Implementation of "Room of Batik" Android Game Design

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ABSTRACT

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The Batik motif is one of its main characteristics. From this point on, the creation of a game based on a strategy to restore confidence in the previously lost batik. Based on the aforementioned curriculum, "Perancangan Game "Room Of Batik" Berbasis Android Sebagai Media Pembelajaran Batik" was created. It is hoped that games with a batik theme can enliven young people and increase their interest in local customs, particularly batik. This game will be developed using the Unity game engine and will be targeted at the Android platform, which is now the most widely used platform. The purpose of this platform's use is to increase gameplay among more people, hence increasing the number of users who may access the relevant game.

Introduction

Batik is a fabric that is decorated with a variety of ornaments or special motifs. The barrier dyeing technique is used to give batik specifically, with a colour barrier represented by night, which is a substance that is insoluble in dye liquid (Astuti, Ernawati, & Arifin, 2023). B. A. Hananto said that batik is a highly decorated object; More precisely, batik is a highly decorated or patterned fabric, which happens through various techniques (Imanda, 2022). According to Gratha B. batik is a cultural form that has been torn; Traditional technology and sales can peak in modern technology and its association with similar value chains. Continuing this tradition, UNESCO protects the heritage of humanity in the form of Indonesia's batik (Fitriyani & Nita, 2021). On 2 October 2009, UNESCO declared it a Heritage of Humanity for Oral and Intangible Cultures. UNESCO states that this is the whole item that Indonesian batik is intended for, including the ideas and creation of its geographical motifs (Arifin, Listyorini, & Fiati, 2015).

Other countries are very fond of Indonesian batik because of its spectacular motifs and patterns making it a beautiful and meaningful work of art (Hidayah, Prihantoro, & Fernandez, 2021). It is known that batik cloth has been worn by our ancestors and consists of the current generation of the Indonesian nation. Batik developed rapidly during the Surakarta and Yogyakarta Palaces (Saragi, 2018). At that time, each palace developed its style so that an extraordinary variety of motifs, patterns and colours appeared. Bati was

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originally just a family outfit in the palace, but now it is very popular and used by people in a daily fashion. Currently, various new cultures are circulating due to many influences from outside so they are increasingly liked by the public. Batik is less popular in Indonesian society of my generation compared to various clothes with different stickers with western and foreign styles (Ainiyah, 2018). Usually, nowadays many people only wear batik clothes at official events or on certain days. Batik motifs are also used in crafts such as bags, wallets, pencil cases, and others, but their popularity in Indonesia is still inferior to modern crafts. Therefore, the necessary efforts to preserve batik culture are needed (Astini, 2020).

It is undeniable that the advancement of game technology is happening very rapidly because it is the most popular type of information media. Some of the game categories include action, shooting, adventure, casual, puzzle, and mystery. In addition, games also have many benefits and can be used to support human life. Games can have potential in advertising, education, and cultural preservation activities other than as an entertainment medium (Rafiq, 2020).

A puzzle is a form of game where we are required to solve various puzzles. Logic, pattern recognition, sequence solving, and word solving are some of the types of challenges that can test your problem-solving skills. Puzzles are a very broad category and can be further grouped into various subcategories. For example, there are action puzzles that test the player's speed and accuracy, or hidden object puzzles that require careful search skills to find these objects.

After understanding all the problems that have been described earlier, the game "Batik Room" was designed. The game uses batik motifs as part of its gameplay and environment, creating a unique mystery puzzle-solving experience. This game aims to introduce and appreciate the beauty of batik culture to the modern audience so that it can continue to be preserved. This creation is titled Game Design "Room of Batik," which is based on the background of the problem.

Research Methods

This study uses the Game Development Life Cycle (GDLC) methodology as a framework to develop and implement the Room of Batik game on the Android platform. GDLC is an approach that involves a series of systematic phases of designing, developing, and testing a game until it is released.

The stages followed in this study are:

1. Concept

At this stage, the basic idea of the Room of Batik game was developed. The concept of the game, including the storyline, characters, and mechanics of the game, was developed through discussions with the development team and was based on relevant literature regarding educational games and batik culture. The study also analyzes user needs through surveys and interviews to understand the preferences and expectations of target users.

2. Pre-production

In the pre-production stage, a more detailed game design was developed. This includes creating a Game Design Document (GDD) that includes visual details, gameplay, rules, and game systems. This study uses document analysis techniques to ensure that the proposed design meets quality standards and is relevant to the goals of batik education.

3. Production

Researchers create games using game development software such as Unity and Android Studio. This phase involves coding, creating graphics assets, sound, and integrating game components. This process continues with unit testing to ensure each component is functioning properly.

4. Testing

Testing is iterative and includes alpha and beta testing with a large number of randomly selected users. This study uses field testing techniques to gather user feedback regarding features, user interfaces, and gaming experiences. The data collected was analyzed using descriptive statistical techniques to identify areas that need improvement.

