



# THE EVALUATION OF MOBILE EDUCATIONAL JAWI GAMES FOR KIDS 3-5 YEARS OLD

HELWANA ADILAH BINTI ABDUL AZIZ

MASTER OF COMPUTER SCIENCE  
(MULTIMEDIA COMPUTING)

2016



**Faculty of Information and Communication Technology**

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**A report submitted  
in fulfillment of the requirements for the degree of Master of Computer Science  
(Multimedia Computing)**

**Faculty of Information and Communication Technology**

**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**2016**

## DECLARATION

I declare that this thesis entitled “The Evaluation of Mobile Educational Jawi Games for Kids 3-5 years old” is the result of my own research except as cited in the references. The report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : .....

Name : Helwana Adilah Binti Abdul Aziz

Date : .....

## **APPROVAL**

I hereby declare that I have read this report and in my opinion this report is sufficient in term of scope and quality for the award of Master of Computer Science (Multimedia Computing).

Signature : .....

Supervisor Name : Dr. Ahmad Naim Che Pee @ Hanapi

Date : .....

## **DEDICATION**

My humble effort to dedicate to my sweet and loving to my beloved especially to my late mother Hajjah Aisah Binti Bahrom and my father Haji Abdul Aziz Bin Sadri who prays of day and night make me able to get such success and honor. To my love and precious Mohd Nizam Bin Mat Safar and also to my sweet darling Muhammad Rizqi Aqmar Bin Mohd Nizam who always gave me the strength to continue fighting in the completion of this master for this 2 years. To the members of my family and husband thank you for understanding my situation. Do not forget to colleagues who always give all support and prayers. Not forgotten to my supervisor very understanding and cool Dr. Ahmad Naim Che Che Pee @ Hanapi who gives me strength in the preparing this report. Praise and gratitude to all run smoothly. I wish you all always blessed by Him aamiin.

## ABSTRACT

The lack of use of Jawi and the notion that difficult to learn, make the young generation now beginning to forget Jawi. Jawi should be learning begin at the childhood. Therefore learning Jawi should be introduced as early child development. In this stage they are ready to learn. In line with the objectives of this course learn Jawi to investigate the learning process of Jawi learning to nurseries children of age 3 to 5 years old in Batu Pahat. To develop the Jawi mobile applications as teaching aids and learning Jawi in nurseries and at home. Lastly the objective is to evaluate the effectiveness of the tool. This application will be developed consists of four main modules such as Learning Jawi, Lets read Jawi and Play a game with Jawi Lets answer the quiz. . To develop this application of the model that has been chosen is the ADDIE model. ADDIE model includes five phases Analysis, Design, Development, Implementation and Evaluation. Through the analysis phase was collected using informal interviews and observations. The next phase is to development to make a prototype mobile application. After the application is developed it will be through the implementation and evaluation phase.

## ABSTRAK

*Kekurangan penggunaan Jawi masa kini membuat generasi muda kini mula lupa Jawi dan ramai yang bertanggung bahawa sukar untuk belajar Jawi. Pembelajaran Jawi sepatutnya bermula pada sejak awal perkembangan kanak-kanak. Dimana pada peringkat ini mereka sudah bersedia untuk belajar. Selaras dengan objektif kursus ini untuk untuk menyiasat proses pembelajaran pengajian Jawi di taska yang mempunyai kanak-kanak yang berumur 3 hingga 5 tahun yang berada di Batu Pahat. Tujuan seterusnya untuk membangunkan aplikasi mudah alih Jawi untuk dijadikan sebagai alat bantuan mengajar serta mejadi bahan pembelajaran Jawi sama ada di taska mahupun di rumah. Akhir sekali tujuannya adalah untuk menilai keberkesanan aplikasi ini. Dalam membangunkan aplikasi mudah alih Jawi ini akan mengandungi empat modul utama seperti Mari mengenal Jawi, Mari Belajar Jawi, Mari Bermain dengan huruf Jawi dan Mari Menjawab Kuiz. Untuk membangunkan aplikasi ini model yang telah dipilih adalah model ADDIE. Diman model ADDIE termasuk lima fasa iaitu Analisa, Mereka bentuk, Pembangunan, Pelaksanaan dan Penilaian. Melalui fasa analisis maklumat telah dikumpulkan melalui temubual tidak formal dan serta pemerhatian yang dilakukan di taska yang dipilih.. Fasa seterusnya adalah untuk pembangunan untuk membuat aplikasi mudah alih prototaip. Selepas aplikasi mudah alih Jawi dihasilkan ia akan melalui fasa pelaksanaan dan penilaian..*



## ACKNOWLEDGEMENTS

First and foremost, I would like to take this opportunity to express my sincere acknowledgement to my supervisor Dr. Ahmad Naim Che Pee @ Che Hanapi from the Faculty of Information and Communication Technology Universiti Teknikal Malaysia Melaka (UTeM) for his essential supervision, and my co-supervisors, Dr. Mohd Hafiz Zakaria, and Encik Ibrahim Ahmad, for their support and encouragement towards the completion of this dissertation.

