

# Qira'at Code Application: an Innovative Android-Based Media for Learning Qira'at al-Qur'an in Pesantren

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## ABSTRACT

Learning Qira'at al-Qur'an, particularly qira'at sab'ah, poses challenges for students at Ma'had Aly due to language barriers and low motivation. While some pesantren offer qira'at programs, only 5% of students participate, and the complexity of Arabic-based qira'at references further hinders progress. This research aims to develop a prototype of the Qira'at Code application to enhance students' interest and proficiency in qira'at sab'ah. The method used in this research is Research and Development (RnD) which aims to develop Qira'at Code Application as a learning media for qira'at in Pesantren. The research is conducted in five stages. The five stages are analyze, design, develop, implement, evaluate. The innovation lies in combining the complete 30 juz with qira'at sab'ah formulae, presented through interactive features such as Ayat, Surat, Juz, Same Verses, and Qur'an Code menus. Post-test results show significant improvement, with average qira'at scores increasing to 82-86. The application received validation scores of 83.47 from application experts and 82.62 from material experts, resulting in an overall feasibility score of 81.24%. These results indicate that the Qira'at Code application is an effective and feasible tool for enhancing qira'at learning and memorization.

**Keywords:** Qira'at, al-Qur'an, Application, Innovation, Pesantren

## INTRODUCTION

Learning the Qur'an has several focuses of study, there are people who study on aspects of how to recite al-Qur'an fluently [1], and also how to write verses with the correct rules [2]. On the other hand, there are also groups of people who learn the knowledge of the Qur'an [3], and its meaning through the interpretation of the Qur'an. The study of the process of understanding the meaning of the Qur'an requires various elements, such as historical aspects, socio-context, and language [4]. In the aspect of language, the Qur'an as a guide and reading has several variations of reading. The mutawatir variant of the reading is qira'at sab'ah, seven kinds of readings from the imam of Qira'at at experts who connect their sanad to the Prophet. And this qira'at has the role of being part of the guidelines for the study of interpretation of the Qur'an [5].

Qira'at al-Qur'an, especially qira'at sab'ah is one of the subjects for students of the Qur'anic science department at Ma'had Aly. Qira'at al-Qur'an is one of the required subjects as well as being a complementary material for ulumul Qur'an and tahfidz. The Ma'had Aly level is an advanced level from the intermediate level in pesantren which focuses on higher and more structured Islamic studies [6]. Specifically, the students of the Ma'had Aly level have a higher awareness of learning and already have basic knowledge skills.

In fact, students who are interested in studying qira'at, especially memorizing several qira'at recitations, are extremely rare. Quantitatively, the percentage is only 5% of students who follow the tahfidz qira'at program in tahfidz pesantren. There are some pesantren that organize qira'at learning and focus on the recitation of one or two imams of qira'at [7]. In addition, there are also some pesantren which opened

the qira'at sab'ah program focusing on all seven imams of qira'at [8]. Unfortunately, it is difficult for students to achieve the target of memorizing qira'at sab'ah. The challenges of this problem are due to the limited ability of students in the Arabic language, and the low motivation of students in studying qira'at. This happened due to the reference books related to the reading rules of qira'at which are in Arabic [9]. Therefore, it is necessary to have supporting media in order to increase the students' interests in learning qira'at sab'ah.

Previous research on media about the Qur'an has been conducted by several researchers. Various Quran applications have emerged, with various features [10] and explanations of asbabun nuzul of verses. Quran applications were developed to make the use of the Qur'an mushaf easier to use for learning [11], tahfidz media [12], as well as for mushaf for the community. Other researchers have shown that the average Qur'an application focuses on the recitation of Qira'at imam hafsh. There is some research that develops Qur'an applications with various Qira'at readings, but emphasizes murottal audio [13].

The purpose of this research is to develop a prototype of the Qira'at Qur'an application to increase interest and the achievement target of learning the Qira'at at Ma'had Aly. The novelty of this research is the innovation of the Qur'an application which contains 30 juz, and combines it with the qira'at sab'ah formula. The qira'at sab'ah code is provided in a special menu, and elaborated with several reading examples.

