

Analysis of Multimedia Elements in Mobile Applications: Mari Belajar Berdoa

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Abstract. Du'a is a prayer of invocation, supplication, or request, even asking for help or assistance from Allah. Muslims regard this as a profound act of worship. Aside from the daily prayers, Muslims are encouraged to call upon Allah for forgiveness, guidance, and strength throughout the day. Muslims can make these personal supplications or prayers (du'a) in their own words, in any language, but there are also recommended examples from the Quran and Sunnah. This paper presents Mari Belajar Berdoa Mobile Apps for kids. The research objective of this study is to develop Doa Apps: Mari Belajar Doa that focuses on Islamic content for children, to design interactive Doa Apps based on an element of design, and to give awareness to children about the importance of reading culture through doa. This paper exploits ADDIE Model as the research methodology. This paper offers the importance of doa in our daily lives. It should be educated from an early age so that it becomes accustomed to the practice of this doa. This paper analyses the multimedia elements of the presentation of the interface and content of the application.

Keywords: Mobile applications, multimedia elements, Islamic content, du'a

INTRODUCTION

Dua can be seen in books, on the internet, and in other sources. Nowadays, people will learn the dua through mobile applications. Kids also can learn the dua easily without carrying books everywhere. Additionally, smart device mobility and ease allow children to learn in a variety of settings instead of the traditional desk and chair (Ellingson, 2016). Kids are the easiest people can follow anything. Nowadays, kids are too close to gadgets, especially tablets, iPad, smartphones, and others. The project development Mari Belajar Doa focuses on mobile applications.

At this stage, parents need to emphasize their children reading and memorizing the dua in their lives every day, especially those who are Muslim. The kids can read and memorize all the doa easily using a mobile application. Because the project focuses on the mobile application, the content development included text, images, sound, animation, and video. The paper of this project is to analyze the multimedia elements of the interface and content of the application. The purpose to analyse the multimedia element in this project is to know the suitability and usage of the multimedia element in the development process for kids.

Multimedia falls into one of five main categories and use varied techniques for digital formatting. One or any combination of this content can be used to enhance your website or social media platform. Here's an overview of each of the multimedia elements like text, animation, graphics, audio, and video. (Simply Effective Web Design Inc., 2022)

A large percentage of the human brain dedicates itself to visual processing. Thus, using images, videos, and animations alongside text stimulate the brain. Student attention and retention increase. Under these circumstances, in a multimedia learning environment, students can identify and solve problems more easily compared to the scenario where teaching is made possible only by textbooks. (Edtech, 2016)

“Multimedia is characterized by the presence of text, pictures, sound, animation, and video; some or all of which are organized into some coherent program” (Phillips, 1997).

Animated videos describe common situations in unique representations, which can stimulate a spirit of thinking and discussion. These discussions can encourage children to enhance their ideation and critical thinking skills while also developing effective verbal skills. As animations are an amalgam of academics and creativity, they open new possibilities for children to explore and understand the world around them and form opinions. (Bobek & Tversky, 2016)

LITERATURE REVIEW

Mobile Application

Mobile applications are a move away from the integrated software systems generally found on PCs. Instead, each app provides limited and isolated functionality such as a game, calculator, or mobile web browsing. Although applications may have avoided multitasking because of the limited hardware resources of the early mobile devices, their specificity is now part of their desirability because they allow consumers to handpick what their devices are able to do (Janssen, 2010).

Mobile application is a software application designed to run on mobile devices such as smartphones and tablet computers. It is a result of recent technological innovations. Mobile applications have appeared because of the convergence of media, information technology, Internet and advanced technologies. In addition, for many years, mobile telecommunications have been under investigation by mobile device manufactures, mobile service providers, application developers, and many researchers in the sphere of information technology (IT) and information systems (IS). However, the most interesting area for research is mobile application evolution (Phongtraychack & Dolgaya, n.d.)

Doa

Doa – an Arabic word written here in English letters. Three small letters make up a word and a subject that is large and breathtaking. The word ‘dua’ could be roughly translated to mean supplication or invocation. In Islamic terminology, dua is the act of supplication. It is calling out to God; it is a conversation with God, our Creator, our Lord, the All-Knowing, and the All-Powerful. Dua is uplifting, empowering, liberating, and transforming and it is one of the most powerful and effective acts of worship a human being can engage in. Dua has been called the weapon of the believer. (Stacey, 2018)

Multimedia Element

The word multi and media are combined to form the word multimedia. The word “multi” signifies “many.” Multimedia is a type of medium that allows information to be easily transferred from one location to another. Multimedia is the presentation of text, pictures, audio, and video with links and tools that allow the user to navigate, engage, create, and communicate using a computer. Multimedia refers to the computer-assisted integration of text, drawings, still and moving images(videos) graphics, audio, animation, and any other media in which any type of information can be expressed, stored, communicated, and processed digitally.(*What Is Multimedia?* - *GeeksforGeeks*, n.d.)

