

CHAPTER 6

Islamic Pure Values Action-Adventure Computer Game Application (Conquest of the Brigade)

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6.1 Introduction

In the rapidly developing digital era, computer games have become an important part of children's lives, especially as a medium for daily entertainment [54]. However, most of the games available on the market now tend to contain elements that are not in line with Islamic values. This phenomenon indirectly leads to the spread of an entertainment culture that is laden with elements of violence, negligence, and the influence of Western lifestyles, which ultimately affects the thinking and behavior patterns of the younger generation of Muslims in Malaysia [55].

Examples of popular Western digital games among gamers in Malaysia include 'Assassin's Creed' and 'Prince of Persia'

published by Ubisoft from France, and 'God of War' and 'Uncharted Series' published by Sony Interactive Entertainment from the United States. These games not only display elements of violence and indecent use, but also contain moral elements that have the potential to distort the Islamic faith and worldview. Current studies also show a decline in the practice of noble moral values among Malaysian children. Among the worrying symptoms are a lack of respect for parents and teachers, individualistic attitudes, and an increase in aggressive or impolite behavior in social interactions [56]. This is partly due to excessive exposure to media content and digital games that do not emphasize ethical and moral values [57]. Therefore, there is an urgent need to develop digital entertainment alternatives that are not only fun, but also capable of educating and shaping the character of Muslim children.

Several previous studies have shown that video games have the potential to be an effective learning medium, as they are able to promote active learning [58]. Furthermore, according to [59], the learning method chosen by teachers plays an important role in influencing the level of concentration and interest of students. In this context, Teaching Aids (TBA) are a key element that helps to increase the effectiveness of the teaching and learning process [60]. In addition, several computer games with Islamic elements such as 'Quraish' published by Afkar Media from Syria and the mobile game 'Saladin' by Ladik Apps from Istanbul prove that Islamic values can be effectively implemented through an interesting narrative and an interactive game environment. Such games not only educate, but also foster a deep understanding of Islamic teachings among players.

In response to the issues and needs discussed, a computer game application titled 'Penakluah Birgad' was developed as an innovative and high-impact educational initiative. This game combines action-adventure elements with the application of Islamic values in an interactive manner. It was designed specifically for Muslim students in Primary Two, namely children aged 10 to 12 years old, who are usually attracted to challenging and strategic games. Through an adventure in a virtual world full

of tests and challenges, players are not only honed in terms of strategic and critical thinking skills, but are also exposed to Islamic principles at each level of the game. Among the values applied are the obligation of prayer, the pillars of prayer, memorization of surahs, the demand for seeking knowledge, helping each other, giving greetings, as well as the concept of healing through the recitation of 'Basmallah'.

Since the content of 'Penaklu Birgad' is in line with the Islamic Education curriculum in primary schools, this application has the potential to be used as an official digital education medium in Malaysian public schools. This product not only offers a fun playing experience, but also has a positive impact on the formation of the moral character of Muslim children. Overall, this effort is hoped to be a proactive step in offsetting the negative influence of digital media and strengthening Islamic identity and character among the younger generation.

6.2 Objectives

The development of Conquest of the Brigade is centered around three main objectives as follows:-

- (1) designing a computer game with an action-adventure concept with the application of Islamic values.
- (2) developing a game in the Malaysian language based on the design document that has been formulated.
- (3) Implementing beta testing and user acceptance testing to obtain feedback on the application produced.

6.3 Methodologies

The development methodology of the action-adventure computer game 'Conquest of Birgad' is based on the game design methodology introduced by [61]. This methodology is an improvement of the SADDIE model developed by [62]. Essentially, SADDIE is an improved version of the ADDIE model

introduced by [63], with the addition of a specification phase as the first step in the development process.

According to [61], improvements to the SADDIE model are made by detailing the steps for developing game-based digital learning products. The structure of this methodology is illustrated as in Figure 1, which includes six main phases, namely specification, analysis, design, development, implementation, and evaluation. Each phase in this model is interrelated with each other and serves as a comprehensive guide to developers in creating learning applications that contain game-based learning elements. This game design methodology by [61] also emphasizes the development of games that can stimulate communication, creative thinking, and adaptive abilities among users, especially children.

