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"A Family Again": Design of a mobile Islamic game as an educational tool for children

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Abstract
Islamic values are important and can be learned through technology. This study aims to develop Islamic mobile games for children aged 7–12. This is an interactive platform for them to learn Islamic values, such as how to speak respectfully to their parents and how to behave toward their siblings. The method used for this project is mobile game development. The game elements include achieving a high score, defeating the enemy, answering quizzes, and finding advice on Islamic values.

Keywords: Children; Islamic Game; Mobile App; Moral values

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1.0 Introduction

The rapid development of technology cannot be denied, and it has affected children's lives through frequent interaction with their mobile phones, which may cause them unhealthy online addiction to unbeneficial entertainment like games that include adultery or violence. With this type of exposure to young children, they may disregard the importance of associating themselves with Islamic values and engaging in good behaviour through game apps. There are not many game options available in the market that instill Islamic values. Due to the popularity of mobile phone games among kids, this study aims to develop educational games that incorporate Islamic values as a new method for educating children, leveraging fun, meaningful user interface elements.

2.0 Literature Review

2.1 Mobile Game Platform

Mobile games have been rapidly developed to make them more accessible and ubiquitous, as current access to technology is at remarkable breaking points (Janeček, 2018). According to Qusef et al. (2019), a novice game developer should begin by creating a two-dimensional game rather than a three-dimensional one. Game engines have made game development easier and more efficient,

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allowing developers to integrate elements such as interactive design, user experience, animations, and object interactions into a single system. A game engine is software that facilitates game development across multiple platforms, including mobile devices (Barczak et al., 2019).

2.2 Early Childhood Development

Children are at their golden time in the early stages, as this is an opportunity for their development across all aspects, including motor, language, physical, cognitive, and emotional abilities. The critical period for children will become the foundation for the next stage of growing up, making it crucial to consider the processes and situations they encounter that might affect it. By age 8, their cognitive capacity reaches 80%, underscoring the importance of education that provides the right stimulus at this age (Worku et al., 2018). For this reason, it is appropriate to develop a game that teaches them to behave appropriately by using audio and visual media. Surah Nisa'i, verse 5 and chapter number 4, which is as follows: "To those weak of understanding (feeble-minded) make not over your property." This phrase is related to the Hadith of the Prophet (SAW), who asked at an early age (2 to 7 years), implying that a child at this stage is considered delinquent.

3.0 Methodology

The methodology used is Mobile Game Development (MGD) by Kliuch (2020), CEO and Co-Founder of Whimpsy Game, a company that produces amazing, inventive game designs for mobile and PC platforms. There are four main phases: Planning, Pre-Production, Production, and Testing. This paper will only cover the Pre-Production and Production phases (see Fig. 1).

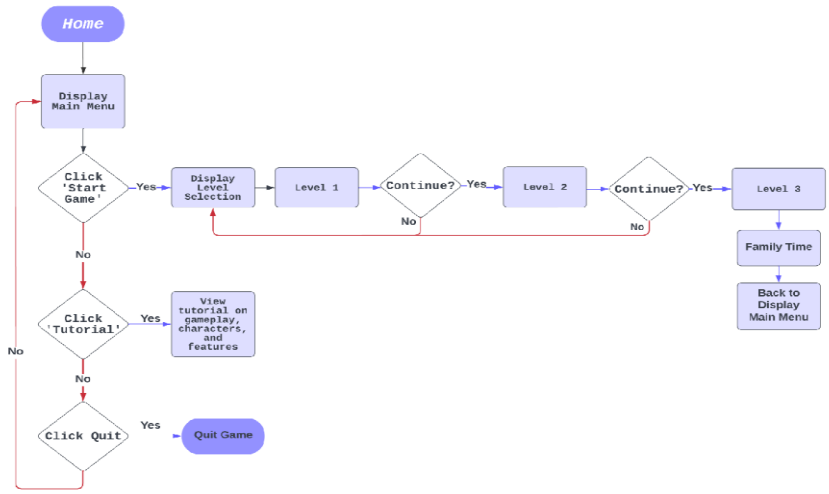

Fig. 1. "A Family Again" game flowchart.

For the character and game environment design, there are four categories: main character, non-playable character, assets (background or items), and main menu design. This game development would primarily use Krita to design and import PNG files into the game environment. The boys' design is actually inspired by the proper way Muslim men dress. For example, cover the male aurat, which in Islamic teachings means that a boy must cover from the navel to the knees and that the pants must not be too tight, and must not be lower than the ankle. The boy's is also designed to cover his head, as it was a Sunnah of the Prophet PBUH to wear a Taqiyah (cap), a short, rounded skullcap. The blue shirt worn by the playable character has significance in Islam, as it is the colour of trust and loyalty (see Fig. 2).

Fig. 2. Main character of A Family Again.

