

Universiti Teknologi MARA

**CleanAR: Augmented Reality in Learning
Purification Guide**

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ABSTRACT

A person must ensure the body, place and clothes that will be used to perform prayer are pure and clean from any impurities. *Mughallazah* purification steps is difficult for students to learn and understand as it consists of many steps compare to the other two impurities namely *mukhaffah* and *mutawassitah*. Besides, teaching and learning method must be change to be more sense such as hear, sound, touch and sight. Therefore, this project is to assist students learn about purification steps by using the emerging of mobile learning through Augmented Reality (AR). Mobile learning as a kind of learning model enables learners to access learning materials anywhere and at any time by using mobile devices and Internet. AR is an approach that helps users become more engaged and retain more information than the traditional approach, in this case the text book used by religious teacher during class. The objectives of this project are to identify the requirements needed for CleanAR: Augmented Reality in Learning Purification Guide, to design and to develop the CleanAR: Augmented Reality in Learning Purification Guide. The target user is Year 4 students in Sekolah Kebangsaan Padang Jawa as *mughallazah* purification method is under their syllabus of Pendidikan Islam. Malay language is used in the application and development of this project is until testing phase. This project used ADDIE as the methodology approach throughout the development process of the application. Unity and Blender are the software used to develop the application and C# is used for the coding. This project is a marker-based AR where the 3D modelling showing each step of *mughallazah* purification will be displayed if the image target is directed to camera. For the findings of this project, CleanAR application is able to increase interest of the students during learning and students tend to pay more attention toward graphic and animation. Besides, the application is easy to understand because the instructions are straight-forward and icons used are familiar. Future recommendation for this project is to include *mukhaffafah* and *mutawasittah* purification steps besides *mughallazah* and enhance the 3D modelling. Thus, CleanAR application may assist students in learning about *mughallazah* purification method through virtual environment.

Keywords: *mughallazah* purification method, mobile learning, augmented reality, C#, ADDIE model, marker-based technique

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CHAPTER 1

INTRODUCTION

This chapter provides an explanation about the background study of the proposed project. This chapter consist of project background, problem statement, target users, objectives, project significance and focus elements needed to assist the development of this project.

1.1 Project Background

Islam has given so much importance to cleanliness as it is considered to be part of faith. One of great exemptions of Islam is cleanliness and purification. Islam places great stress on cleanliness either physical or spiritual terms. As a Muslim, one of the rules and conditions to perform prayer is purity and cleanliness. Prayer and other acts of ‘ibadah or worship cannot be performed unless the person is pure and clean from any impurities.

Mughallazah is the heaviest impurity such as dogs, swine and whatever comes out from their bodies. From Hadith narrated by Muslim, Nabi s.a.w said “Cleanse your vase which the dog licked by washing it seven times and the first wash is with earth soil”. Wash the impure area with purifying water for seven times and one of those washes, is with water mixed with soil. Wash until its smell, taste and colour are gone. Based on the hadith, proves that dogs are considered as impure and need to be cleansed. (Rusli, 2018)

However, students found that *mughallazah* purification is difficult because it has many steps compare to *mukhaffafah* and *mutawasittah*. Today technology facilitates the forms of collaboration and communication undreamt of in the