5. Implementation (Release)

Once the testing is complete and the game is deemed feasible, the Room of Batik game will be released on the Android platform. The study also included tracking user acceptance of the game after its release by collecting data from user reviews and download metrics.

6. Post-Production (Post-Production)

This phase deals with the maintenance of the game after release, such as bug fixes, content updates, and the development of additional features based on user feedback. This research will monitor and analyze user data to determine the effectiveness of games in achieving batik education goals.

Results and Discussion

The game "Batik Puzzle" takes you to explore the batik culture of the archipelago by focusing on motifs from Java, Cirebon, and Kalimantan. Various forms of culture appear in this game. For example, in the puzzle, there are batik paintings that need to be arranged and explanations can be found in the glossary. In addition, the statue also shows traditional Kalimantan clothes that are decorated. They had to use Bornean weapons to open the box.

A glossary is a feature that reveals information about cultural content discovered by players at a certain level. From the beginning, the glossary only contained basic knowledge about batik. However, whenever players discover a new culture, they will be notified that the content in the glossary has increased and that the culture will be displayed in its entirety with a brief explanation of it in the glossary.

In the "Room of Batik" Game, there is an achievement feature that features various rewards as a reward for players who complete each level. Players are entitled to fifteen achievements, and they can find information about them here. There are various ways to

achieve achievements, some can be obtained by completing levels and others require the use of special codes while playing.

Each level has an environment design that is adjusted to the area of origin of the batik motif used. Each level will use a theme that matches the culture of the area. For example, level 1 will carry the Javanese theme, while level 2 will use the Cirebon theme, and level 3 will provide an experience with the atmosphere of Kalimantan. Along with the number of people who own Android devices today, the rapid development of the platform has made the spread of the game easier and more and more people can get to know the culture that appears on it.

The game "Room of Batik" is specially designed for high school teenagers who are interested in deepening their knowledge about batik and the culture of the archipelago through the use of games. Although this game is considered difficult by those under that age range, the game content itself is safe for children under the target age to play. log in to the Android platform. This is expected to accelerate the spread of this game and increase people's awareness of the culture it contains.

The game "Room of Batik" involves several stages before, during, and after production. Before all other production processes are completed, the initial stage is to design the game concept and document it in a design document. This game design document serves as the foundation for the next steps of creation. Later, the use of Unity software was used to prototype the game. After completing the prototype, we proceed with the creation of assets both level and UI. Here are the details of the "Room Of Batik" game-making process:

1. Concept Creation

In this pre-production stage, a concept was made that was needed in the making of the game "Room of Batik". Starting from collecting data to be used as material and managed in a concept of the game to be produced, after that we make the level flow design, puzzle design, and other asset designs such as environments and backgrounds. The beginning will be the collection of data that has been researched which will be included in the GDD (Game Design Document) which is a document or book as the basic material that contains all game concepts that have been carefully designed and will be produced.

From this document, the designer will be easier to work with and is the basis for making games so as not to deviate from the concept that has been designed. The next stage that will be done is that all the concepts in the document will be discussed with team members in the production process.

By conducting this discussion, the team members will know the level of ease to difficulty during the production process later. If in this stage the content of the document made is not by the other members, it will be re-discussed, in other words, the concept again which is indeed my expectations with the results that have been discussed with the team members.
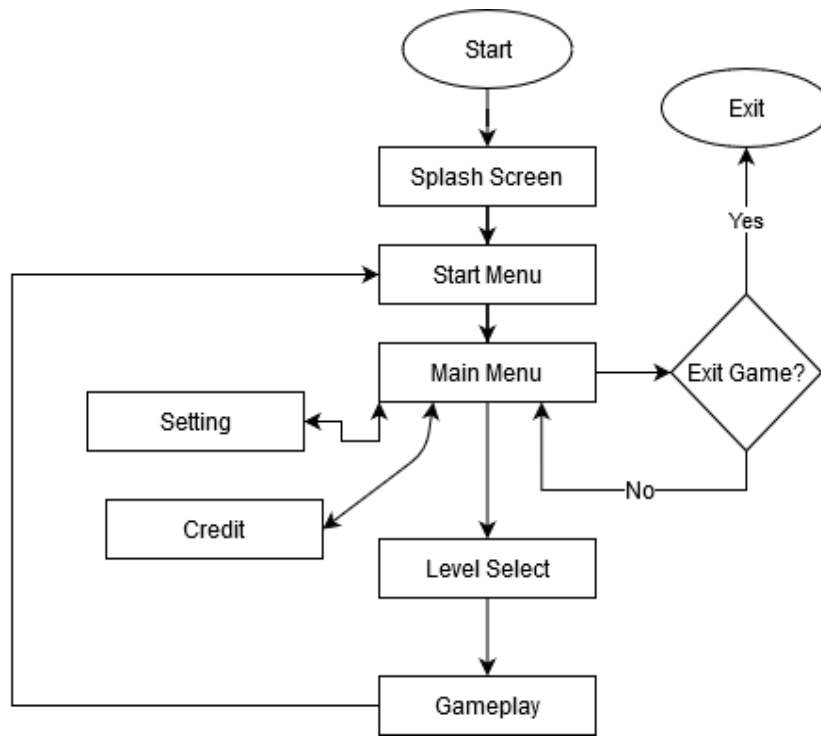
Gambar 1. Desain Rancangan Flowchart Game "Room of Batik"

2. Programming

Once the concept is ready, the programmer will start producing the game according to the concept. At the beginning of its creation, the game was made in the form of a prototype with mechanics according to the concept and temporary assets. This is done so that the work can go hand in hand with the creation of other assets (Haniza, 2019).