According to the research, Fig. 2 states that NPCs fall into common types that often appear in 2D platformer games . First, the basic 'walker' moves in one direction and may turn back if it bumps into a wall, or if it decides to turn back. Secondly, a basic 'flyer' that would not touch the ground and move in different ways in the space of the game. Sometimes, they will be given 'bullet' behaviour to move

faster forward. Other types of 'flyers' are the NPCs that move along the straight walls before hitting them and returning in the same direction. The last flyer is the wave flyer because it applies sine-wave behaviour, moving in a wave pattern vertically or horizontally.

In Fig. 3(a), the game uses the crescent shape as it closes to symbolise growth and development in Islam. For health, we will use a shape familiar to children to symbolise the well-being of the game's characters, as is common in other games. To proceed to the next level, the player must collect the letter and answer the questions correctly. There are 3 letters, which means 3 questions per level. Once all these letters or questions are collected, the player may trigger the game to proceed to the next level. The brown board is another trigger that can bring up an advice window from the relevant level, teaching children about Islamic knowledge, particularly Islamic family ethics. Children can close it off by clicking the [X] symbol in the corner of the screen. Number 5 is the button to go to the main menu, and the symbol indicates the home page. For numbers 6 and 7, the music and sound buttons can be turned on or off during the game, depending on the player.

(a) (b)

Fig. 3 (a) The Asset; (b) The Side characters (Dad, Mom, Brother)

The side character in Fig. 3(b) would appear at the appropriate level. For example, Dad would appear on the first level's questions and advice board, Mom on the second, and the brother on the final. The side characters are the family members of the playable character. Following the project's main title, 'A Family Again', means that as the boy progresses through each level, he will learn something from each family member about the Islamic values embodied in a child's attitude towards his family. The gameplay script would consist of the advice dialogue, designated differently for every level, when a character collides with the brown board in the game, and how the storyline goes in the game. The explanation on the tutorial page would also include the gameplay script.

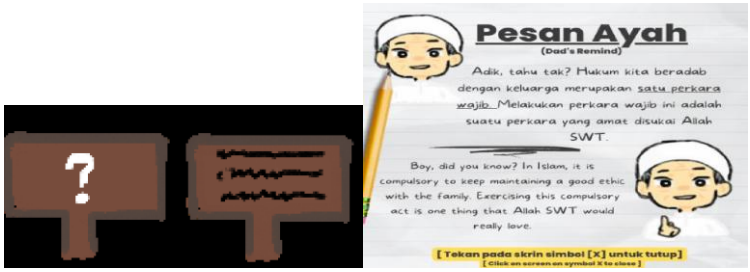

Fig.4. The brown board design and the advice scripting

For example, if the player collides with these boards, which occurs frequently in the game, the player will see an advice page, as shown in Fig. 4, based on research into a good Islamic lesson for children. Another example of gameplay scripting occurs when questions are given to the player as they collect letters, as in Fig. 5, with three per level. The letter's animation would remain open, indicating to the player that the letter has been collected and that the question has already been answered.

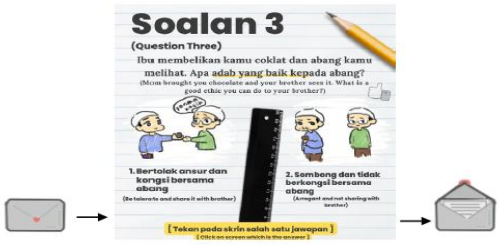

Fig. 5. The design of the letter animation

To make a fun-sounding game, having background audio can be an important element, especially for children. Thus, this game uses background music I created for the Keylimba application, which we can get from the App Store for free, and earns some free sound effects from the legal website called "Mixkit". The movement control is designed using the common controls of platformers. I personally designed all the arrow buttons in Krita, and each button moves the character in a different direction. The down arrow button only comes

up once the player reaches level 3, since there will be movement aids, like a ladder, for the character to climb down (see Fig. 6). The right arrow would make the character run forward; the left arrow would make it run backward; the up arrow would make the character jump or climb a ladder; and the down arrow would make the character descend from the ladder. The reason the left and right buttons are further from the up and down buttons is to avoid making the player feel difficulty controlling the player, as the mobile screen space is limited. Therefore, by separating those arrows, the player can use both hands to move the character.

