

Android Base Rapid Application Development for Learning Yanbu'a

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Abstract - Learning to read the Al Quran is a very important basic knowledge, especially for early childhood, because it serves as a foundation to increase love to Qur'an and an increase in the sense of faith in Allah Subhanahu Wata'ala. The current learning model is still very conventional. The method of learning the Yanbu'a book in general still uses the rote method by reading the book and listening to it from the teacher. The impact of the learning causes children to be less enthusiastic about learning so it is easy make them bored. Seeing these problems, it is necessary to make mobile-based applications that can make it easier and fun for children to learn the Yanbu'a book. In this study, we will discuss the development of the Yanbu'a learning method on Android which was built using the Construct of 2 applications. Students are increasingly facilitated in learning and interest in learning is increasing.

Keywords - HTML5, Rapid Application Development, Yanbu'a.

1. INTRODUCTION

The main problem during this time faced by *Taman Pendidikan Al-Qur'an* (TPQ) Al-Hasanain is the lack of interest of children to read the Quran, so far teachers teach with books or reading books so that children feel less attractive so that in over time they become bored and finally get out of the TPQ, because there is no particular emphasis on how to read Quran, especially Yanbu'a so that children feel happy to learn to read Quran is using Rapid application Development (RAD), because there are 4 elements that must be met namely: Management, human, methodology and equipment there are many methods in reading Quran or books in TPQ, one of the most widely used methods in learning to read Quran is Yanbu'a method. This method is a proposal from the alumni of Tahfidul al-Quran dormitory in Kudus which has a better improvement because the material contained in each juz / volume is not in accordance with the previous book, the sequence of lessons is not the same material. In this study, the object was TPQ al-Hasanain for children in Guyangan village, Bangsri, Jepara. TPQ AL Hasanain is one of TPQs that uses learning with Yanbu' a method. Because of the lack of interest in learning TPQ al-Hasanian for children in studying the book of Yanbu'a and lack of knowledge as parents in teaching reading Quran to children, it makes children difficult and slow in understanding how to read Quran correctly.

The development of technology in various fields of Android is the most widely used Mobile OS (Operating System) today; its open source nature makes it easy for developers to develop android applications. The android system has a free platform for developers, it can create or develop an interactive learning media application.

With these problems, it takes an RAD method to combine methods or structure techniques, RAD uses prototype methods and other structured techniques to meet the needs of users and design information systems/ learning media read Quran using Yanbu'a method for children TPQ

Al-Hasanain by utilizing Android so as to facilitate children in learning the correct way to read Quran independently. Based on these problems and analysis, researchers will create a system by utilizing Construct 2 as the tool to create the application. This can be seen in Adiwijaya's research (2015) which produced a platform game for Android-based exponential learning using construct 2.[8] Another development made by Thomas (2014) which also produces games for coordinate points. Therefore it can be concluded that the use of Construct 2 can be done to develop learning media. [9] As for obtaining Yanbu'a material, the author uses the method of literature study, observation and interview. Development method using Rapid Application Development (RAD) that has been arranged systematically include requirements planning, design system and implementation.

2. STUDY LIBRARY

2.1. Literature Studies

State of the art in this study refers to several journals including:

1. Research conducted by Aso Sudiarjo (2015) on learning applications *makharijul huruf, waqof* and *tajwid* based on android. The author discusses how to make it easier for Muslims to learn the science of *tajwid, waqof* and *makharijul huruf* anywhere and anytime without any shame because of old age. Because this application is made that is used for muslims, especially for old age as a medium of learning science *tajwid, waqof* and *makharijul huruf* in order to be applied in reading Quran everyday. [1]

2. Research conducted by Antonius Wahyu Sudrajat (2014) on the development of mobile applications for learning the science of *tajwid qur'an*. In the creation of this application, the author performed several methods including data collection, analyzing needs both functionally and non-functionally and using flowcharts in explaining the flow of the application program built. This application based on Flash Lite utilizes mobile phone media to combine text, animation, and sound, thus providing positive stimulus so that users can learn how to read Quran easily. [2]