6.3.1 Specification Phase

This phase involves identifying the goals and needs for the development of the action-adventure computer game 'Conquest of Birgad'. Among the main aspects identified in this phase are the learning goals, target user group, type of content, and the game theme set during the Islamic rule in Constantinople. To ensure the suitability and effectiveness of the game, detailed information collection was carried out covering several important elements, including the concept of the learning application, learning styles and skill levels of the target users, as well as the interests and preferences of Stage Two Muslim children.

In addition, relevant Islamic Education Level Two topics were also identified to ensure that the application of Islamic values occurs comprehensively throughout the playing experience. In addition to references to the content of the verses of the Quran and authentic hadiths, discussions with product developers and Islamic Education teachers from Sekolah Kebangsaan Kota Raja, Pagoh, Johor were also carried out. The results of these discussions helped ensure that the design and content of the game developed were in line with the requirements of the Islamic Education curriculum and the learning objectives set.

6.3.2 Analysis Phase

The second phase focused on the analysis of the materials and information that had been collected in the previous phase, as an initial step to plan the structure and development process of a computer game based on Islamic values. This analysis involved assessing learning needs, determining educational objectives, and selecting teaching methods and game mechanics that were appropriate for the theme and target users. To obtain more comprehensive information, interviews were conducted with several Year 6 students to understand their learning needs, their level of computer game playing skills, and their interest in the interactive elements in the game.

In addition, interviews with Islamic Education teachers were also conducted to obtain views on the content of Islamic values that are appropriate to be applied in the context of digital learning. As the main reference in determining the content of values and learning elements, Islamic Education textbooks and subject activities for Years 4, 5, and 6 were used as the main sources. Additional references were also made to verses of the Quran and authentic hadiths, to ensure that the selected Islamic values have a strong and authentic foundation in Islamic teachings.

6.3.3 Design Phase

The next phase is the design phase, which focuses on developing a story frame, narrative flow, and game activities based on the main theme that highlights the noble values of Islam. In this phase, emphasis is placed on organizing narrative and interactive elements to ensure that the entire game maintains the continuity of the theme of the Islamic rule period in Constantinople and reinforces the Islamic education message that is intended to be conveyed. In addition, a review of the educational content design was also carried out by referring to the textbook, activity book, and the Islamic Education Level Two syllabus to ensure the content is compatible with the learning objectives. The design process also includes the development of a storyboard as a visual guide to

describe the game atmosphere, sequence of events, and the structure of the planned adventure journey.

In this phase, several important aspects related to the tasks in the game were also determined, including the strategy for delivering Islamic information, the level of difficulty of each task, the duration of the game, and the use of appropriate and effective multimedia elements. All of these elements are combined to ensure a fun, educational, and in-line playing experience that is in line with the Islamic values that are intended to be instilled.

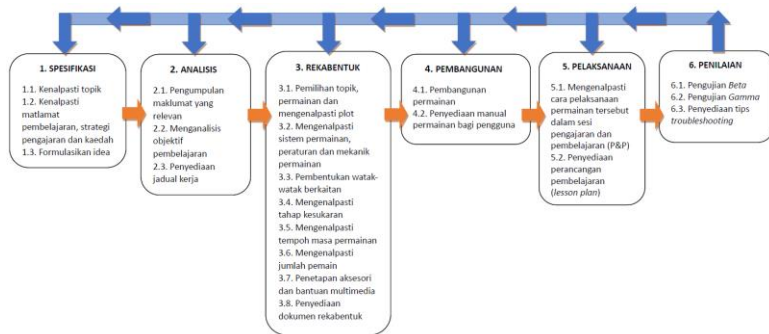


Figure 6.1: Jedrinović et al.'s (2020) - Game-design methodology derived from the SADDIE model