I also thank to Dr Abd. Samad Bin Hasan Basari from the Faculty of Information and Communication Technology Universiti Teknikal Malaysia Melaka (UTeM) providing me the opportunity to continue my study to level Master.

Special thanks to my beloved husband, my children, my beloved mother, father, siblings and all my colleagues, for their moral support in completing this master. Lastly, thank you to everyone who had been associated to the crucial parts of realization of this project.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Jawi has enormous significance in the history of the nation. This is due to the interaction of the Jawi script is a tool that is widely used by Malay intellectual with civil society at the time. But nowadays Jawi is no longer relevant because no commercial value among readers. Malay generally do not know what it Jawi unless it is understood as an acronym for Islamic Religious Department. “Through an excerpt articles from Dr. Johari Mat Chief Executive of International Islamic College Sultan Ismail Petra (KIAS), said the move to elevate Jawi and Malay need to have a thorough reform movement starting from early childhood through to tertiary level. He also said Jawi is a heritage of the Malays, accordingly it should be emphasized to the public and should be recognized that the Jawi script is being written exclusively in the worldwide because Jawi only in the Malay community. For national levels in the implementation of civilizing the Jawi script was done by the Ministry of Information, Communication and Culture (MICC) in which they have implemented 102 programs and activities, in addition to five publications anchored to ignite Jawi script and sustain the culture in the Malaysia where the implementation of this program not only as upholding the use of Jawi writing heritage preservation and even aims at strengthening this article in Malay national identity”(SaisahDaily, 2008).

## **1.2 Background Study**

The lack of use of Jawi and the notion that difficult to learn, make the young generation now beginning to forget Jawi. Jawi should be learning begin at the childhood. Children ages may form the basis of the letter of Jawi and can also read some basic syllables. Although the Jawi script has long existed in our country, but studies on the process of learning, writing Jawi and skills training methods are still lacking. Based on previous studies related to other posts such as Rumi, China and India, the process of writing Jawi alphabets have been identified. In the nowadays the use of Jawi writing in printed materials and other media including electronic media is decreasing. The use of Rumi alphabet is expanding and becoming a major paper in the country. This will lead to the use of Jawi script will recedes. Therefore, an application should be developed in Jawi learning. Looking at the trend of childhood is now over to modern technology is more like to learn in the fun way, so from that's a Jawi mobile learning application should be to attract children to learn about Jawi. This application is to assist the children the process of learning basics of Jawi. At the same time to fascinate and encourage them to learn and gaining basic knowledge of Jawi, this multimedia application also ease educators and parents in delivering their teaching on the related matters. In addition this multimedia application will also as starting for the muslim children the use of information and communication nowadays by implementing elements of it.

## **1.3 Problem Statement**

Nowadays, many parents like to use books and other learning tools such as flash cards as material of teaching to their children to explain the entire of learning Jawi such as pronunciation the Jawi alphabets. This project is purposely going to solve some problems that arise according to the basic learning process of children on Jawi alphabet. Mostly of

the multimedia applications in Malaysia are more concentrated on Roman alphabet compared to Jawi. So that the children are more exposed to the usage of the Roman alphabet compared to Jawi itself. In this is going to balance the need for children and exposing them to using Jawi especially on their early learning process. They will learn Jawi at home in the early stages either by themselves or guided by parents. In increasing multimedia applications development in our country, so with that is better if development is to give exposure Jawi letter recognition or use of the Arabic alphabet. In addition to this exposure is not sake only give recognition Jawi but in the same time to give impact to childhood when they first recognize and read al-Quran will be easy and correct. This is because they already know the use of Jawi alphabet / Arabic. Moreover, it can make it easier for parents, educators in the delivery of teaching letter recognition Jawi during the same ease in learning to read the al-Quran as well. In learning Jawi, the children have to memorize the Jawi script before going to the next level, such as reading or writing. Many techniques can be used to memorize, but it takes more time to remember. When this technique is still based on the book, it has some disadvantages and problems which the critical shortage of children who reached the school still cannot read or write in Jawi. Thus mobile applications in Jawi apps are developed games to help children to learn to understand and easy to remember because this application uses animation and interface colourful. Therefore, this application can help parents and teachers to explain this better and can improve student learning Jawi either in writing or reading with attractive graphics, animation and audio.



