

# **Application Development for Understanding the Five Pillars of Islam with VR technology**

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## **Abstract**

*Recently, there are a lot of Islamic mobile applications out there but a small number of them utilize VR technology. This study aims to utilize the VR technology in Islamic educational application, and to spread Islamic teachings and culture to non-Muslims. We have found some Islamic projects but there were not covered the five pillars of Islam topic. The method of this study is using Agile Model. It is used to describe software development approaches that employ continual planning, learning, improvement, team collaboration, and evolutionary development. An application developing pillars of Islam VR is focused ultimately on Muslims and Non-Muslim around the world. Furthermore, it includes all pillars of Islam and uses VR to attract user's attention and enhance learning motivation. The results show that the application can run smoothly in normal conditions.*

**Keywords:** *Virtual Reality, Agile Model, Islamic Application, Religious Teaching.*

## **1. Introduction**

In recent years, in a modern age of information technology, Virtual Reality (VR) technology is getting popular in assisting learning methods. VR is a form of simulated environments which produced by the utilization of computer innovation (Hodgson et al., 2019). This can be in artificial like an enlivened scene or a real put that has been shot from the real world environments. VR is provided an advance form of relationship between a person and a computer system which allows direct interaction between the user and the artificially simulated environment. The simulated environment is intended to give human senses, participate and experiences through images in the virtual environment (Xia and Hwang, 2020).

Islam is a great divine approach that has come to lead people out of the darkness of disbelief, polytheism and ignorance into the light of peace, faith and knowledge, and this approach that has come to achieve these lofty goals must have foundations and pillars on which it can rest and be implemented. The five pillars of Islam are foundations, and rules upon which the correct Islamic approach is based. Islam is built on five: the testimony that there is no god but Allah and that Muhammad is the Messenger of Allah, the establishment of prayer, the payment of zakat, the Hajj, and the fasting of Ramadan.

Our contribution of this study is to propose an introduction of instructional education for teaching the five pillars of Islam in an enjoyable approach using virtual reality as the currently application is usually explained in separately like hajj in (Sumardani et al., 2021)(Kabir, Nisa and Khan, 2021).

## **2. Relate work**

The development of VR technology for enhancing learning curve have been found in (Sumardani et al., 2021)(Kabir, Nisa and Khan, 2021). The method is for teaching Hajj and Umrah by providing an interactive and educative to learners. The study is not just a theory but also presented actual situation like being directly in Mecca. Additional work of VR helps learners to understand Taharoh or purification before going to warship to God through cleaning some parts of the body with

ablution (Anamisa et al., 2020). The result of that study can increase the effectiveness to learners to understand about Taharoh. Moreover, VR can be presented as a VR game as mentioned in (Hakkun, Fathoni and Nurhadi, 2020). The study is proposed a short story of Khalid Ibn Al- Walid who was a famous in Islamic history in the form of virtual reality interactively. All the above mentions, we can be said that VR technology can have significance in improving learning curve of the users. In this paper, we present a method and application to learners to learn about five pillars of Islam in interactive approach in simulated environments.

### 3. Methodology

The five pillars of Islam (5PsI) application is developed as initial state on computer based to introduce to children in interactive and interesting way. There are several software development methods for designing and developing educational/learning applications, and one of them is AGILE model (Mattioli *et al.*, 2015). AGILE methodology: is a term used to describe software development approaches that employ continual planning, learning, improvement, team collaboration, and evolutionary development. The agile software development emphasizes on four core values (Agile Methodology: *What is Agile Software Development Model & Process in Testing?*, 2021).

- 1- Individual and team interactions over processes and tools.
- 2- Working software over comprehensive documentation.
- 3- Customer collaboration over contract negotiation.
- 4- Responding to change over following a plan.



Figure 1. Proposed software development model.

We proposed Agile model in 5PsI virtual reality development as briefly explanation bellow:

- Plan: 5PsI VR is planed through the collection of several aspects of requirements on targeted users in which the project will be run for Islamic contents.
- Design: the project is designed for Islamic contents and built on Islamic environment through user friendly and interactively.
- Develop: VR application is built on Unity 3D platform.
- Test: 5Ps is timely run on testing in order to gain improvement from both users and developer.
- Review: this project is compulsory required a review from knowledgeable advisor on Islamic contents.