## LITERATURE REVIEW

The acceptance of the Qira'at reading is historically based on its transmission to the Prophet Muhammad, suitable with the Usmani Rasm, and follows the Arabic language rules [14]. One of the Indonesian scholars who mastered the science of Qira'at was K. H. Arwani Amin, the founder of Pesantren Yanbu'ul Qur'an in Kudus. One of his works is called "Faidh al-Barakât fi Sab'i Qirâat". There are researchers who analyze the reception or influence of the book for graduates of pesantren An-Nur Ngrukem Yogyakarta. The result is those people have different paradigms in viewing Qira'at. Ordinary people consider Qira'at as a scientific object. However, santri consider Qira'at as an institutionalized science, which affects their education patterns in the Qur'anic field. Mastering the science of Qira'at is part of the effort to keep the Qur'an and not only to memorize the Qur'an [9]. Based on the data found by previous researchers, the differences in Qira'at have a positive impact on the interpretation of the Qur'an [15]. Some previous researchers focused on the study of Qira'at as a science, the learning process, and the media of the Qira'at book.

In the aspect of digital media, some researchers have developed al-Qur'an and qira'at applications. Some digital media about the Qur'an are Mobile Quranic Memorization, Qur'an Mobile App, website, etc. Mobile Quranic Memorization for Remote Education Learning Using RFID Technology is a mobile Quranic memorization design for distance learning. The Mobile Quranic memorization system is implemented in a smart phone attached with an RFID reader, in order to increase the memorization rate of the Qur'an [16]. There are also research findings on website media for memorizing the Qur'an. The research was conducted at Baitul Qur'an Islamic Boarding School in Sragen Central Java. The results showed that after students memorize using the media of the website, they can reach 12-13 pages every month and 4-5 pages during 12 hours [17]. Besides, an application al-Qur'an for tahfidz is contains of sorah, verses, and a special menu of same verses detection. It was implemented in pesantren tahfidz in Jepara, Kudus, and Pati. The results showed that those application have impact to increasing student's motivation and their tahfidz target effectively. It has shown the effectiveness of the use of media in the process of memorizing the Qur'an.

Moreover, there are also researchers who have developed the Qur'an Mobile App application. the application provides memory and brief modules of material for memorizing the Qur'an. The android-based application can be accessed on the play store by online. The results of the research findings indicated that students were memorizing the verses of the Qur'an while using the Qur'an Mobile App media to be easier and more effective [18]. In addition, there is also the E-Ifrad Courseware digital application, which is a multimedia-based qira'at learning media. this application contains material, evaluation in the form of quiz with an attractive design. The results showed that this media is effective as a learning media for students at USIM [19].

Some research related to applications mostly focus on al-Qur'an applications, especially by using qira'at imam Hafsh. either using android-based media, or websites. There are also researchers who have developed application media for learning Qira'at, but they are more focused on scientific discussions and evaluation questions on knowledge aspects. The difference between this research and some of the previous one is that the focus of this research is to develop a Qira'at code application which is combined in a digital Qur'an. This research aimed to develop the application and examine its feasibility for learning Qira'at in pesantren especially Ma'had Aly.

## RESEARCH METHOD

The method used in this research is Research and Development (RnD) which aims to develop Qira'at Code Application as a learning media for qira'at in Pesantren. The research is conducted in five stages. The five stages are analyze, design, develop, implement, evaluate [20].

### a. Need Analysis

The analysis stage is the researcher's stage of collecting and analyzing literature, and analyzing the needs of students, ustadz, ustadzah, administrators about the characteristics, display tendencies and the material on the qira'at media. The methods that were used at this stage were questionnaires distributed to students, administrators, and indepth interviews with pesantren leaders, ustadz, usatdzah, and administrators.

### b. Design

In this design stage, the researcher creates a design and constructs the system based on the literature analysis results and also the needs of potential users. The design of the system begins with the formulation of qira'at sab'ah code, content, menu, and interface which are based on the context of the characteristics of the students. In addition, researchers also make a system design that is easily accessible (30), a component that suits the needs of the students. This stage is divided into two stages, namely; Product Design to formulate the concept of the code structure that will be used in the application, and System Design to determine the system design that suits the needs of users. The components needed by users are also determined at this stage.

### c. Develop

This stage is the product development stage of the Qira'at Code Application based on the design that has been made at the design stage. The product was developed in according to the tendency of students and the general public towards application media which could be accessed via mobile phones [21]. This is aligned with the findings of the researcher's study that most users of a system although santri also feel satisfied when it can be accessed through mobile applications [22].

This stage includes; Product Development, to develop applications based on the tendency of santri and the general public who prefer application media that can be accessed via mobile. This Qira'at Code application development innovation is equipped with a variety of menus, with a minimum usage device having a minimum specification of Android System Operation 4.4 Kit Kat, 2 GB RAM.