## **1.4 Research Objective**

The objectives of this research are:

- i. To investigate the learning process of Jawi learning to nurseries children of age 3 to 5 years old in Batu Pahat.
- ii. To develop the Jawi mobile applications as teaching aids and learning Jawi in nurseries and at home.
- iii. To evaluate the effectiveness of the tool.

## **1.5 Research Questions**

- 1) What is mobile educational Jawi games and why it is so important in early childhood learning?
- 2) What is the necessary background information?
  - i. What is the role of mobile apps in the introduction of early childhood learning?
  - ii. How to attract children to learn to use mobile apps as a medium of learning?
- 3) What the strategies should parents or teachers in introducing Jawi in early childhood learning.
- 4) Based on my research, why do I conclude mobile educational Jawi games are beneficial?

## **1.6 Scope of Study**

In the early education of Muslim children, the introduction Jawi learning is particularly important where most children have only been exposed to the introduction of learning the Malay language, English and Math. When it comes to writing only revealed when studying the Islamic Education. As a result of that, the lack of understanding of

children's writing Jawi. According to the suit, Jawi mobile application was developed to establish the child's learning as early as 3 to 5 years. Therefore these children are better prepared when entering pre-school later.

Where the application has a colorful interface, which is convenient font type and size also colors, graphics and exciting sound so children's easier to remember. This Jawi mobile application can be used in any place whether at home, nurseries and kindergartens. To facilitate the process of learning Jawi against children within 3 to 5 years, only 4 modules to be loaded in the application. Such as the introduction of Jawi , let's learn Jawi, Let's play and quizzes to test knowledge of children.

This application will to some extent help children's learning more fun and easy. Furthermore, the development of this application to be emphasized in the selection of suitable game for children, as well as an emphasis like colour, font type and size to attract children to learn. At this time, many children between the ages of 3 years to 5 years, they will be remembered through the pictures because the child will quickly learn through visual and better understand the recall. With the development of technology today mobile applications use are necessary in the development of early childhood learning. Where children will have fun and enjoy their time while in the learning process and not easily get bored.

## **1.7 Project Significance**

The learning begins in the early stages of development of children up to preschool, where children have been exposed to the latest technology in helping the development of their minds and encourage them to learn. Children can use this software as an effective learning tool and draw against the book. It is easy to understand and remember at the same

time to fascinate and encourage children to learn. This application focuses on learning Jawi which includes basic instruction. It includes several multimedia elements such as text, interesting graphics, sound and animation. In this application has all the structure in the process of learning Jawi presented in colourful images and attractive audio. In addition, it is also contained in the animated series in recognizing letters as shown Jawi alphabet one by one additional application is run in this game will add to the interest of children to recognize letters Jawi easily. Through this app kids will better understand, recognize and remember the Jawi script .In addition, this application is very simple and suitable for use in early childhood learning. This application will be an effective learning tool for the early development of children and help parents, teachers. Children will not get bored if the learning process delivers attractive, easy to understand. This mobile application games in Jawi including animation and the attractive colour representation compared with the current education system the use of books.

## **1.8 Conclusions**

This application was developed to facilitate the learning of Jawi system because of the content of this application specifically for children acquainted and learn letters and write Jawi as a reference. Focus objective of this project is to develop the mobile application in games on the basics of teaching and learning for children about the Jawi. With use this application can directly increase exposure to external learning from early childhood. These applications strengthen its mobile apps concept therefore it can provide a means of early introduction to children, parents, or teachers would more easily understand the use of these applications, where the application is more flexible and interactive. It will be easier for children to get their knowledge, understanding and easy to memorize because

the application process has a number of multimedia elements such as text, graphics, audio and animation. Thus, children will not get bored easily in the learning process. In the next chapter, it will include the Literature Review and Project Methodology.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

Arrival of Islam in the Malay world has changed not only the landscape of the community life, but also changed the method of writing the Malay community. This is evidenced by the use of Jawi writing extensively in Malaya once. Jawi script has reached almost a thousand years compared with Rumi script which only came into widespread use after 1960. Jawi alphabet former standard Malay language but was replaced by the Rumi alphabet, the writing of Jawi is limited to use Religious and cultural. On 1963, the public began using Malay Rumi officially in 1963, then indirectly Jawi start marginalized.. Despite the fact that Jawi has existed for quite a while in Malaysia, today there are individuals who still can't read or compose Jawi as it is not broadly utilized as a part of works. From there on, the Jawi script has not yet seen its importance as the writing language. Because of this, the teaching of Jawi in school is no longer emphasized. According to Muhammad (2006 as cited in Norizan Mat Diah et al.,2010) a few measures host been taken by a few gatherings to protect the Jawi works. A few illustrations of the activities that have been attempted incorporate utilizing Jawi on the other hand as a part of significant street names, the distributed of a Jawi daily paper by Utusan Malaysia Publishing, the use of Jawi in primary and secondary Islamic Education textbooks and its active usage as practiced in the state of Johor.