The programming process in making the game "Room of Batik" uses the Unity Game Engine, after the prototype is completed and other assets are also completed, then the temporary assets used in the prototype are replaced with the assets that should be.

Figure 2. Unity view as you work

3. Visual Asset

All visual assets in the game "Room of Batik" are 2-dimensional. All of its assets are created using Adobe Photoshop. These visual assets include UI, background, and puzzle objects. In the game "Room of Batik" there are no characters so there is no need to make the character visuals.

Figure 3. Example of "Room of Batik" gameplay with ready-made assets

4. Game Testing and Bug Fixing

After the "Room of Batik" is ready to play, and before it is distributed for review, a useful game testing process is carried out to find out if there are any bugs that need to be fixed. The game testing process is also useful to check whether the puzzles in this game are too difficult or too easy, if they are still not tied, then this game needs to be balanced or balanced in difficulty.

5. Reviews

After conducting game testing with production members, the game was distributed to several people to play. This process is the same as the previous one but with the person doing the tests coming from outside the production team. This review process also gave the production team the weaknesses and shortcomings of the game "Room of Batik", where the shortcomings were then corrected to produce a better game.

Conclusion

To solve the puzzle, the game "Room of Batik" uses batik from Java, Cirebon, and Kalimantan. Some local content other than batik is also used in the game, according to the area of origin of the batik. Based on the previous discussion, the conclusions related to the game "Room of Batik" are as follows: In the game "Room of Batik", the rules of the game are that players must search for keys by solving puzzles and collecting batik to be able to get out of the room where they are locked. In the first stage, batik and local materials from Java were found; in the second stage, batik and local materials from Cirebon were found; and in the third stage, batik and local materials from Kalimantan were found. In all three levels of the game "Room of Batik", the background is a room inside, which is used differently in each level. Local content, especially batik patterns,

becomes part of the gameplay and serves as a learning medium through cultural information—the culture that emerges along with its information in the game.

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Bibliography

Ainiyah, Nur. (2018). Remaja millenial dan media sosial: media sosial sebagai media informasi pendidikan bagi remaja millenial. *Jurnal Pendidikan Islam Indonesia*, *2*(2), 221–236.

Arifin, Zaenal, Listyorini, Tri, & Fiati, Rina. (2015). Membangun Game Petualangan Sejarah Peninggalan Sunan Kudus Berbasis Android. *Prosiding SNATIF*, 59–64.

Astini, Ni Komang Suni. (2020). Tantangan dan peluang pemanfaatan teknologi informasi dalam pembelajaran online masa covid-19. *Cetta: Jurnal Ilmu Pendidikan*, *3*(2), 241–255.

Astuti, Erna Zuni, Ernawati, Arni, & Arifin, Zainal. (2023). Identitas Budaya Jawa Pada Mural di Kampung Batik Kota Semarang. *Jurnal Riset Komunikasi*, *6*(1), 80–92.

Fitriyani, Riski Eka, & Nita, Sekreningsih. (2021). Implementasi Game Edukasi" BaCovi" Basmi Covid Berbasis Android dengan RPG Maker Engine. *Prosiding Seminar Nasional Teknologi Informasi Dan Komunikasi (SENATIK)*, *4*(1), 507–519.

Haniza, Nurul. (2019). Pengaruh Media Sosial terhadap Perkembangan Pola Pikir, Kepribadian dan Kesehatan Mental Manusia. *J. Komun*, 21–31.

Hidayah, Agung Kharisma, Prihantoro, Cahyo, & Fernandez, Sandhy. (2021). Implementasi metode linear Congruent method pada game edukasi pembelajaran huruf hijaiyah berbasis android. *Pseudocode*, *8*(1), 38–48.

Imanda, Dinar. (2022). Implementasi Game Edukasi Bahasa Lampung Dialek a Dan Dialek O Berbasis Android. *Jurnal Informatika Dan Rekayasa Perangkat Lunak*, *3*(2), 161–178.

Rafiq, Ahmad. (2020). Dampak media sosial terhadap perubahan sosial suatu masyarakat. *Global Komunika: Jurnal Ilmu Sosial Dan Ilmu Politik*, *3*(1), 18–29.

Saragi, Daulat. (2018). Pengembangan tekstil berbasis motif dan nilai filosofis ornamen tradisional Sumatra Utara. *Panggung*, *28*(2), 298503.