

# Adventure Game Application To Introduce “Perang Kembang” Story

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## ABSTRACT

“Perang Kembang” story has Arjuno and several characters, buto Cakil, buto alas, buto senopati and need game applications designing to reintroduce Indonesian cultural stories and build this wayang characters. The method used in this study is a multimedia development life cycle and used in the research is design of an adventure game application which was developed from the concept of the story “Perang Kembang”, with character designs, environments, visualisation and motions are suitable for the user. The research resulted in game “Perang Kembang Adventure” to introduce the story to children to knowing about the historical stories and characters of Arjuno, buto Cakil and additional character. This game is a means of education and is a requirement for knowledge of stories that emphasize independence, intelligence, and courage.

**Keywords:** Perang Kembang, Game, Intelligence, Education

## 1. Introduction

“Perang Kembang” is from Mahabharata stories, Wayang in Mahabharata stories based on their characters (Risdiyanti and Prahmana, 2021). Mahabharata story values and Indonesian identity (Putra, 2021), always realized in wayang kulit and wayang orang scenes, depicting the battle of a knight against a giant. This knight is the figure of Arjuno with a giant in the form of Buto Cakil, Buto alas, and Buto Senopati. This story is packaged in several performances such as in wayang kulit and wayang wong is one

Javanese traditional (Nuryantiningsih and Yanti, 2021). Other media are needed to attract attention and preserve wayang culture and stories. One of them is by designing game applications that are popular with the younger generation. Game applications in mobile are interactive media that are entertaining and tend to be fun. Mobile technologies are very diverse and the market pressure pushes the continuous development of new technologies and features (Lavin-Mera, et. al, 2009). Games are much liked by children and

teenagers, especially mobile games which are in great demand and are currently developing because they can be used anywhere and anytime. Given that serious games must compete against other apps for a user's attention (Lee, 2014).

The game continues to develop according to needs and cannot be separated from humans. Games that have an additional goal beyond entertainment (Caserman, et. al., 2020), to balance the entertainment and edutainment of the game (Chiang, et. al., 2019). Also have many types with various genres. As for the genre of the game, genre as a descriptive category (Apperley, 2006). One of which is an adventure game that emphasizes the storyline played by the player, storyline is a game-design element that connects scenes (Novak, et. al., 2016). In connection with the use of information technology, especially in game development, game development cultures would then necessitate connecting individual developer experiences to larger trends within global game production networks (Sotamaa, 2021), and a game is made about the introduction of Indonesian traditional culture, and preservation of Indonesian culture can be done through the media game (Regiana, Dwiyoga, and Prasetya, 2020) especially wayang stories by bringing up the buto character, a cultural concept to be aiming to reintroduce the character of Buto (Munib, et. al., 2021), through games with concept "Perang Kembang Adventure", with protagonist and antagonist character.

The concept of adventure game is taken from the Mahabharata puppet/wayang story, with the aim of reintroducing the story of "Perang Kembang" to children. The story from Javanese culture as the basic idea to create a game based on the background story of the Mahabharata that developed in

Indonesia. Wayang contains character education and natural story, and adolescents with an attractive interface according to the age of the user of this game. The scene of "Perang Kembang" (Flower War) is a scene of war between the knights (Bambangan) against the giant (Buto/Cakil). "Perang Kembang" is a battle scene between the knights against the giant in wayang performance (Kurnianto and Santoso, 2020). The benefit of this research is to help introduce the story of "Perang Kembang" to the public and provide information about it. This game was not developed in a high score system because of its story-telling function, story-telling as Transformative power (James, 1996) and makes it easy to play with only two buttons. It greatly facilitates the operation and maintenance of game companies and gives. Players a better game experience (Liang, 2016; Tong, et. al., 2018). This game consists of 5 levels that correspond to the characters that appear in this story.

This game introduces wayang stories, because there is no game application that raises puppet stories by bringing out more specific buto characters accompanied by stories in them. With these conditions, an adventure game design was developed that raised the Mahabharata wayang story with the concept of the "Perang Kembang Adventure", as well as being the title of this game. By introducing wayang characters to children and young people, it is hoped that they can preserve wayang culture and stories in Indonesia. Wayang as guidance because on wayang story contain some of character values (Sulaksono and Saddhono, 2018). This wayang virtual characters can be used as tools for reintroduction to young people around the world (Darmawan and Harnoko, 2021). Wayang has existed, grew, developed for a long time and experienced many passages of

Indonesian history (Cohen, 2007; Warto, 2019). Psychologically that the characters and

## 2. Methods

The method used in this multimedia development is the creation of adventure games for children. The process of making this game application is carried out in several stages, namely concept, design process, the players' affective responses in game playing process (Baharom, Tan, and Idris, 2014), also material collection, assembly, enable diverse types of assemblies (Aziz, 2015). The concept was observed related to the story, Arjuno's character with buto cakil and additional supporting characters. Visual concepts will be conceptualized from facial structures and elements, character shapes, diversity in the proportions of the simulated characters (Agrawal, Shen, and Panne, 2014). The required specifications are smartphones that have Android operating systems, an operating system is a code that interfaces with the end-user (Ruqiyah, et. al., 2020).