Nowadays, there are many studies done on the basis of the children's education. But some of whom are researchers in alphabetical where numerous studies done about how to convey that to learn basic Roman alphabet, namely ABC. There are several numbers performed on Arabic and Jawi alphabet. In line with evolving technology nowadays, everything is changing rapidly and this rapid enforce some elements in our lives will change, to ensure that we can adapt to the new technology and be competitive. Similarly, the study, which moves forward to Islamic elements such as Jawi education should move accordingly. This is to ensure that the elements of Islam are not forgotten in the pursuit of technological evolution. One of the technologies that are being developed now is in use in mobile applications exposes early education system. This disclosure is an obligation for Muslim children to encourage their interest in learning something new and positive. In addition, it can help children to learn in an interactive and fun and safe. They can also study at home from time to time wherever they are and at any time.

## **2.2 Multimedia**

As indicated by Kommers (1996) Multimedia are those PC based applications that permit the user to see and hear diverse sorts of data by means of one screen with sound backing. The mix of more than one methodology of data (e.g text, pictures, video, animation, and sound) on one screen with synchronous control of one programming application brings the client a greater assortment in data and acknowledges essential components for virtual reality. As noted by Varnelis ( 2011) sight and sound additionally alludes to the utilization of electronic media to store and encounter mixed media content. Mixed media is like customary blended media in artistic work, yet with a more extensive degree. The expression "rich media" is synonymous for intelligent Multimedia. In creating media application particularly for children, there are some particular components should be

incorporated to pull in them. According Martijin Hoogeveen(1997) sight and sound application produces for children must have music on the other hand sounds as fascination, pictures or pictures as analogies and activity to make it energetic. Survey in the US to tracking the growth and impact of digital technologies on schools the researchers found in the part of data consequently, understudies who are adequately utilizing computerized devices to change their learning knowledge put a higher quality on the significance of innovation as a major aspect of their personalized education process and also the ability to utilize innovation inside of school or class situations connects with understudies in dynamic learning and builds up an establishment for the improvement of an individual development of a personal ethos of self-directed, independent learning as reported by the Report Research(2010).

### **2.3 Advantages of Mobile Education**

Traxler(2009) as cited in Y.A Rahim et al.,(2012),mobile technologies such as mobile phones, Smartphone, iPads and iPods are contributing to new forms of learning which are no longer confined to the classroom environment. Every each day a thousand number of new applications is released for PDAs and tablets around the world. Some of theories applications are made by organizations to use at the organization so as to increment work execution, others are made to promote the organization to others, and the dominant part is obviously applications made to be sold on diverse markets to different organizations or to private gatherings. Miao(2012a) states that mobile learning refers to the use of wireless mobile communications network technology and wireless mobile communication devices (such as mobile phones, personal digital assistants PDA, Pocket PC, etc.), can easy to access education information, education resources and education services It is a new form of learning with "anytime, anywhere feature" that learners can

learn at any time, any place. It is thought to be a vital learning mode in future studies. Miao(2012b) and Zhang et al. (2013a) both states that mobile education is a term that describes a relatively new way of education generally better approach for training. As a rule, mobile education is planned to encourage instructors, understudies, and folks to collaborate with one another through mobile gadgets. This term gains much popularity especially in recent years with the smart devices coming into vogue. With the development of broadband networks as well as the evolution of perspicacious contrivances, more and more people have come to realize that keenly intellectual contrivances can become an efficacious medium for mobile edification. With the advancement of broadband systems and in addition the development of smart devices, more individuals have come to understand and realize that smart devices can become an effective medium for mobile education. A study conducted by Hashim et al.(2007) shows that nowadays games are turning out to be famously utilized as a type of training in Institutions of Higher Learning in Malaysia. It has brought forth the idea of Edutainment which implies instructive stimulation or excitement training. This includes the procedure of discovering that is being spoken to as excitement, for example, TV programs, PC and computer games, musical and media applications. Recently, research carried out by D. Cisie et al.(2007 as cited in Norizan Mat Diah et al.,2010b) where the students look forward to the use of ICT as a tool of learning because its more flexibility and the headway of related innovation.

Mobile devices can become a useful tool for mobile education. An earlier study by Cheung (2004 as cited in Zhang et al.,2013b) that shown the students is more willing to use mobile devices for learning because such devices can provide them a flexible way of assimilating knowledge. Meanwhile, the physical configuration of the latest most recent smart devices such as availability of remote system, large screen size, and user-friendly interfaces makes them easier to be utilized for mobile education.