3. Research conducted by Ika Nur Azizah (2020) on strategies to increase interest in learning to read quran in TPQ Nurul Huda Jepara. The author discusses how the strategies of the teachers in increasing children's interest in learning to read quran at TPQ Nurul Huda Jepara, namely the Yanbu'a method where the learning is adjusted to the branch and must be able to follow like the teacher. [5]

4. Research conducted by Titon Agung Saputro (2018) on algebra learning media using the construct 2 application. The author discusses how to convey interesting learning and make students enthusiastic about taking mathematics lessons so there is a need for computer learning media by making algebra game applications using construct2. [6]

5. Research conducted by Jada Ario Yustin (2016) on the application of educational games for learning mathematics using construct 2. The author discusses how to make educational games as an alternative media that can be used by children in learning basic mathematics which is fun and can improve children's abilities in learning mathematics. [7]

In this research the method used is research and development. The Android-based Tajwid al-Qur'an was developed with a waterfall model. The subject of the study was The Study at Nurul Mubin Mosque. The data collected are 15 response data of children who have studied the Qur'an to the development of Tajwid Al-Qur'an-based Android Age range starting from 9 years by using questionnaires. Student response data is analyzed descriptively. The results of this study showed that this application was successfully implemented using the Java programming language with Corona SDK and using And Engine as an additional library. All the features in this app can run on all tested devices (android 8.0). The response of students and teachers to the

Android-based Qur'an tajwid is categorized as positive.

2.2. Study Library

1. Mobile Application

Android is a Linux-based operating system, platform on Android is free for developers to create their own applications that can be used by various mobile devices.

2. Construct 2

Construct 2 is a tool used to create games as well as HTML5-based. One of the conveniences of this tool is not to use certain programming languages, because the use of commands is set in the Event Sheet namely Event and Action. [3]

Construct 2 has advantages over similar software, among others Powerful Event System which means with Construct 2 we can make android games or applications more easily because there is no need to use special programming languages such as other software.

Features of Construct 2:

- a) Quick and Easy: has a ribbon interface that is easy to understand and speed up game design
- b) Powerful Event System: does not require a complicated programming language.
- c) Flexible Behaviors: provides tools in adding objects, speeding up, and also increasing productivity.
- d) Instance Preview : it does not take long to compile the system.

3. Yanbu'a Method

Yanbu'a is one of the methods of learning the Qur'an that is in accordance with the characteristics of early childhood. Because this method coordinates 3 important aspects, namely auditory, visual, and movement (kinesthetic). Where the three components are, inseparable but complementary, so that the child's ability will develop in a balanced manner. [4]

3. RESEARCH METHOD

In this study the proposed method is descriptive statistics by utilizing the Rapid Application Development (RAD) method. After the application is completed, it will be tested to experts in the field of programming then it will be tested to the user by sharing the questionnaire. The data obtained is qualitative data processed with a Likert scale into quantitative data with weighting and scoring.

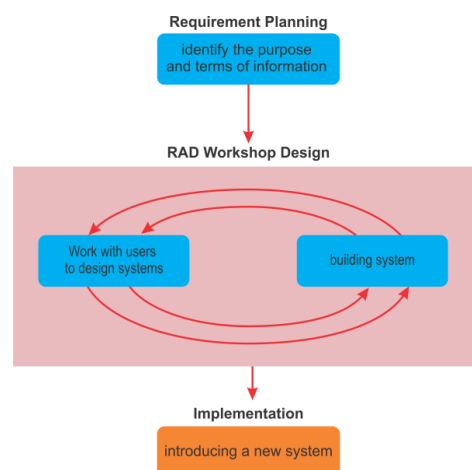


Figure 1. RAD Method Stages

Based on figure 1, here's a description of the research stages.

1) Requirement Planning

At this stage the user and analyzer identify the system requirements and the purpose of the information. Orientation in this phase is to solve the company's problems

2) Design System

This stage of the user is fully involved in achieving the goal because this stage is the design process and improves when there is a discrepancy between the user and the analysis.

3) Implementation

Testing the application is developed and carried out to the next process. It is used to check what discrepancies whether there is or not before applying.