Multimedia elements combine more than one type of medium, typically in digital form, such as on computers, audio players, tablets, smartphones, and other technology. These elements help the reader use sight, sound, and sometimes even other senses to experience what they're reading. Examples of multimedia elements include:

- Video
- Audio recordings and sound effects
- Interactive images (images that let the reader click on certain images or words to learn more information about them, including how the word sounds, its definition, and important facts.) (Heather Jenkins, 2022)

Elements and Characteristics of Multimedia Elements

Text

Traditionally text has been used to convey messages. Text is an excellent way for delivering information, but can often be too slow at getting the message across. Text is a form of information expressed by words and various special symbols. It is the most used information storage and transmission method in real life. Conveying information in the text gives people a rich imagination. It is mainly used for the descriptive representation of knowledge, such as expounding concepts, definitions, principles, and problems and displaying titles, menus, and so on.

Most children learn to read going letter-by-letter, learning which sounds go with which shapes until they can blend the sounds together to form words. This is why new readers proceed slowly and sometimes struggle with pronunciation and syllable stress. The efforts of new readers can be supported by making sure their texts use inviting, easy-to-read typefaces, set in the most readable way.(Ilene Strizver, n.d.)

Image/Graphic

Image is one of the most important forms of information representation in multimedia software. It is a critical factor in determining the visual effect of multimedia software.

Graphics may indeed be “worth a thousand words” when one needs to describe situations that are inherently spatial and multidimensional, such as faces, maps, knots, and the like. (Mireille Betancourt and Alain Chassot, 2008)

Animation

Animation uses human visual persistence characteristics to quickly play a series of graphic images of continuous motion changes, including special effects such as zooming, rotating, transforming, fade-in, and fade-out. Animation can visualize abstract content, making many incomprehensible teaching contents vivid and exciting. Reasonable use of animation can achieve twice the result with half the effort.

Animated videos describe common situations in unique representations, which can stimulate a spirit of thinking and discussion. These discussions can encourage children to enhance their ideation and critical thinking skills while also developing effective verbal skills. As animations are an amalgam of academics and creativity, they open new possibilities for children to explore and understand the world around them and form opinions. (*Benefits of Animation on Your Child's Brain - CompuChild*, n.d.)

Sound

Sound is one of the most convenient and familiar ways people use to convey information and exchange feelings. In the multimedia courseware, according to its expression, the sound can be divided into three categories: explanation, music, and effect.

From the moment they are born, sound is an integral part of children's development. Infants respond to their parents' voices, lullabies, and white noise, and as they grow, different sounds help them to learn and connect. In fact, the Parenting Research Centre says, 'Sound is critically important to the way children learn about their world' and because there is a tendency to focus on language skills and motor skills, they describe sound as an, 'Unsung hero in child development'. (Early Childhood Education, 2021)

Video

Video images have time series and rich information connotations, which are often used to explain the development of things. The video is very similar to the movies and TVs we are familiar with, and it plays an essential role in multimedia. (Liu, 2021)

Interactive Multimedia

Any computer-delivered electronic system that allows the user to control, combine, and manipulate different types of media, such as text, sound, video, computer graphics, and animation. Interactive media integrate computer, memory storage, digital (binary) data, telephone, television, and other information technologies. Their most common applications include training programs, video games, electronic encyclopedias, and travel guides. Interactive media shift the user's role from observer to participant and are considered the next generation of electronic information systems. (Erik Gregersen, 2022)

METHOD AND FINDING

The model to be used in the development of this project is the ADDIE model. Why this model was chosen as an instructional design for the project to be developed because once one phase is completed, the next phase can be implemented easily and can be an excellent guide. ADDIE is the classic model of instructional design that is used for developing

educational and training programs and instructional materials. ADDIE stands for Analysis, Design, Development, Implementation and Evaluation, the five steps in the design process. (Nina Burokas, 2022)

