

Engineering Emoji Down the Hills Game as the Introduction of Meaning and Philosophy of Classical Batik Motif to the Society in Accordance with the Ornaments in it

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Abstract - Batik is the wealth and heritage of the Indonesian nation that has been recognized by UNESCO in 2009 as Masterpieces of the Oral and Intangible Heritage of Humanity [1]. The presence of increasingly diverse batik was not only used as a clothing, but also some household furniture and other equipment such as bags, shoes, and other accessories. Although the use of batik in everyday life is very diverse, but users are often not aware of the philosophy and meaning contained in the batik, so it often used mistakenly [2]. Moreover, the classical batik that has a philosophy and custom tradition that is quite thick in every design [3]. Therefore, the author wants to engineering an existing game and packed into interactive educational games that aims to provide information about classical batik, so that classic batik is no longer considered to be something ancient but can be enjoyed by various groups, including young people. Later on, the game will be packaged in the form of slide scrolling games by bringing up the trivia quiz at each end of the game level, but there is also a menu to review information for users deeply into the classic batik.

Keywords - Batik, Classical Batik, Education Game, Android Game

I. INTRODUCTION

Batik is kind of creativity that is loved by many people, not only within the country but also abroad such as America, Germany, Netherlands, Japan, Africa, Korea, etc. [4]. Batik Indonesia is considered better than other countries because the design is quite specific and detail, besides batik Indonesia has a characteristic ornament in every design depends on where it's produced [4]. Of the many fans of batik, it turns out the Japanese people like a soft and natural color batik, while Chinese people prefer batik with bright colors [5].

The record in Ministry of Trade of Indonesia, stated that batik exports in January to March 2013 period reached US \$ 50.07 million. The data shows that the United States is the largest export destination with the largest contribution abroad in the first quarter of 2012 amounted to US \$ 17.46 million and increased to US \$ 21.18 million in 2013 in the same quarter [4]. While in the second export destination for batik was occupied by Germany from US \$ 2.68 million in 2012 and increased to US \$ 4.52 million in 2013 [4].

As time goes by, batik motifs are divided into two kinds namely Batik Pesisiran and Classic Batik [3]. Batik pesisiran (modern batik) is a batik that does not depend on the customary provisions, more diverse, colorful

and unique, while the classic batik is batik that cling to the customary provisions, thick with philosophy and tradition [6].

Most people use batik only because of its beauty and do not understand the information contained in the batik itself, especially the classic batik full of meaning and philosophy in every motive [6].

Meanwhile, the writer found *Emoji Down The Hills* game in Asset Store Unity 3D and based on the statement about batik, the writer will engineering the game into an educational game to enrich the information of Indonesian batik especially classic batik because the game in the Asset Store is considered easy to play, simple, and addictive. The result is expected to be accepted by the community and can convey information well.

II. LITERATURE REVIEW

A. *Emoji Down the Hills Game*

Emoji Down the Hills is an addictive and simple mobile game made by SgLib Games. The simplicity of the game is packaged in a way of playing that takes just one tap to change the direction of *Emoji*'s motion. In addition, this game has only obstacles in the form of trees and holes to avoid and collect items and special effects for *Emoji* get points [7].

Though it is simple, yet this games has some easy mobile plugin features such as Unity Ads, AdMob, HeyZap, and Chartboost. Furthermore, it has to be purchased in app features, shared to social media network, push notification using OneSignal service, and support for Google Play Games Services (Android) and Game Center (iOS) for leaderboards and achievements [7].

B. *Batik and Classical Batik*

Batik is an art developed in Central Java. Batik is said to be a painting or drawing, whose manufacture is done on mori fabric using a tool often called *canting* [8]. Batik naming itself comes from the Java language "amba" which means wrote and "titik" means point. The naming is directed to the fabric

pattern produced from the "malam" (wax) scraped on the fabric, it block the entry of coloring material during dye or wax-resist dyeing [9].

