Universiti Teknologi MARA

iAdab – Learning Islamic Etiquette With Augmented Reality

Nurul Nadiah Binti Ahmad Khadhri

Thesis submitted in fulfilment of the requirement for Bachelor of Information Technology (Hons.) Faculty of Computer and Mathematical Sciences

December 2019

ACKNOWLEDGEMENT

Alhamdulillah, praises and thanks to Allah because of His Almighty and His utmost blessings, I was able to finish my research within the given time. Firstly, I would like to express my humble and sincere gratitude towards my supervisor, Dr. Rozianawaty Binti Osman for trusting me, giving me the guidance and information throughout the whole supervision process in completing the research. I was fortunate to be able to work with her because she always makes time to assist me occasionally. Next, I would also like to extend my special thanks to my Final Year Project lecturer, Dr. Emma Nuraihan Binti Mior Ibrahim for all the positive and constructive criticism that helped me shape and improve my research in many ways. Every effort and time she spends for all of the students under her supervision can not be repaid. Moreover, I would like to convey my gratitude to my examiner, PM Dr. Fariza Hanis Abdul Razak for her well-worth comments and suggestions regarding this project. Furthermore, my special appreciation also goes to my beloved parents who gave a lot of never-ending emotional support and prayers for me throughout this project. Finally, I would like to give my gratitude to my dearest classmates, seniors and friends especially Nuratika Binti Mat Lias, Nurr Dannish Tazzik Binti Jamil and Nur Adibah Binti Rusli for their help during the development of the project. Last but not least, thank you to those who were involved directly or indirectly in making this project a success.

ABSTRACT

Today, information and technology are widely used especially in the education sector. The problem faced by the kindergarten students is that the traditional method of learning will make the students become less paying attention during class session. This situation will make it difficult for the teacher to attract and retain interest in the learning session. Basically, this project is about the development of Learning Islamic Etiquette with Augmented Reality (iAdab) application for kindergarten students. The objectives of this project are to identify the user requirements of iAdab application, to design and to develop iAdab application for the kindergarten students by following the ADDIE model methodology throughout the development process. The scope of this project is for the kindergarten students aged from 4-6 years old at Tadika Islam Sungai Manik Teluk Intan. They will learn the Islamic Etiquette which is adab while eating with augmented reality. There are three types of adab scenes while eating which are adab before eat, during eat and after eating. The software used to develop the mobile app is Unity and Android Studio, while the programming language used is JAVA, C#, and XML. This application use marker-based detection technology that requires image target to be a marker. When the marker is detected, the 3D model is rendered and can be overlaid on the marker's position. This project will benefit teachers and parents as additional tools to teach children about Islamic manners at home and school. The future recommendation for this project is to include another adab scene such as adab with parents and another adab besides adab while eating and also available for iOS platform. In conclusion, iAdab AR application may assist children to understand the values and apply the learning later.

.

Keywords: Islamic Etiquette, Augmented Reality, ADDIE model, marker-based augmented reality, 3D model, C#

TABLE OF CONTENTS

CONTENT PAGE
SUPERVISOR APPROVALii
STUDENT DECLARATIONiii
ACKNOWLEDGEMENTiv
ABSTRACTv
TABLE OF CONTENTSvi
LIST OF FIGURESx
LIST OF TABLESxii
CHAPTER ONE: INTRODUCTION
1.1 Project Background
1.2 Problem Statement
1.3 Project Objective
1.4 Project Scope and Limitations
1.5 Project Significance
1.6 Chapter Summary
CHAPTER TWO: LITERATURE REVIEW
2.1 What is Augmented Reality
2.1.1 Application of AR in Different Field6
2.1.2 Five Directions of Augmented Reality in Educational Environment 9
a. Discovery-based Learning
b. Object Modeling
c. AR Books
d. Skills Training
e. AR Gaming10

CHAPTER 1

INTRODUCTION

This whole chapter covers the project background study of the proposed project as well as the problem statement for the development of iAdab application. This chapter consists of project background, problem statement, objective, scope, limitations of the project and significances needed to assist the development of this project.

1.1 Project Background

Etiquette is a code of behavior that defines expectations for social behavior. Children who grow up without knowing this important etiquette may not develop important social communication skills with others and are at a greater risk of conflict when communicating with their peers (Eric Jensen, 2015). Teaching etiquette and manners begin at home. Parents should start working with their children at an early age to teach basic manners such as asking "please" and saying "thank you." It's also important for parents to be good role models as children are like sponges soaking up everything around them. They will absorb their parents' actions on a daily basis and even on online behavior will be mimicked therefore setting the right example either online and offline is the responsibility of the parents.

Meanwhile, Islam is a way of life for Muslims. Muslims need to learn and practice Islam from a young age in order to grow up living in an Islamic way. Islamic is taught to children from an early age. Islamic Etiquette like Adab is good manners embraced by Islam based on its teachings and instructions. According to Islamic Learning Committee (2015) there are 18 lists of Adab types in Islamic Etiquette which include Adab towards Allah (SWT), Adab with parents, Adab of sleeping, Adab of clothing and Adab while eating. A good example of Adab was based on our Messenger Muhammad (SAW), we should following the Prophet Muhammad sunnah when we do everything.