4) Development

Testing method in the application using Black Box Testing is the functional specification used in the software. Testers can identify inputs as well as performing tests on programs. Black Box Testing test without knowing the whole of the system or components takes place as behavior testing, specification-based testing, input / output testing, or functional testing.

5) Evaluation and Validation of Results

The model proposed in this study will be tested by using black box testing to test the software worthy of what is observed by the results of test data and functional checks of the device. The goal is to find errors/ failures of the users and also validation of experts. through this stage, it is expected to make a research useful (or not) for society in general. It is used to find out that the research using questionnaires in the collection of public data on the appearance and function of the application and all existing features can run well or not. This research involves media experts as well as materials also, it is worth launching from the research angle of both experts.

6) Expert Validation

In this process researchers involve one media expert and one material expert. Validation instruments for experts in this study have a validity of content based on the opinion of each expert, in order to obtain the feasibility of the instrument. To get the assessment results from both experts, there are the following steps:

1. Adjust the instrument grid.
2. Consult the instrument grid to media and material experts.
3. Arrange instruments on the basis of an instrument grid.

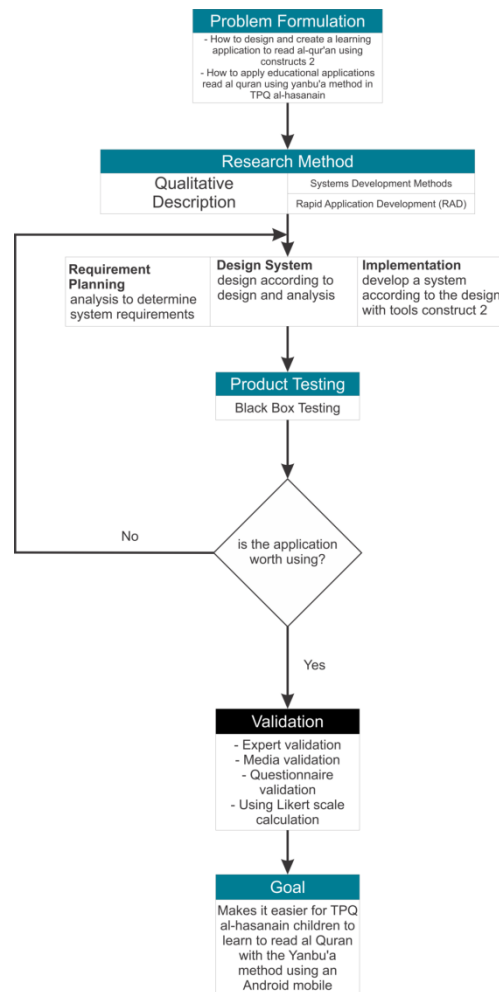


Figure 2. Research Flow

3.1. Research Location

Research location at TPQ Al-Hasanain in Guyangan, Bangsri, Jepara. The application is learning with yanbu'a method based on android.

3.2. Data Analysis

Instruments in this research are:

1. Observation guide used as guidelines for the implementation of observation.
2. Documentation notes in the form of writings, drawings, and monumental works.
3. Interview results.

After the data collection technique, and the finished product will be tested and the results will be calculated validation and reliability of the questionnaire used to experts and users using questionnaires with the calculation using the formula likert scale.

$$P = \frac{f}{n} \times 100\%$$

Description:

P : Percentage

f : Frequency of each poll answer

n : The ideal number of scores (cryptiums) for the entire item

4. CONCLUSION

Based on the results of the discussion of learning development using the android-based RAD method using Construct 2 that has been made, it can be concluded that the application of learning Quran with Yanbu'a is realized through several stages.

First, making analysis and identification needs. Second, designing applications that support the learning process. Third, implementing stage of the program, at this stage the author performs the installation of construct 2 software. Once, the app has been made, the final step is testing the program. The testing phase was carried out by the makers of students at TPQ Al-Hasanin located in guyangan bangsri, Jepara.

5. FUTURE WORK

For further development, this study will add another algorithm so that more effective algorithms can be seen that it can be used to solve this study.

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