The 5PsI is designed differently from other similar applications which will not explain the pillars in detail; however, an essential concept will be delivered in Multimedia presentation. Table 1 outlines the learning objectives of each pillar.

The application is designed for simple control to user. It is also to ensure that the learners can get the most benefit in learning 5PsI and also can be equipped with the mechanism to help users when difficulties arise.

The Pillar	Learning Objectives
Shahadah	Explain the importance of Shahadah. Able to read the Shahadah.
Salah (Prayer)	Explain the definition of Salah and its importance. Able to recognize their movements. Able to know 5 daily of Salah.
Fasting	Explain the definition of Fasting in brief.
Zakat	Introduce the concept of Zakat.
Hajj	Explain the concept of Hajj.

Table 1. Learning Objectives of 5PsI.

#### 4. Design and Implementation

The 5PsI is designed which is explaining in system architecture Figure 1 that user will start from main menu then start to learn the lessons of 5PsI. Islamic sceneries and architectures are used to create Islamic environments. This can make user feel more Islamic values while learning the lessons.

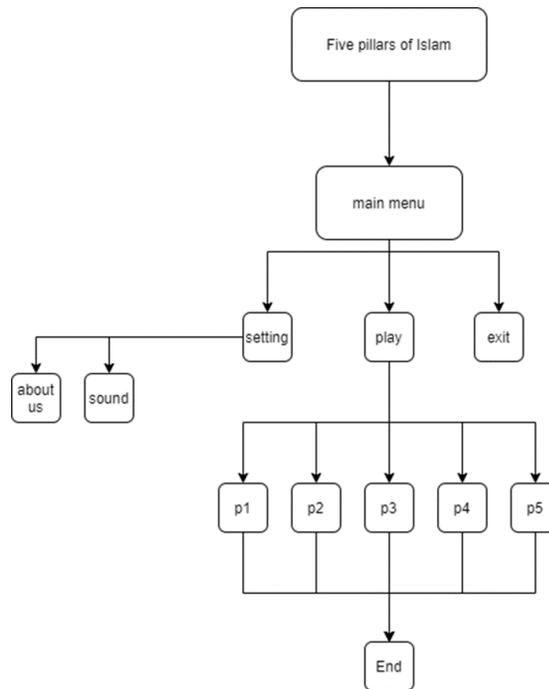


Figure 1. 5PsI VR System Architecture

The concept of each pillar is explain by applying multimedia presentations are animation, video, audio and graphics. As shown in figure 2.

