

# DESIGN AND DEVELOPMENT OF E – TAJWID FOR BEGINNERS

Munirah Abdullah<sup>1</sup>, Siti Khadijah Mohd Salleh<sup>1</sup>

<sup>1</sup>Politeknik Ungku Omar, Malaysia

[munirah@puo.edu.my](mailto:munirah@puo.edu.my)

[sitikhadijah@puo.edu.my](mailto:sitikhadijah@puo.edu.my)

## ABSTRACT

E-Tajwid is a mobile application that allows users to learn Al-Quran tajweed through mobile devices by using Android Studio as the platform. This application provides various categories of tajweed including *nun mati* and *mim mati*. E-Tajwid offers description for each tajweed rules and pronunciation guidelines. This application can be used by every level of users starting from beginners to intermediate stages. It can also be accessed from anywhere at any time base.

**Keywords:** mobile applicatonss, tajweed, Android Studio.

## 1. Introduction

Nowadays, learning Al-Quran and tajweed is easier for Muslims. Besides learning with Al-Quran trainers, there are various medium that can be used to learn Al-Quran and tajweed. Among these are using television broadcast, video CD, or application installed in a computer. These different ways of learning give different impacts to each user. Studying tajweed is very important to ensure there is no mistake while reciting Al-Quran. Without a good source and technique, the percentage of mistake in reading Al-Quran will increase. Now there is a new solution to prevent this problem from keeps occurring.

Today, lots of application can be used by using smartphone. This handled device is convenient and easy to bring anywhere. Besides, it is very comfortable to interact with. Therefore, learning tajweed can also be piloted by using smartphone. There are many levels provided based on the sequence of topics which user will use to learn. Moreover, we include some attractive video and audio to make it easier for the users to understand. From this, the users will be more motivated to continue using this application.

“E-Tajwid” application have potential to let users trained themselves and make them actively exploring tajweed. Therefore, the aim of this application is unquestionably to help people to understand tajweed in depth regardless of any ages. There are some problems that have been detected to be the purpose of building this application. One of the reason is, people did not know the correct pronunciation of the tajweed’s *rules*. For example they got confused either their ways of reading Al-Quran are correct or not based on the tajweed’s *rules*. Furthermore, sometimes some of them do not know the correct ways to read al-Quran using the tajweed’s *rules*. They got confused with the *haarkat* or *reading styles* or either they should read with *dengung* sounds or without.

With the tremendous usage of smartphones nowadays, people likely will choose to learn everything by using their phones instead of bringing the books. They put everything in their phones and installed the learning application to give them easier access from anywhere and learn at any time. As a replacement for the thick Al-Quran, they will prefer to use the learning application in their smartphones. In addition, the cost factor also resulting some people not be able to get the opportunity to learn the Al-Quran and tajweed as they are incapable to do so. This is because, not all places provide free education due to the increasing of the cost of living. Attending Al-Quran classes every day will not guarantee understanding and improvement of students without any strengthening exercises. Time allocated for the trainers are very limited to teach overall tajweed's *rules*. Besides that, learning tajweed needs guidance from *Ustaz* or *Ustazah* to teach them. From this guidance we can see either the reading styles is efficient or not and we need more time to learn. It will also use more money to pay them to teach tajweed.

Therefore, we will be developing E-Tajwid to all Muslim users to learn about tajweed. Furthermore it's also free to download in play store application. It's also included with complete meaning and examples for better understanding of the users. There is a previous application that used different software to develop this tajweed mobile application called Active Participation in a Multimedia Application (TaLA)(Ismail, Diah, Ahmad, & Rahman, 2011). However this application is lacking of information about tajweed. Another application with the same purpose is E-Tarteel that used the various types of tools and frameworks for developing the interactive e-learning tajweed where it is able to provide the self-learning for the students to learn tajweed by themselves. In E-Tarteel, the tajweed categories that have been covered is the noon saakin rules, that is izhar halqi, ikhfa hakiki, idgham maal ghunnah, idgham bila ghunnah, and iqlab. Unfortunately, this application has unattractive view and has limited information about tajweed(Hamzah, Soiab, & Mahadi, 2016).

This system will be developed according to the objectives that have been decided. The effective objectives determine the success of the project. Objectives of this application are (1) to create an applications that is easier people to learn the tajweed with the correct way, and (2) to give opportunity for people to learn tajweed anywhere without the need to bring the books.