## 3. Results and discussion

Game designs process needed basic concept of the story of this adventure game, this story there are buto and Arjuno characters in the plot of a conflict of power. Through various stages with varied backgrounds. This concept will determine the purpose and audience that will use the application to reach the final stage at level 5, has the aim of making it easier for users in the all stage, and is adapted to the concept of the origin of story.

Design in the prototype and form, as well plot elements along with the game concept of "Perang kembang Adventure" which presents the adventures of wayang characters that are raised with several aspects.

game will be raising to independence, courage, and build of strategies in children. The design stage is the stage of making specifications regarding the character, background, frame, character elements and structure, environment, appearance and program requirements from the materials for the program. And the adventure game is an adventure game that tells the journey of a character in "Perang Kembang Adventure". At the material collection stage, everything needed in the application is carried out, namely the material to be delivered and multimedia files such as all events like audio and images will be included in the game and its complementary characters.

The design process in production is done by sketching, line art and coloring. A game design requires playtests to evaluate if the gameplay generates the desired aesthetics (Westin, Brusk, and Engström, 2019), material collection is done to get details of all character and background elements. And the final result enters the assembly stage of each character structure to be able to move parts of the body elements according to the proportions of the basic concept.

This following are the stages in the pre-production, and production of the "Perang kembang Adventure" game, that used in this study, they are 1) concept, 2) design, 3) material collecting, 4) assembly, and 5) testing and evaluation:

### 3.1. Concept

"Perang Kembang Adventure" is hybrid action and adventure game with the aim of carrying out missions like in a puppet story. This game has 5 levels where to unlock a new higher level, you must win the lower level. It has variant characters that appear in each level against Arjuno, on the first and second levels there is Buto Alas, the third level is Buto

Senopati, at level four appears Buto Cakil and Buto Senopati and the last level all Buto characters enter to fight with Arjuno. The concept used as a basic grounded.

### 3.2. Design

Design to plan appearance of characters and visual forms of buildings, clothes, or other objects. The design must be appropriate from

#### 3.2.1. Character design

There are 4 characters in "Perang Kembang Adventure". The character would to make decisions in the game (Hamlen, 2011). the character designs are designed in detail with every element adapted to the basic character of the wayang wong model, the 4 main characters in the "Perang Kembang" character in four character designs use basic geometric circles. Character visualization emphasis is created as realistic (Kuntjara and Almanfaluthi, 2021). "Perang Kembang Adventure" game has character like Arjuno as protagonist character in the Mahabharata puppet story, as a member of the Pandawa charming and gentle at heart. Detail character design of Arjuno and the three buto in the game "Perang Kembang Adventure" (Fig. 2). All figure of characters with type .png and .jpg. And to audio files supporting with .wav dan .mp3 formatted.

##### 1. Arjuno

A knight in "Perang Kembang", is one of son in the Pandawa family in the Mahabharata story, a handsome and powerful figure, after carrying out an asceticism following the orders of the Gods in dealing with buto Cakil.

the synopsis of the story, storyline, storyboard and the visuals of the wayang wong characters. Storyboard represents a step-by-step scenario that comprises each scene in a game. All explains the arrangement of materials made in each level, character, and whole game. Game design as a sociocultural and knowledge modelling activity (Romero, et. al., 2019)



**Fig. 2. Arjuno Illustration**

##### 2. Buto Alas

Buto Alas is the first enemy in first level against knights, he is a scary character from the forest who helps Buto Cakil to fight knight Arjuno. (Fig.3)



**Fig. 3. Buto Alas Illustration**

##### 3. Buto Senopati

Buto Senopati is a complementary character in the Perang Kembang, he is a support character who helps Buto Cakil in fighting the knights.(Fig.4)



**Fig. 4. Buto Senopati Illustration**

#### 4. Buto Cakil

Buto cakil is the main enemy of the knight, in the form of a giant with stilted teeth of the rank of tumenggung. The Cakil character is only known in Javanese puppetry stories and is always shown in the Perang Kembang, a war between knights and giants which is a symbol of wrathful lust. (Fig.5)



**Fig. 5. Buto Cakil Illustration**

#### 3.3. Animation

The next step is making the character animation with cut out animation technique, which is cut the picture into several pieces. All animations created by drawing one by one using procreate application and then the images are driven by using Adobe anime application. Simple animation can be seen in the dual combo attack action that combines light animation to distinguish it from other attack actions. (Fig. 6)



**Fig. 6. Character Concepts**

#### 3.4. Materials collecting

Material Collecting is the stage to collect all design and detail of part to required materials of Arjuno's and Buto Cakil (Fig. 7), material collecting of Buto Alas and Senopati (Fig. 8). Each element in the character is designed in

parts; hands, feet, head, body of the character, with various shapes as part of the motion animation in the game. details of the structure of the limbs will be connected so that the character's motion movements are obtained

perfectly. Materials must match the needs of each character. This principle is the concept of

frame by frame animation movement of the character. These ingredients are as follows:



**Fig. 7. Material Collecting (Arjuno's and Buto Cakil)**



**Fig. 8. Material Collecting (Buto Alas and Senopati)**

**3.5. Intro scene**

This scene (Fig.9) shows the first display of Perang Kembang Adventure. The introductory

scene is designed as attractive as possible, with an atmosphere that is adapted to the wayang wong environment. With the background of the performance screen and the stage according to the concept.