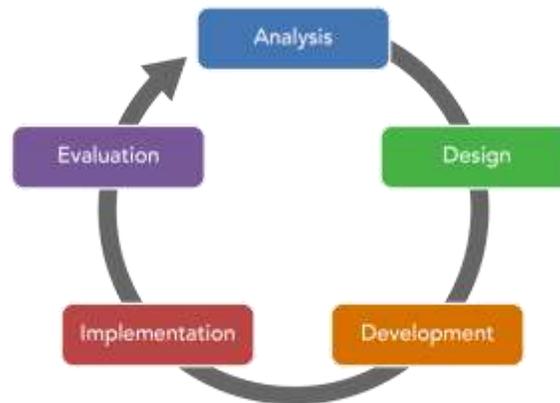


FIGURE 1. ADDIE model

Figure 2, 3 and 4 below, show the delivery platform and multimedia elements presence in the mobile application. Based on the project, it is shown an interface of the home screen, main menu and collection of doa.

Figure 2, the images show the gender of the kids and text about the title of the project. The text uses a simple typeface and it makes it easiest for the kids when they read it. The images shown represent both genders; boys and girls and it will attract them to explore the mobile apps together. The sound effect can be heard once the user or kids click the button.

Figure 3 shows the image of the building well known to the Muslim people, the mosque. The images were chosen to highlight the interface of the main menu. This figure also shown the textual based on the mobile application such as the word of Menu, Doa Harian and Zikir Harian. Using text is not bad for presentation or display of the information however existing literature revealed that reading too many texts on a computer screen is slower and tougher than reading the same text provided in hard copy. (Tay Vaughan, 2010)

Uses of text in this figure is balanced with the images and it will make the user or kids enjoy the interface of this main menu. This interface also has audio but it only focuses on the sound effect by clicking the shape button.



FIGURE 2. Home screen



FIGURE 3. Main menu

Figure 4, shows the collection of the dua in the mobile apps. Each dua represents the images with the act of the content. In the collection of dua, the same background is to be used for standardization. The images like character, background, and also the text used are suitable for the content.



FIGURE 4. Collection of doa

Figure 5, shows the dua about “Doa Keluar Rumah”. This dua used Arabic and Rumi text. For the kids, first time want to read a dua, they can read roman text. The same background will be applied to all the dua in this mobile application. In this figure, the sound was used like voice over (VO) of recitation of the dua, and once the user pressed the button NEXT, MEANING PAGE and HOME as a sound effect. The user or kids can click the images button and the VO will play. For figure 6, the meaning page shows the same interface background and images as figure 5. VO also displays once the user presses the

button sound. In addition, the usage of text and sound on that pages makes the kids know what to do without following the instructions from the parents.

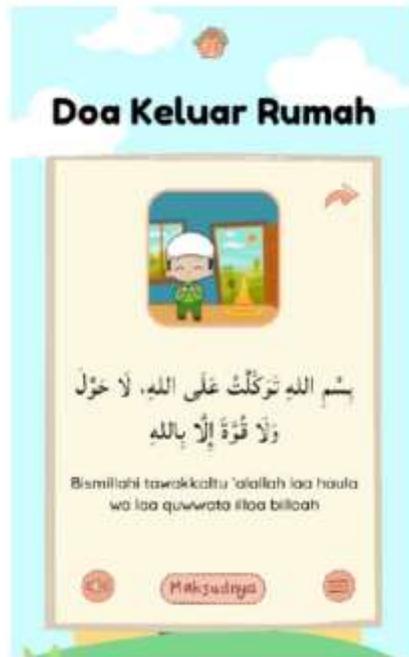


FIGURE 5. Content page of the dua



FIGURE 6. Meaning page of the dua

RECOMMENDATION FOR FUTURE WORKS

Several improvements can be suggested for providing to enhance the mobile application of Mari Belajar Doa.

The project can be improved by adding animation. With animation the user especially, kids will be excited to read and memorize the dua. Furthermore, the animation is one of the multimedia elements that will make people enjoy and be interested.

The project can be improved by adding a video (a sequence of pictures). The video must be of short duration and not for all collections of dua for making the project rich with the information connotation.

CONCLUSION

The project presents the analysis of the multimedia element of the interface and content of the application, Mari Belajar Doa. In this study, the design development of the mobile application uses images, text, and sound suitable and appropriate for kids or users. Several improvements can be suggested in enhancing mobile apps. Furthermore, the project can be improved by adding a simple video and animation about the activity during which the kids read and memorize the dua.

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