The scope of this work is to ensure that the objectives of this project can be successful implemented in real life. A number of system scope and user scope were listed to ease and make all the instructions clearer to all of the users in the future. The focus of this application is for beginners. In general, the purpose of this project is for Muslims to gain knowledge and ease them to learn more about tajweed. Besides that, hopefully it can help Muslims to improve their reading of Al-Quran with the correct tajweed. The significant of this project is the application is android user-friendly. It gives the advantages for the android users since this application support the entirely android system. E-Tajwid mobile application can be accessed without wifi or internet which can save the usage of the users' internet data.

## 2. Methodology

E-Tajwid is developed by using Android Studio, so the most suitable methodology is agile methodology which is for mobile application development. The agile methodology enables requirements and solutions to evolve through the combined effort of the development team and customer("Agile methodologies for mobile application development - Mobile App Development Company Android – ios – Web

App | Offshore IT solutions Partner,” n.d.). In E-Tajwid it is divided into 4 phases. In the first phase of requirement analysis phase which is carried out to understand the need and problems. The information that gathered is analyzed and implemented in the project. During design phase, the concept of E- Tajwid has been sketched and all the requirement are converted into system design, which is shown in Figure 1. In coding phase, it is when the design is converted into coding. Testing and implementation phase is to ensure the application is bug free and it meets the requirement specification.

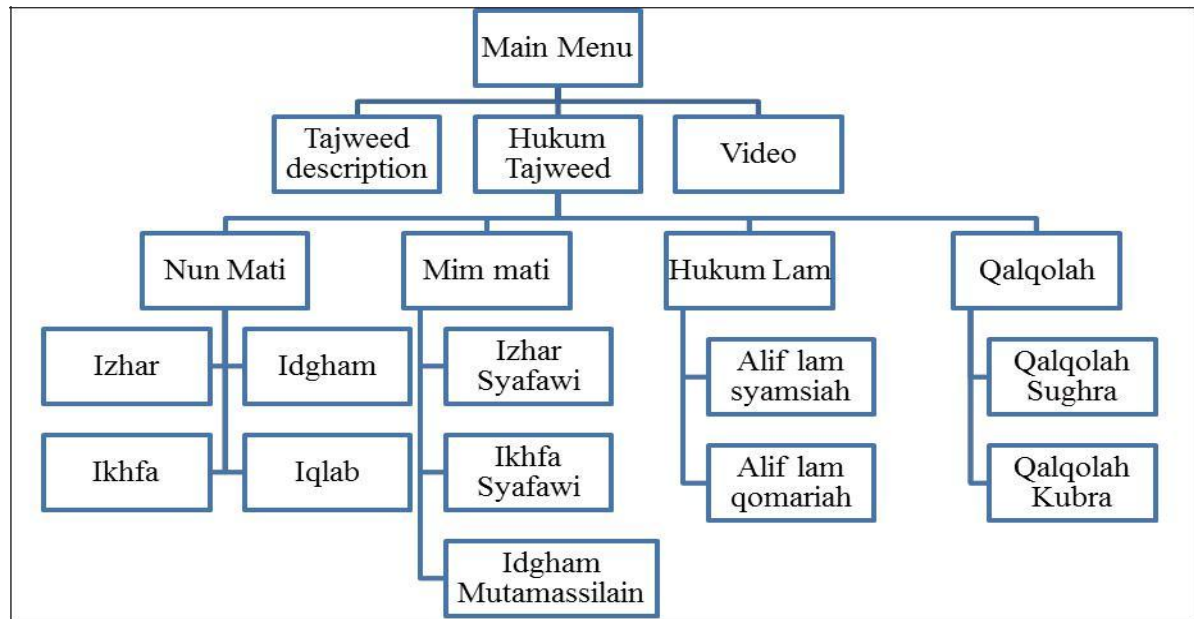


Figure 1 Overall system design in E-Tajwid

### 3. System Analysis and Design

#### 3.1. Software Requirement

To develop the E-Tajwid mobile application, some of the software are identified such as Android Studio, Adobe Photoshop CS6 and Video Scribe. Table 1 shows the software requirements for E-Tajwid.

Table 1 Software Requirement

Software	Description
Android Studio	Android Studio is designed specially for android development. It is available for download on Windows, macOS and Linux and Eclipse Android Development Tools(ADT) as Google's primary IDE for native Android application development.
VideoScribe	VideoScribe is software for creating whiteboard animations automatically.
Adobe Photoshop CS6	Adobe Photoshop is a graphics editing program developed and published by Adobe Systems.

