menu.
Sequence Diagram at the concept stage of this system design there is a sequence diagram as a description of the steps taken by the system. The sequence diagram can be seen in the picture below. In Figure 5 of the prayer guide sequence diagram, the user selects the prayer guide material to read the material in the prayer guide menu. Figure 5 shows the prayer guide sequence diagram.

In Figure 6 of the prayer practice sequence diagram, there is a prayer scene storyboard that will be selected by the user, then the system will display a description of each movement.

In Figure 7 of the prayer video sequence diagram, the user selects the prayer video menu, then the system will play the prayer movement guidance video.
The design of the interface is adjusted to the needs in order to facilitate the information needed. In this application there are several menus that contain information displays. Splashscreen Display This display is used as an initial display, namely the opening display. The display contains the application title to enter the main menu display of the application. Figure 8 shows the design of the splashscreen display.

![Figure 8. Sequence diagram video shalat](image)

The main menu display is the main display of the application created. There are 3 navigation buttons from this display, namely: Prayer guide, Prayer practice and Prayer video. The buttons on the selection options have information according to their respective functions. Figure 9 shows the design of the main menu display.

![Figure 9. Opening screen display](image)

The prayer practice menu display is a guide in which there are several pictures of prayer movements starting from before takbir to salam which are accompanied by readings and slideshows of prayer.

![Figure 10. Main menu display](image)
movements that can be selected manually. This menu is also accompanied by sound/audio based on text/reading. Figure 10 shows the design of the prayer practice menu display.

![Prayer practice display](image1)

**Figure 10.** Prayer practice display

This prayer video menu display is a guide in the form of an animated video guide to prayer procedures from takbir to salam. This menu is an enhancement of the prayer practice menu, so that users can better understand gambling about the practice of prayer procedures. Figure 11 shows the design of the prayer practice video display.

![Video display of prayer practice](image2)

**Figure 11.** Video display of prayer practice

Design and Material Collecting, the following stages are part of the design and collecting materials used when making applications, such as icons, sound, voice over, video, animation and also material slides. Design here means making any design in the system while collecting some materials for design in the system. This prayer guidance application is designed using Adobe Dreamweaver software, Android Studio, Adobe Photoshop and other supporting applications. The menu structure in the design is made as an overview of the application scheme to be designed. In this application, the menu structure of the Android-based Prayer Guidance Application consists of the main menu page, prayer guide menu, prayer practice menu and video menu. In Figure 12 shows the design of the menu structure of the prayer guidance application.
Assembly is the stage of creating all multimedia objects or materials. Application development is based on the design stage, such as storyboards, flow charts or navigation structures. At the stage of making applications the author uses Adobe Dreamweaver software, Android Studio, Photoshop CS5, while the audio is made and edited using Adobe Audition CS6 and Xmedia Recode.

Testing aims to try whether the application that has been made is in accordance with the results of the previous stages and to see whether there are errors or not, if there are then improvements will be made.

Distribution (distribution / dissemination) the process carried out in the production stage is to save the learning media application that is already in the form of an .apk file is shared or copied into a flashdisk storage media or into a micro SD. After storage, the educational application file was distributed to Islamic religion subject teachers to be used as a tool in the teaching process and the prayer learning process.

3. Results and Discussion

From the design and creation of the system described earlier, the programme has been designed and implemented as follows:

Figure 13 consists of several properties such as animation and buttons on the page. While the function of the button itself is to call or to go to the main page on the Prayer Guidance Application.
Figure 14. Splash Screen Page

Figure 14 consists of several properties such as animation and buttons on the page. Namely, the prayer guide button on this main page is access to the prayer guide page in which the user can read the prayer procedure material along with the arguments based on the Qur’an and Sunnah. The Prayer Practice button on this main page is access to the prayer practice page in which the prayer procedures will be displayed accompanied by movements and recitations using storyboards. The Prayer Video button on this main page is access to the prayer video page in which this menu will also display the prayer procedures accompanied by movements and recitations in more detail using video shows.

Figure 15. Home Page

In Figure 15 consists of several buttons, which are delivered by their functions, Back Button to return to the previous menu, namely the main page. The Prayer Definition button on this prayer guide page is access to a page that contains explanatory material about the definition of prayer based on the Qur’an and hadith and the explanation of the scholars. Button Distribution of Prayer Times on this prayer guide page is access to a page that contains explanatory material about prayer times based on the Qur’an and hadith. Button Conditions of Prayer on this prayer guide page is access to a page that contains explanatory material about the conditions of prayer based on the Qur’an and hadith. Button Rukun-
rukun Shalat on this prayer guide page is access to a page containing explanatory material about the pillars of prayer based on the Qur’an and hadith. Button Movement, Recitation and Sunnah on this prayer guide page is access to a page that contains explanatory material about prayer movements accompanied by readings and also explained about the sunnahs in prayer based on the Qur’an and hadith.

![Image of Prayer Guide Page]

**Figure 16. Prayer Guide Page**

In Figure 16 consists of several buttons, which among their functions, Button Home to return to the main page menu. Button Play function to play the audio description on the selected scene. Next button to see the next movement. Button Previous to see the previous scene. Slider to select the desired prayer movement menu freely without having to follow the prayer movements in sequence.

![Image of Prayer Practice Page]

**Figure 17. Prayer Practice Page**

This android-based prayer guidance educational application is an educational application made with Adobe Dreamweaver CS6, which is a combination of various data in the form of images, text, sound.
and video. This application is an interactive learning media that can help children in making it easier to learn to pray. This application is a new thing at SD An-Nahdhah that can help teachers in teaching their students to learn easily and fun. This educational application is specially designed so that children can easily operate it with supervision or without the help of teachers or parents.

Based on the results of testing, this application can run well, because it has succeeded in carrying out all tasks or instructions and functions properly without problems. As a product of development, of course, educational media has advantages and disadvantages. As the saying goes, there is no ivory that is not cracked, and it is undeniable that this application still has shortcomings, such as in terms of image and sound quality based on the perspective of the author. But overall, this educational application can function and run well.

4. Conclusion and Suggestion

Based on the results of research and discussion of interactive learning applications of prayer guidance based on the Al-Quran and Android-based Sunnah that have been developed, conclusions can be drawn, namely, the Design Application of Prayer Worship Guidance Based on the Al-Quran and Sunnah has been successfully designed using the Multimedia Development Life Cycle (MDLC) development method which is built with 6 stages, namely: concept, design, material collecting, assembly, testing and distribution, using HTML, CSS and Javascript programming languages in the creation or design process of the application. This educational application is applied by being applied in the form of an .apk file, which will then be installed into Android as an Elearning learning media application system. This android-based interactive learning media is more interesting and fun for children than learning media that is still monotonous.

It is hoped that this application can make it easier for children and even adults to learn and know the correct prayer procedures based on the Al-Quran and Sunnah. The need for supervision of children when they are playing or using gadgets, because there is a lot of inappropriate information or even information that is not yet time to be known by children. Researchers hope that in further development research, the application is not only focused on the obligatory 5-time prayer, but can provide information on the procedure for ablution.

Acknowledgements

Thank you for SD An-Nahdhah as research place and all lecturers in Universitas Ibnu Sina had helped in giving suggestions and comments in this article.

Declarations

Author contribution

Novi Hendri Adi as research implementer, designing media and collecting data. Abdul Somad as research and article concept designer. Farid Kassimov as research and article concept designer. Abzal Kuanyshuly as proof-reader.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.
Competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References