Classical batik can be grouped based on the ornaments in it. Here are some classic batik types that are grouped by the ornaments in it [6]:

1. **Motif Parang**

- Motive Parang Barong, Parang Barong is a machete motif commonly used by kings or as an official dress in public places [6].
- Parang Curiga means keris, so the shape of this motif is the curves of the keris repeated [6].
- This motif describes the shape of a machete-shaped curved or a form of fishing rod to be called a Parang Pancing [6].

2. **Geometry Motif**

Geometric motifs have been found in objects that existed during antiquity, classified in geometric motifs as composed of geometric ornaments [6].

1) *Kawung Group*

- Kawung Beton, this motif is called Beton because its shape is like Beton (Javanese language) which means jackfruit seed [6].
- Kawung Picis, this motif belongs to the small kawung type. Called Picis because of its shape resembles the smallest penny currency [6].

2) *Nitik Group*

Nitik motif is composed of dots and broken lines that if at first glance similar to woven fabric or woven motif. For Solo and Yogya area, this motif has black base color, while for Pekalongan area has green or blue base color [10]. One example of nitik is Nitik Rengganis. Nitik Rengganis is adapted from the country of South India, and is often depicted in the fairy

tale as Dewi Rengganis [6].

3) Banji Group

Banji motif is a motif from China. This motif is derived from two words of "ban" which means ten and "dzi" which means many happiness or fortune, so that can be interpreted as happiness or fortune that abound. These motifs are usually interconnected with lines [6].

- Banji, a banji motif that has not experienced much variation is an early ancient motif [6].

- Banji Guling, this rectangular-shaped motif that has ornaments in its [6].

3. Non-Geometry Motif

Non-geometric motives are grouped into 4, water plants, creeping plants, flowers, and animals in nature [6]. Motifs composed of plant ornaments are widely developed in the northern coastal areas of Java, Madura and Bali [10].

1) Water Plants motif, for example is Ganggong Lerep, term lerep means resting or sleeping [6].

2) Creeping Plants Motif, for example is Kirno Monda, kirno in this motif means the number 1.000.000 whereas monda means more than others [6].

3) Flowers Motif, for example is Truntum name derived from the word collect (treasure). This motif is composed of flower ornaments of the headland and combine with other motives that are spread evenly. This motif is usually worn by the bride's parents at the javanese wedding ceremony [6].

4) Animal Motif, for example is Kupang Gandrung. Gandrung means to be in love or in love, so this motif describes a butterfly in love [6].

C. Unity

Unity is a game engine used to develop games in various platforms. Unity can be used to unify art, sound, animation, objects, and functions in creating a product. The programming language used in this engine mostly uses C #, besides Unity can also handle and support the creation of assets from the file with Blender, Maya, Adobe Photoshop, and Adobe Illustrator [11].

III. RESEARCH METHODOLOGY

A. Data Collection Method

Data collection method uses are as follows:

1. Literature Review

Literature review is done by collecting data through journals, papers, books, web pages or other media related to this application developing.

2. Observation

Observation is done by looking for online information from PlayStore, Asset Store Unity, and other source related to the game.

B. Game Development Method

In designing the game about Classic Batik, the writer makes the game flow as follows:

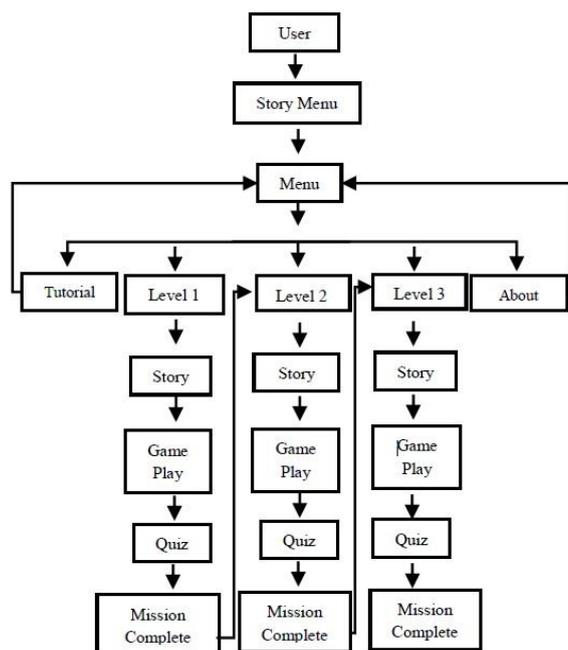


Fig. 1 Game Flow

IV. RESULTS AND DISCUSSION

This Emoji Down the Hill engineering game will be named “Mencari Batik”. This game will be packed in android platform by displaying Classic Batik information in the form of Pop Ups, and information menu that can be read repeatedly. In addition, this game is also made in real time strategy genre and slide scrolling game using Unity engine.

In each beginning of the level display, the story will be displayed as a plot, while in the story it also displays commands on what to do in every level of the game.

Looking for Batik packed in 3 levels that have been adapted to the classic batik grouping based on the ornament, in addition in each level will be given 3 times chance (life). At each level, random questions will be displayed and players are required to answer the 3 questions. If the player succeeds it will continue to the next level, but if it fails then the player must play back the game at the same level.

Here are the division of missions in each level:

1. Level 1

In 1st level is showed classic batik which are grouped in Classic Batik Parang group, where in it will be 3 pop ups which are Parang Pancing, Parang Curiga, and Parang Barong.

Mission:

- Tap the object point which shaped like Parang until the three pop ups which are Parang Pancing, Parang Curiga, and Parang Barong are opened, and the player must avoid the hole.



Fig. 2 Popup Level 1

- The player must answer 3 from some questions which are displayed randomly.

2. Level 2

The 2nd level will be showed Classic Batik which are include in Non-geometry Classic Batik. There will be 3 pop ups, Kirno Monda, Truntum and Ganggong Lerep.

Mission:

- Tap the object point which shaped as leaves until the three pop ups which are Kirno Monda, Truntum, and Ganggong Lerep are opened.



Fig. 3 Popup Level 2

- The player must avoid Lidah Api ornaments, animal ornaments, Bomb and Holey step. If the player touches those obstacles, they will lose one of their live and they will only have 3 chances to play again before its game over. If the player falls then the game will end immediately.

- The Player have to answer 3 from some questions which are displayed randomly.

3. Level 3

The 3rd level will be showed Classic Batik which are include in Geometry Classic Batik group, there will be 5 pop ups, Kawung Picis, Kawung Beton, Nitik Rengganis, Banji Guling and Banji.

Mission:

- Tap the object point which is shaped like kawung until the 5 pop ups, Kawung Picis, Kawung Beton, Nitik Rengganis, Banji Guling and Banji are opened.



Fig. 4 Popup Level 3

- Three player must avoid Meru Daun Ornament, Meru Ornament, Bomb and Holey Step. If the player touches those obstacles, they will lose one of their live and they will only have 3 chances to play again before its game over. If the player falls then the game will end immediately.
- The Player have to answer 3 from some questions which are displayed randomly.



Fig. 5 Assets in the Game
(Land Animal Ornament, Kawung, Meru Ornament, and Lidah Api Ornament)

V. CONCLUSIONS

Based on the game development can be conclude that simple game can be developed as education game and capable of being used by the nation as a medium to preserve culture.

In the other side, “Mencari Batik” game has some lacks, where there is still limited batik information that is displayed, even though Indonesia have so many kinds of batik, moreover this game just available in android platform only.

To try this game, user can download it in Play Store by using “Mencari Batik” as the keyword from Unika Soegijapranata as the developer.

VI. ACKNOWLEDGMENT

The authors gratefully acknowledge to Beasiswa Unggulan scholarship support from Bureau of Planning and International Cooperation, Ministry of Education and

Culture of Indonesia.

Moreover, authors also be thankful to SgLib as game developer which has been provide free asset in a Unity Asset, so author can change this game to be educational games.

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