**Fig. 9. Intro Scene**

### 3.6. Menu scene

Menu scene showing main menu of game which serves to help user start the game. The main menu consists of buttons: “Start Game”, “Info” (to get information), and “Leave” (to exit the game). The scene menu display is as follows (Fig. 10). Menu scene has 3 buttons

with each different function. "Start Game" button is pressed to start the game. “Info” button serves as an information provider to the user about this game. And the "Exit" button is pressed when user wants to exit game.



**Fig. 10. Scene of main menu**

### 3.6. Level map scene

The level map scene shows a map of 5 levels in the “Perang Kembang Adventure game. All levels are based on the story of Arjuno and Buto Cakil. To unlock each level, the user

must complete the previous level. There is a back button to guide users back to the main menu, and a start button to directly enter the game. The following is an image of the level map scene (Fig. 11).



**Fig. 11. Level Map Scene**

### 3.7. Game scene

The game scene contains gameplay of level 1, level 2, level 3, level 4, and level 5 according to storyline of Ramayana "Perang Kembang", to the story, we need cultural studies of game development and how game development cultures can be studied (Sotamaa, 2021). As characters battle each level and reach to finish line, scene changes and next level is unlocked.

Level 1 Arjuno fight with Buto Cakil, with a forest background, level 2 Arjuno's against Buto Alas, with a cloud background, level 3 Arjuno fight with Buto Senopati in the royal building, level 4 Arjuno fight with Buto Alas and Cakil, with a cliff background, and level 5 is the last level or ending scene fight with Arjuno's battle with Buto Cakil

**Level 1** (Fig.12), in the initial level enters Arjuno's journey in the forest, and meets Buto Alas. Arjuno's battle to defeat Buto Alas,

there are 2 Buto Alas who appear after being defeated by Arjuno.



**Fig. 12. Level 1**

**Level 2** (Fig. 14), At this level Arjuno's enters the second stage, with a cloud background,

the battle above the ground between Arjuno's and 2 Buto Alas.



**Fig. 14. Level 2**



**Level 3** (Fig. 14), Entering the level 3 stage, Arjuno's fights with Buto Senopati, with the

background of the royal building, as an illustration that Arjuno's saved the kingdom.



**Fig. 14. Level 3**

**Level 4** (Fig.15), At level 4, Arjuno's enters a space with cliffs and cliffs in the background to battle Buto Cakil and Buto Alas.



**Fig. 15. Level 4**

### 3.8. Ending scene

This scene will appear when the user has completed all the levels and gets the full picture. Buto Cakil with Buto Alas and Buto Senopati lost and Buto Cakil apologized to Arjuno.

**Level 5** (Fig. 16), The Final level in this adventure, Arjuno's entered the level with a mountainous background and fought against Buto Cakil, at this stage Buto Cakil.



**Fig. 16. Level 5 Ending Scene**

Requirements of the "Perang Kembang Adventure" can only be run on mobile devices with Android operating systems, designed with right and left buttons, or forward and backward which can make it easier for users to operate, make it easier for gamers to use it according to the ergonomics of the buttons, and the ergonomics of video game controllers would improve (Bhardwaj, 2017). The design of this adventure game has 5 levels of stages

### Conclusion

In the design of adventure games, concepts and ideas are needed detail of character, animation, script, tools, button. The inspiration from a wayang story becomes part of a complete concept in reintroducing wayang stories and culture. Making video game requires a long process, so it should be done in a team to get an optimal testing and result. Adventure game planning must be tailored to the target audience or users, ergonomics in the game, buttons, game flow and scenes must be appropriate so that this game can be used. The success of this game "Perang Kembang Adventure" cannot be separated from its detail design, characters visualization, system testing, scene, environment that matches the story of wayang orang, and the effectiveness and structure of

in playing, after starting the player can immediately enter level 1, the initial level in the game. Arjuno enters each level of the stage and must pass a different button in each level in order to progress to the next level. The last level is the decisive level to beat the buto cakil. In the historical story "Perang Kembang Adventure" Arjuno defeated buto cakil and won the battle.

the game that is tailored to the user. The goal in educating children about the history of wayang, characters, and characterizations. The effectiveness of the game becomes a means of skill, and develops the brain and educates children

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