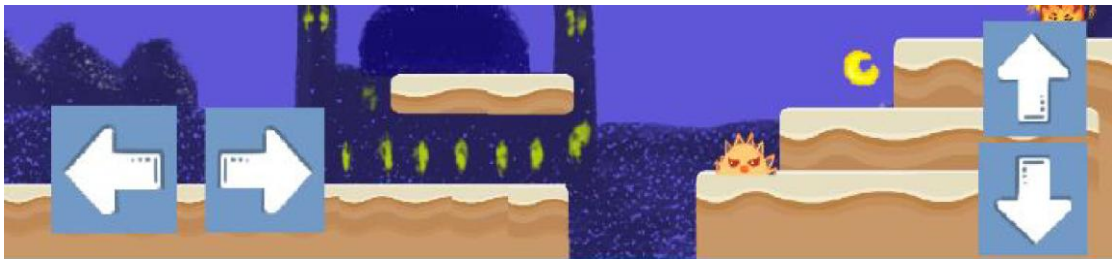

Fig. 6. The movement control in Level 3

4.0 Design Prototype

The first page leads the player into the gameplay shown in Fig. 7, where the player starts the game. The cartoon on the home page shows a Muslim family and the main character, along with the side characters in the game, which tells the player that this is an Islamic game and that our target is from this community. The design with bright colours is meant to match the game's environment and make it look fun and user-friendly. The buttons with the icons help the player recognise and familiarise themselves with clicking, like in any other app.

Fig.7. The home page of the "A Family Again" game.

When the player selects the **Tutorial** button, an instruction page appears to help them understand the game's features and functions. This tutorial page provides clear visual explanations through illustrated images accompanied by short, simple descriptions of the game objects and mechanics. By combining minimal text with engaging visuals, the tutorial helps players quickly grasp how the game operates without causing confusion. The use of colourful layouts, friendly illustrations, and easy-to-read text is designed to attract children's attention and encourage them to explore, read, and learn in an enjoyable way. The **Settings** button directs the player to a dedicated page where audio preferences can be adjusted. On this page, players can control the game's volume by increasing or decreasing the sound level using the up and down controls. This feature allows players to personalise their gaming experience according to their comfort and environment, making the game more user-friendly and accessible. When the player presses the **Start Game** button, the system transitions to the **Select Level** page. This page presents three game levels arranged in a progressive sequence. Players must unlock each level sequentially in order to advance toward the final stage of the game. The game automatically saves the player's progress in web storage, ensuring their achievements are retained even after exiting the application. Once all three levels have been successfully completed, players gain full access to the entire game (see Fig. 8). However, for new players, progression begins at the first level, and they must complete it before advancing to the subsequent levels. This structured progression system supports gradual learning and skill development while maintaining player motivation and engagement.

As the game progresses to higher levels, the overall difficulty increases significantly. This increase in difficulty is reflected in the placement of collectable items, such as letters, which are positioned in more challenging, high-risk locations that require greater precision and strategic movement from the player. In addition, the number of enemies increases at each subsequent level, demanding quicker reaction times and improved problem-solving skills to successfully navigate the gameplay. To enhance player engagement and maintain

interest, each level features distinct platform designs, background visuals, and platform arrangements. These variations introduce novelty and exploration, preventing the gameplay experience from becoming repetitive. The first level is designed with a bright, sunny daytime theme, featuring grass and water platforms that create a calm, welcoming environment suitable for beginners. The second level transitions into a dawn setting, where stone and lava platforms introduce higher risk and greater difficulty. The third and final level takes place at night and presents the most complex challenges, including more complex platform layouts and increased enemy presence. Successfully completing this level allows the player to overcome the final challenge and complete all three stages of the game.

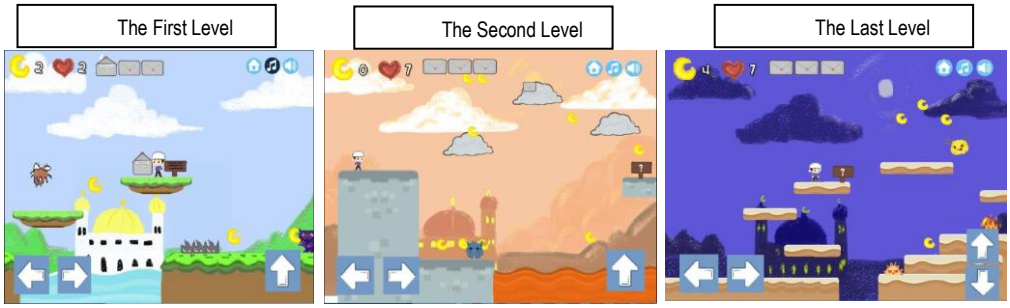

Fig. 8. The Levels of the "A Family Again" game

5.0 Conclusions

This study set out to explore the potential of a mobile game as an educational medium for instilling Islamic values in children aged 7 to 12. In response to the increasing exposure of children to digital entertainment, particularly mobile games that often prioritise violence, competition, or purely commercial interests, the development of *"A Family Again"* represents an alternative approach that integrates moral education, family values, and interactive gameplay within a child-friendly digital environment. The findings of this study demonstrate that mobile games, when designed with purposeful educational intent and culturally grounded values, can function not merely as entertainment tools but as meaningful learning platforms.