### d. Implement

After product development, the next stage is product validation by experts from both material validators and application validators. This validation is to measure the feasibility of the product to be used. This is consistent with the researcher's findings that analyzing the design of a system is an important stage, to ensure aspects of accessibility and rapidity for users [23]. The main activities at this stage include product validation, validation of materials and applications by experts to measure the feasibility of the product. Furthermore, product revisions based on validation results, the product is revised and prepared for the finalization stage. The results of product validation are continued with revisions for the product finalization stage.

### e. Evaluate

At this stage, the product is tested on a limited basis to users, namely santri and pesantren administrators to find out the extent to which this product can be an innovative qira'at learning media at pesantren. The main activities at this stage include: Product Testing; Using a questionnaire with a Likert scale of 1-4 to get user responses. This user response instrument uses a questionnaire with a Likert scale of 1-4. Data Analysis; Analyzing data obtained from questionnaires and interviews.

## RESULT AND DISCUSSION

### 1. Results of Need Analysis

Respondents of the data analysis stage through questionnaires were students from pesantren in Pati, Jepara, Kudus, and Pekalongan. The questionnaire instrument contains the perceptions of the students regarding the needs analysis related to media for learning qira'at, the results are as shown in Figure 1.

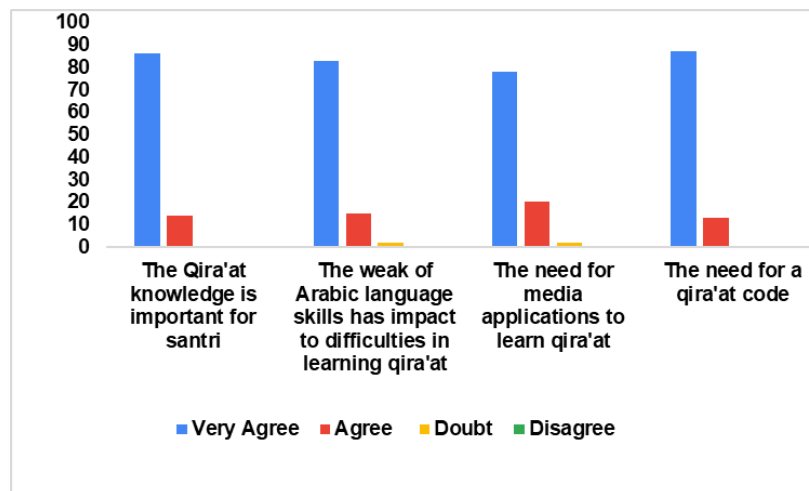


Figure 1. The Results of Need Analysis

The results of the needs analysis showed that the students' responses related to the statement the Qira'at knowledge is important for students have been responded very agree are 86%, while the students responded in agree up to 14%. Secondly, the statement the weak of Arabic language skills has an impact on difficulties in learning qira'at. There are 83% of students responding very agree, 15% responding agree, 2% responding doubt. Thirdly, on the statement of the need for media applications to learn qira'at. The are 78% of students responded very agree, 20% responded agree, 2% responded doubt. Fourthly, the statement the need for a qira'at code was responded by 87% of students, and 13% responded agree. It showed the highest average in the choice of students responding very agree, then agree, there are only 2% in the doubt answer, and no students who respond disagree.

These results are clearly show that students very agree and need the existence of qira'at formula media, especially in the form of applications. It is also reinforced from the results of the interview, the pesantren leaders, ustadz, and ustadzah also agree that there is a special media for learning qira'at sab'ah. The leader of pesantren hopes that the form of media can be varied, there is a kind of book or dictionary in Indonesian related to the basic rules of qira'at sab'ah. In addition, there is also media in the form of applications that can be widely used for santri, pesantren graduates, and community groups memorizing the Qur'an in general.

## 2. Results of Prototype's Design

The results of the design of the qira'at code application design developed based on the results of the needs analysis in the pesantren. The system described in the context diagram can be seen in the Figure 2.

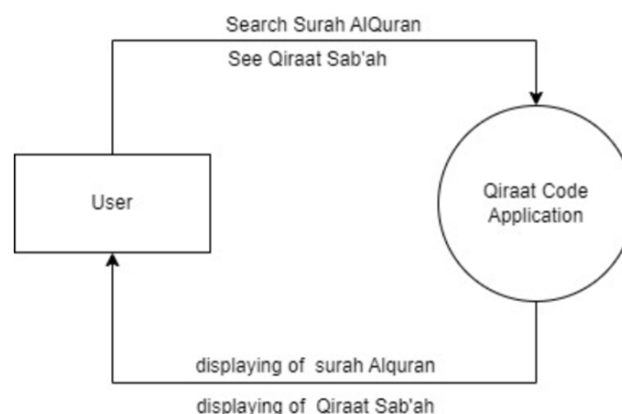


Figure 2. a draft context diagrams

Context diagram in the Figure 2 describes the system usage picture. User is the user who will access this Qiraat Code application. Users can select a surah of the Quran, then can see the Qiraat Code which displays the formulas in Qiraat Sab'ah. Besides, the following user experience (UX) design on the Qiraat Code application can be seen in Figure 3 below.