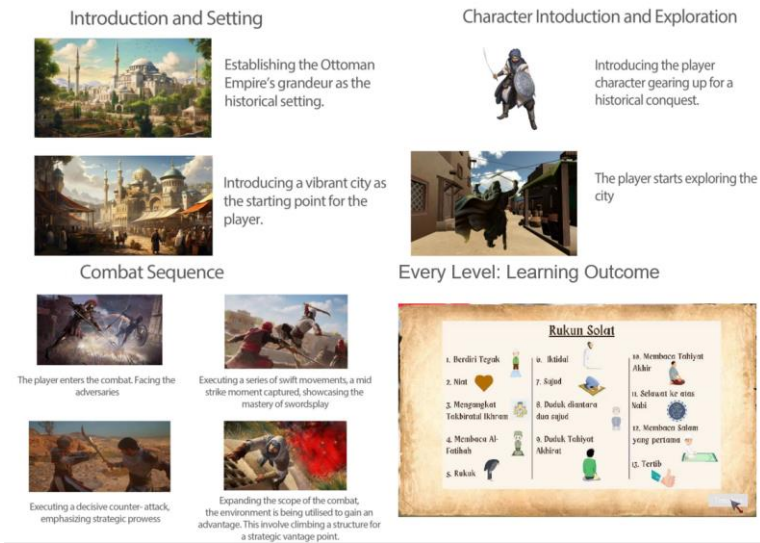


Figure 6.2: Storyboard of the computer game 'Conquest of Birgad'

6.3.4 Development Phase

This phase describes the development process of the action-adventure computer game 'Penaklu Birgad', which was implemented using Unreal Engine 5.3 software and Visual Studio with the C++ and Blueprint programming languages. In this process, three-dimensional (3D) images are used to create a realistic and attractive game environment. The 3D model resources used are obtained from free platforms such as 3D Warehouse, Free3D.com, and SketchFab, while free audio resources are obtained from bensound.com to complete the player's auditory experience.

The 'Conquest of Birgad' game is developed in three phases or main levels, where each level is designed to show increasing levels of difficulty and challenge to ensure that players go through a progressive learning process. Each level of the game is tested internally by the developer to ensure that the system functions

smoothly, is error-free, and meets the learning needs of Islamic noble values as outlined in the previous analysis and design document. In addition, the developer also emphasizes the clarity of instructions and tasks displayed to players to ensure understanding and effectiveness of interactions in the game.

6.3.5 Implementation Phase

In this implementation phase, discussions with Level Two Islamic Education teachers from Sekolah Kebangsaan Kota Raja, Pagoh, Johor were conducted to identify methods for using the computer game 'Penaklukan Birgad' in teaching and learning (T&L) sessions. This discussion aimed to ensure that the application could be optimally utilized as a digital BBM in the context of Islamic education in primary schools.

Next, a teaching plan involving the organization of activities and the integration of games in the T&L process was drawn up with the teachers involved. The discussion session and preparation of the teaching plan were carried out in the school computer room, to adapt the implementation approach to the existing facilities at the institution. This computer game product was developed in the form of a 'desktop' application, hence its use was carried out through school laptops using the Windows operating system. In addition, this application can also be installed on students' personal computers at home, thus enabling the learning process to continue outside the classroom.

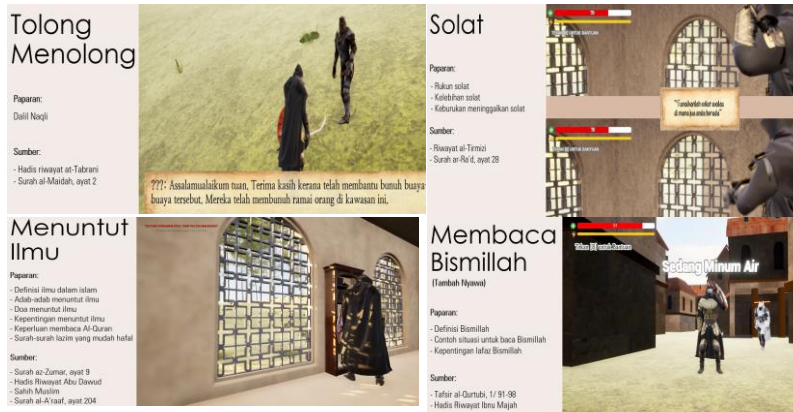


Figure 6.3: Developing computer games that are in line with the content of Islamic values