### 3.2 Hardware Requirement.

A hardware requirement is important to find the minimum requirements for the system to operate smoothly. Table 2 shows the hardware used to develop the E-Tajwid.

**Table 2 Hardware Requirement**

<b>Requirements</b>	<b>Type</b>
Central processing unit (CPU)	Processor Intel CORE i3, 2.1GHz, 6GB RAM & 500GB HDD
Smartphone	Oppo R7
Pendrive	Kingston Thumb Drive 8GB
Laptop	Asus

### 4. Design for E-Tajwid mobile application

This is the design and the output that should appear in E-Tajwid mobile application. In Figure 2 shows the splash screen of E-Tajwid. This page will direct users to the main page. Figure 2 (a) shows the main page of E-Tajwid, (b) shows the Main Menu of E-Tajwid, meanwhile (c) shows “Mula Belajar” interface for the E-Tajwid, from the Mula Belajar there are 3 buttons “Apa itu Tajweed”, “Hukum Tajweed”, and “Video”. Figure 2 (d) shows the Hukum Tajwid interface for the E-Tajwid which have 4 buttons “Nun Mati”, “Mim Mati”, “Hukum Lam”, and “Qalqolah”. Figure 2 (e) and (f) shows some examples of “Nun Mati” which is “Izhar Halqi”.

### 5. Implementation And Testing

After completing the system design, implementation and testing phase will be carried out. This phase is important to ensure that the system can achieve the project objectives. Testing was conducted in parallel with the development of mobile application to ensure the application developed is not experiencing any problems.

The implementation and testing phase is conducted to demonstrate the application to the users. The application is tested properly in order to provide the benefits to the users. The testing phase also conducted to detect the problems that might occur in the application and the problems that need to be solved immediately to achieve the project objectives.

User accepting testing is a testing conducted to test the suitability of the function at the final stage before the application is fully completed. The application was being tested to the users that will use this application. The users of this application are the Muslims people and this application also being tested by our client and our guideline that is Ustazah Ariyanti.

The questionnaires were made and given to Ustazah Ariyanti and also few random Muslims to get their feedback about this application. The results are very encouraging. The respond given by Ustazah Ariyanti and our respondents that will be the future users are very satisfactory. Comments given touched aspects of attractive interface, the suitability of the application to the Muslims, the content in this application and also the function of every button in the application. Overall, the future

users and our client are satisfied with the application.



Figure 1. Screenshots several pages of E-Tajwid

## 6. Conclusion And Future Work

The main purpose of the development of E-Tajwid mobile application is to create an applications that is easier for people to learn the tajweed and to make people learn tajweed at anywhere without need to bring the books. Throughout the development of the application, there are some advantages as well as disadvantages that can be detected in the system.

Each advantages and disadvantages that are detected during the implementation phase will be referenced in the development of the mobile application in the future. Advantages of this mobile application will be studied so that mobile developers can find ways in improving the application based on people needs nowadays. Weaknesses in the application will be repaired to improve the effectiveness, based on the improvement and new ideas.

## Acknowledgement

We would like to show our gratitude to Ustazah Ariyanti and JTMK, PUO for all the supports and helps.

## REFERENCES

- Al-Quran Al Karim Rasm Uthmani*. (2012). Al Hidayah House Of Qur'an Sdn Bhd.
- Jabal, A. Y. (2016). *Kaedah Asy Syafi'i Cara Praktis Ilmu Tajweed*. Telaga Biru SDN. BHD.
- John Wiley & Sons, I. (2012). *Reto Meier, Professional Android 4 Application Development*. United States of America.
- Agile methodologies for mobile application development - Mobile App Development Company Android – ios – Web App | Offshore IT solutions Partner. (n.d.). Retrieved July 7, 2017, from <http://www.queppelin.com/2016/08/agile-methodologies-for-mobile-application-development/>
- Hamzah, R., Soiab, A., & Mahadi, Z. (2016). E-Tarteel : Visualizing Quranic Tajweed Rules. *International Journal on Islamic Applications in Computer Science And Technology*, 4(2). Retrieved from <https://www.sign-ific-ance.co.uk/index.php/IJASAT/article/view/1423>
- Ismail, M., Diah, N. M., Ahmad, S., & Rahman, A. A. (2011). Engaging Learners to Learn Tajweed through Active Participation in a Multimedia Application (TaLA). Retrieved from [http://searchdl.org/public/book\\_series/CSS/1/45.pdf](http://searchdl.org/public/book_series/CSS/1/45.pdf)