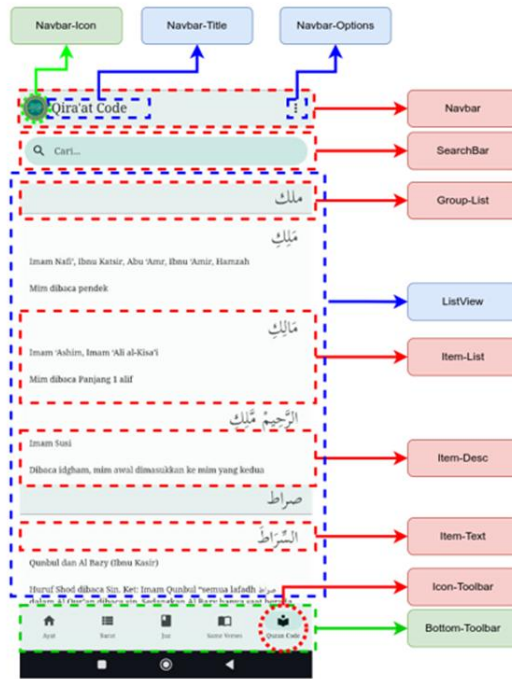


Figure 3. design on the Qira'at Code application

Figure 3 described that the icon of Qira'at Code icon in the top corner, it is on the side with Navbar-Title, and Navbar-Options. And at the bottom there is search-bar which has a function to search for qira'at code or information about qira'at rules. There is also information about group-list, listview, item list, item-desc, item-text, and bottom toolbar.

**3. The Results of Product Development**

The main menu page is the initial display when this Qira'at Code application is accessed. There are features of sorahs and verses in the Quran, as well as formulas or code in Qira'at Sab'ah. The display can be seen in Figure 4 below.

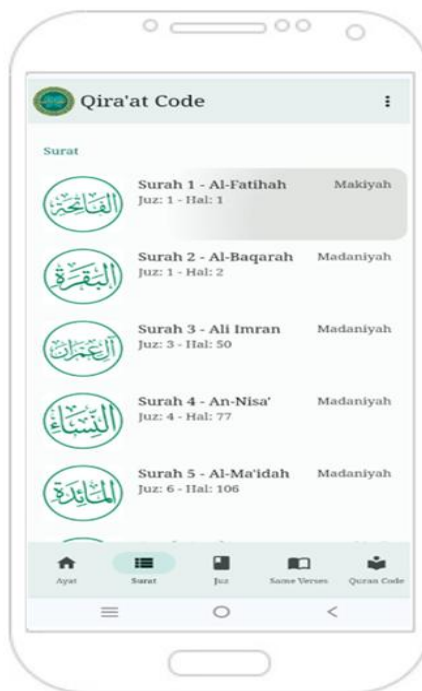


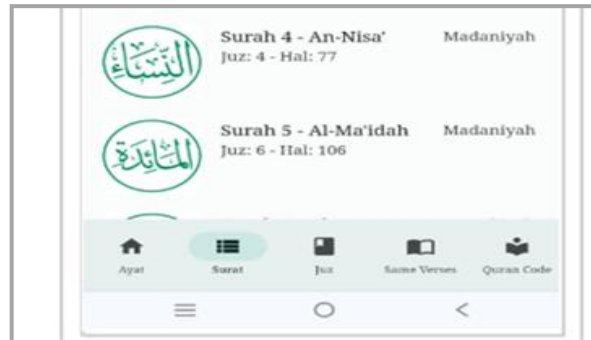
Figure 4. the main menu page of Qira'at Code application

The Qira'at Code is consisted of five menus, there are menu Ayat, Surat, Juz, Same Verses, and Qur'an Code. The first menu is Ayat which is consisted of tool for searching ayat, and the display of first menu Ayat can be seen in Figure 5 below.