6.3.6 Evaluation Phase

In the evaluation phase, several forms of testing were carried out on the final product of the action-adventure game 'Conquest of Birgad' to ensure that the product developed met the original objectives and received positive acceptance from the target group. The testing involved nine Level Two students consisting of three Year 4 students, three Year 5 students, and three Year 6 students, as well as an Islamic Education teacher from Sekolah Kebangsaan Kota Raja, Panchor, Johor. Before the main testing was carried out, Beta testing was carried out first (refer to Figure 4). The main purpose of the Beta testing was to obtain initial feedback from real users on the performance, usability, and functionality of the application.

Based on the feedback from the Beta phase, improvements to the application were implemented, and subsequently user acceptance testing was carried out to assess the level of satisfaction and user readiness for the product. Gamma testing was then carried out as the final step to ensure that the application was truly stable and ready for launch and actual use in the

educational environment. For the purpose of collecting feedback data, a questionnaire using a five-point Likert scale was used, namely: 1 = Strongly Disagree, 2 = Disagree, 3 = Unsure, 4 = Agree, and 5 = Strongly Agree.

This questionnaire was conducted online via Google Form. Among the aspects assessed in the Beta testing included, (i) the flow of the game and its suitability with the Islamic values that are to be implemented, (ii) the content of Islamic noble values based on the Islamic Education Level Two syllabus of the Ministry of Education Malaysia (KPM), and (iii) the level of user-friendliness of the product developed. In addition, respondents also assessed their level of readiness and desire to use this application as a measure of product acceptance. Finally, in this phase, a technical guide (troubleshooting guide) and usage 'tips' were also provided, as a form of support for teachers and schools to ensure that the implementation of this application can be carried out smoothly in the school computer laboratory.



Figure 6.4: Beta testing sessions and user acceptance testing in the school computer lab

6.4 Result and Discussions

The results of the feedback from the Islamic Education teachers and nine Level Two students are illustrated in the chart in Figure 5, which shows the average level of agreement and overall satisfaction of the respondents towards the 'Penakluk Birgad'

game. Based on the results, the majority of respondents showed a high level of agreement towards the flow of the game, which was assessed as interesting, easy to understand, and suitable for their learning style.

For the Islamic content criteria, the Islamic Education teachers stated that the content of noble values applied was sufficient and in line with the Level Two Islamic Education syllabus set by the Ministry of Education Malaysia (KPM). From the user-friendliness aspect, it was found that the respondents from Year 4 students showed some difficulty in operating the game. This is believed to be due to the younger age factor, limited experience in using computers, and less exposure to action-adventure concept games.

Overall, all respondents including teachers and students gave a positive reception towards the 'Penakluk Birgad' game as one of the digital BBM mediums that has the potential to increase student involvement in learning Islamic Education. Therefore, the level of user acceptance can be classified as successful. In addition, several suggestions for improvement were also submitted by respondents, particularly regarding aspects of graphic display, game mechanics, smoothness of controls, as well as the way instructions and tasks are delivered at each level of the game. These suggestions will be used as the basis for improvements to the next version to ensure a more optimal and effective user experience in the context of game-based digital learning.

6.5 Conclusion

Overall, this project has successfully achieved all three objectives outlined, namely developing a Malaysian-language action-adventure computer game that embodies Islamic values. Through interviews with several respondents, it can be concluded that students and teachers have shown positive acceptance of the use of digital BBM in the form of mobile applications or desktop computer games such as 'Penaklukan Birgad'.

The use of this digital BBM not only enriches the variety of teaching methods, but also helps teachers deliver lesson content more easily, interestingly, and effectively [64]. Based on the results of the study and development of the 'Penaklukan Birgad' product, it was found that the use of game-based digital BBM (game-based learning) has a positive impact on student motivation, understanding, and involvement in the learning process. In addition, these findings also show that the integration of educational technology such as interactive computer games is increasingly becoming a necessity in the implementation of teaching and learning (T&L), in line with the demands of the Industrial Revolution 4.0 (IR 4.0) which emphasizes digitalization, creativity, and learning based on interactive experiences.