The game's design and development emphasised Islamic moral teachings on family relationships, such as respectful communication with parents, harmonious interaction with siblings, and ethical behaviour in daily life. These values were embedded in gameplay mechanics through challenges, collectibles, quizzes, and narrative progression, rather than being presented in a didactic or overly instructional manner. This approach aligns with contemporary theories of game-based learning, which highlight that children learn more effectively when knowledge is integrated into experiential and interactive contexts. By allowing players to learn through exploration, trial and error, and rewards, the game supports both cognitive engagement and moral reflection. One of the key strengths of this project lies in its careful consideration of early childhood development principles. Children in the target age range are at a critical stage of emotional, cognitive, and moral development. The use of simple language, visual cues, colourful environments, and progressive difficulty levels supports their developmental needs while maintaining sustained interest. The gradual increase in difficulty across levels, combined with varied themes and environments, encourages perseverance, problem-solving, and adaptability. These design choices not only enhance gameplay but also foster self-regulation and resilience, which are essential components of character formation. From a technical and design perspective, applying the Mobile Game Development (MGD) methodology proved effective for structuring the development process. The planning, pre-production, and production phases ensured that gameplay mechanics, visual design, and educational objectives were aligned throughout development. Although this study focused primarily on the pre-production and production phases, the structured framework allowed for systematic integration of characters, objects, audio elements, and movement controls. This reinforces the importance of adopting established development methodologies when producing educational digital content, particularly when working with interdisciplinary objectives that combine technology, education, and moral instruction.

The findings also highlight the importance of user interface and user experience (UI/UX) design in educational games for children. The tutorial, settings, and level-selection features were designed to be intuitive and accessible, allowing young players to navigate the game independently. Features such as automatic progress saving further enhance usability by reducing frustration and supporting continuity in learning. These elements demonstrate that technical functionality and ease of use play a significant role in ensuring that educational intentions are successfully translated into meaningful user engagement. By addressing the broader issue of limited Islamic educational game options in the current market, this study helps fill an existing gap. While many educational applications focus on literacy, numeracy, or general knowledge, fewer games prioritise moral and religious education in a culturally sensitive manner. *"A Family Again"* demonstrates that it is possible to integrate Islamic teachings into modern digital formats without compromising entertainment value. This is particularly significant in multicultural and digitally saturated societies, where children are exposed to diverse value systems from an early age. Providing culturally relevant digital content enables parents and educators to guide children's media consumption in more constructive directions.

Despite its contributions, this study also acknowledges several limitations. The evaluation of the game's educational impact was primarily based on design outcomes rather than long-term empirical assessment of behavioural change among children. While the game was designed according to established developmental and educational principles, future studies should incorporate user testing, observational studies, or experimental methods to measure learning outcomes, moral understanding, and behavioural influence more systematically. Such evaluations would provide stronger empirical evidence of the game's effectiveness as an educational tool. Future

research and development could also expand the game's scope by incorporating additional levels, more diverse family scenarios, and adaptive learning features that respond to individual player performance. Integrating parental or educator feedback mechanisms could further enhance the educational value of the game by enabling guided discussion beyond gameplay. Additionally, multilingual support and cross-cultural adaptations could broaden the game's accessibility and relevance, particularly in non-Malay-speaking or international Islamic education contexts.

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Paper Contribution to the Related Field of Study

This paper demonstrates how a mobile game can serve as an educational tool to incorporate Islamic moral values for children and highlights the role of game-based learning and mobile technology in supporting character education through engaging, age-appropriate design.

References

Barczak, A. & Wozniak, H. (2020). Comparative study on game engines. Journals of Sieldce , University of Natural Sciences and Himanities, 23(1-2), 6-24. https://doi.org/10.34739/si.2019.23.01

Janeček, D. (2018). Educational cross platform mobile game for youngsters. [Bachelor Thesis, Brno University of Technology, Faculty of Information Technology. Supervisor Ing. Olena Pastushenko]. Brno University of Technology Digital Library.

Kliuch, D. (2021, August,11). Mobile game development process: How mobile games are created. WHIMSY GAMES. https://whimsygames.co/blog/game-development-process/

Qusef, A., Ayasrah, A., Shaout, A., & Muhanna, M. (2019). By two: A two-dimensional mobile game model for novice developers. Indonesian Journal of Electrical Engineering and Computer Science.14(3).1336-1344. https://doi.org/10.11591/ijeecs.v14.i3.pp1336-1344

Worku, B. N., Abessa, T. G., Franssen, E., Vanvuchelen, M., Kolsteren, P., & Granitzer, M. (2018). Development, social-emotional behaviour, and resilience of orphaned children in a family-oriented setting. Journal of Child and Family Studies, 27(2), 465-474. https://doi.org/10.1007/s10826-017-0908-0