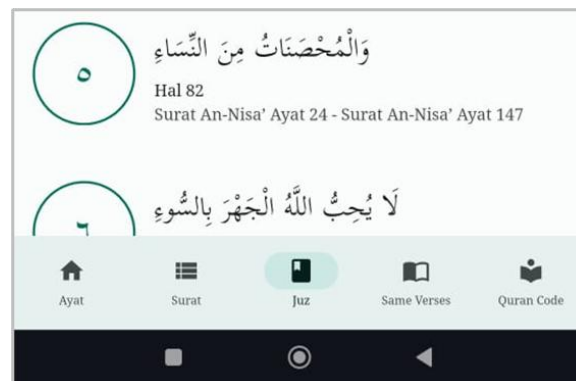
**Figure 5.** the display on menu Ayat

The second menu is Surat which is of list of some sorah in al-Qur'an, and the display of second menu Surat can be seen in Figure 6 below.



**Figure 6.** the display on menu Surat

The third menu is Juz which is consisted of list of some Juz in al-Qur'an, and the display of third menu Juz can be seen in Figure 7 below.



**Figure 7.** the display on menu Juz

The fourth menu is Same Verses which is consisted of list of same verses in al-Qur'an, and the display of third menu Juz can be seen in Figure 8 below.



**Figure 8.** the display on menu Same Verses

Besides, the display on the Qiraat Code menu contains formulas related to the basic rules of Qira'at Sab'ah. There is also information on the reading of qira'at sab'ah's imam. The display can be seen in Figure 9 below.



Figure 9. the display on the Qiraat Code menu

#### 4. Results of Blackbox Testing

Blackbox testing is used in testing the Qiraat Code Application to find out whether there are failures in the program code, whether the flow is as designed or not. The results can be seen in the Table 1.

Table 1. Results of Blackbox Testing on the Qiraat Code Application

No	Test Scenario	Test Result
1	Function of main menu	Succesfull
2	Function of Ayat menu	Succesfull
3	Function of Surah menu	Succesfull
4	Function of Juz menu	Succesfull
5	Function of Same versus menu	Succesfull
6	Function of Qiraat Code	Succesfull
7	Function of Search	Succesfull
8	Function of exit	Succesfull

The results of testing showed that all menu, page, and search function has been responded successful. It shows that the product is available to use for users. Besides, the development of this Qiraat Code application is expected to be a supporting solution to help the teaching and learning process of Qira'at. Some of the features available in the application have been tested for functionality and are feasible to be applied in the field. The characteristics of this application are displaying the text of AlQu'an and Qiraat formula with Arabic and Indonesian writing, equipped with reading methods based on seven Imam's Qira'at Sab'ah. It is related the effectiveness of digital media for increasing motivation of students [24].

#### 5. Results of Implementation

After the application product was developed and tested that each menu could be accessed, the research team then conducted a wide-scale application trial. This wide-scale trial was conducted in several pesantren, namely pesantren in Jepara, Kudus, Pati, and Pekalongan. The wide-scale trial begins with the

implementation of the tahfidz qira'at pre-test for students who memorize qira'at. The pre-test is carried out with an oral test of tahfidz qira'at verses of the Qur'an randomly based on the student's memoritation. After the pre-test, the implementation of using the application for tahfidz qira'at media during one month. The results show that students understand the rules of qira'at more quickly, making it easier for them to memorize the verses of the Qur'an with a variety of readings. The results of the post-test show the average qira'at score in the range of 82-86. It shows that there is an increase in scores from the pre-test in the range of 68-73, so it can be concluded that the qira'at code application is effective in memorizing qira'at verses.

## 6. Results of Evaluation

The results of the validation of this qira'at code application product show the percentage value of the application expert shows 83.47, and the value of the material expert is 82.62. The final score based on the average percentage of the overall score is 81.24. Based on the results of the validation value when associated with the criteria for assessing the validity of learning media, the value range of 62.51% - 81.25% is feasible. So this Qira'at Code application product is feasible without revision.

## CONCLUSION

Based on the results of the research that has been carried out, that students very agree and need the existence of qira'at applications for learning qira'at sab'ah. The media can be varied, such as a book or dictionary in Indonesian related to the basic rules of qira'at sab'ah, or digital media. Those, the Qira'at Code is developed which consisted of five menus. There are menu Ayat, Surat, Juz, Same Verses, and Qur'an Code. The results show that students after using Qira'at Code media, they could understand the rules of qira'at more quickly, and memorize the verses of the Qur'an with a variety of readings easily. The results of the post-test show the average qira'at score are increase in the range of 82-86. So it can be concluded that the qira'at code application is effective in memorizing qira'at verses. The results of the validation of this qira'at code application product show the percentage value of the application expert shows 83.47, and the value of the material expert is 82.62. The final score based on the average percentage of the overall score is 81.24. Based on the results of the validation value when associated with the criteria for assessing the validity of learning media, the value range of 62.51% - 81.25% is feasible. So this Qira'at Code application product is feasible.

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