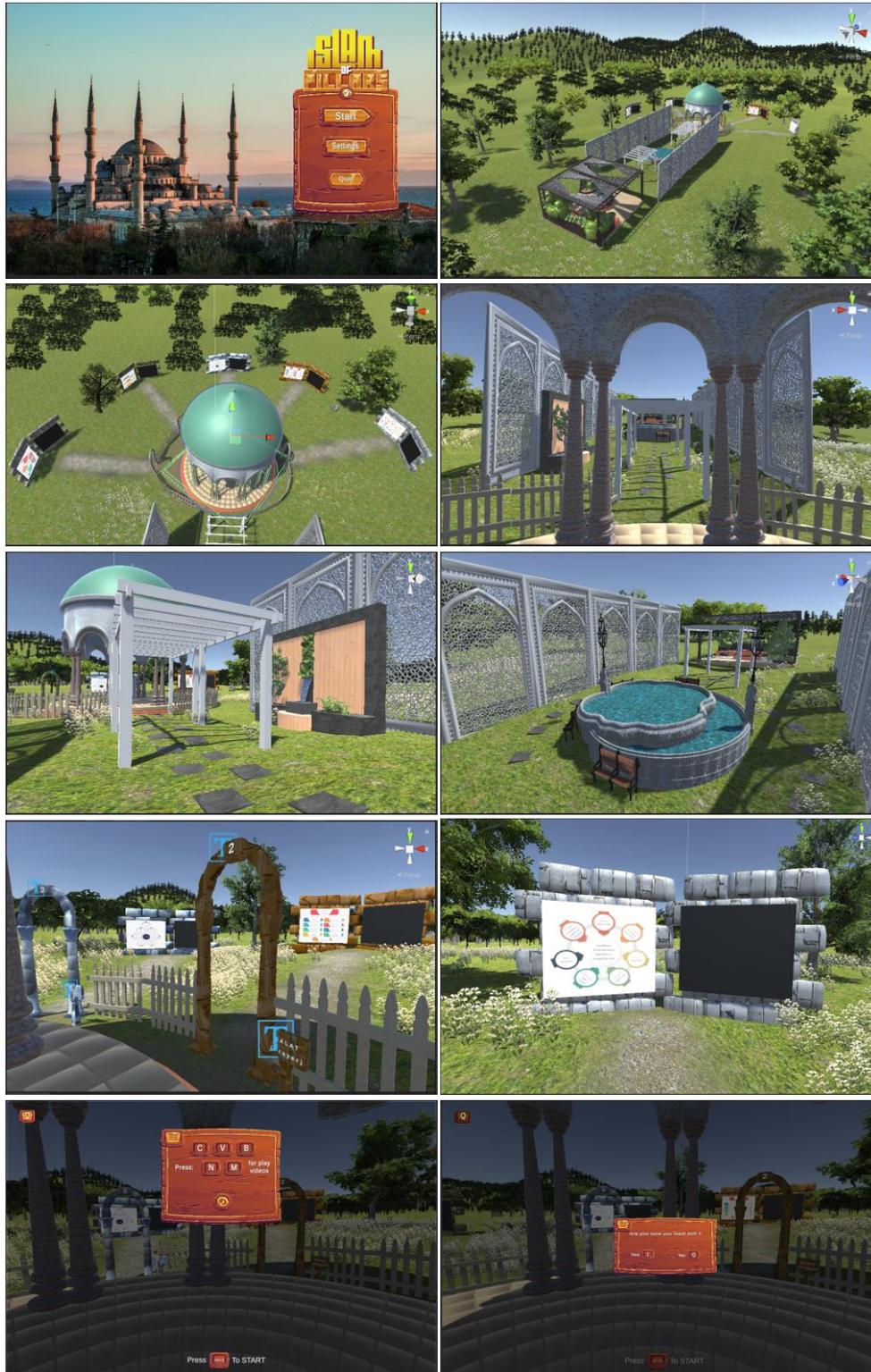


Figure 2. 5Psi Virtual Reality

Figure 2 illustrates that Islamic graphical interface is placed as welcome screen with main menu for user to start learning about 5 Pillars of Islam. After entering to learn, the user will lead to main entrance of the application then can walk through the Islamic garden till reaches the dome of knowledge which provide 5 gates as learning main entrances. At this point, there are 5 gates represent the 5 pillars of Islam where the user can freely enter to any gates in order to learn in which each gate will show the walking track to reach the content.

The 5PsI contents' formation is carried out throughout the development of software. The contents are based on Multimedia presentation such as info graphics, video, and animation. The application assist user by providing controllers in order to control the contents while learning occurs.

After finishing the implementation phase, summative evaluation regard to the user should be made. However, this study does not discuss the evaluations.

### **5. Conclusion and Future Recommendation**

The five pillars of Islam is a part of Islamic teaching which is required to learn for every Muslim. However, religious teaching often perceives as a dull experience that there is a lack of interaction activities between leaners and contents. This study is objectively produced a guideline for children who are interested in learning Islamic studies through VR technology that gives clearly and interestingly explanation in simulated environments. Moreover, VR technology can enhance Islamic teaching and learning, motivate the learners, and create enjoyable learning environment.

This study has proposed VR based on computer to help children learn about five pillars of Islam. It is included Multimedia contents to attract attention and enhance learning curve. Evaluation results show that the application can ran smoothly in normal condition on computer. For future work, the application will be tested to it respective users and will be developing to support on mobile devices, the result of the test will be represented.

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