Character Design for Educational Games "Caring for The Urban Forest in Jakarta"

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Abstract—The existence of the urban forest in Jakarta become a valuable asset for its residents. Unfortunately, the urban forest less aware of its existence. This unconsciousness due to lack of information about the existence of the urban forest itself. The design aims to create unique and attractive character, which helps inform the existence of the urban forest in Jakarta, through educational games. The design method through the stages of observation in the form of visual data search, analysis elaboration mapping problem, then visually determining the essential character as the main idea. The result is a character design with the function as the "spokes person" that allows users to know the existence of the urban forest in Jakarta

Keywords: character design, educational, game, Jakarta, urban forest

I. INTRODUCTION

A. Urban Forest in Jakarta

The rapid development of Jakarta, had a positive effect and negative. Its negative effects, most noticeably is that the greater the number of people, which resulted in reduced residential land and is more costly. Other adverse effects such as congestion, lack of green open space including the urban forest.

Indonesian Government Regulation No. 63 of 2002 states that the urban forest is an expanse of land that trees grow compact and dense in urban areas both on state land and land rights are defined as urban forest by a competent authority.

Currently, Jakarta still lack a location to be used as urban forest. Only about 10% of green open space area including the urban forest. This condition is also worsened in the past, some of the urban forest shrinkage extent. Yet in the middle of the urban forest has several benefits, including beautifying and greening the city.

Based on Inmendagri No. 5 In 1988, an area of green open space (RTH) which is ideal for a city is 40%, then ideally the city of Jakarta with an area 661.59 km2 requires extensive green space area of 264.64 km2. RTH development history Kota Jakarta until now has not reached the stage of an ideal.

Based on 2010 data, the Department of Agriculture and the Maritime Province of Jakarta, is targeting to have 26 pieces of Forest City locations in Jakarta. But by 2016, the number has not increased significantly.

B. The Character Design as A Social Messenger

Today, the character design is closely related to animation and games industries. There are many characters that become part of storytelling or character in the game. Games or animations can bring certain messages. As a messenger, a character must be designed with both form and distinctive personality, unique and appropriate to the context. He would later be considered spokes person representing a portion or the entire message or in the story. In relation to social campaigns about the existence of the city forest, the design of these characters will help the process of delivering a social message.

In games and animation, character design process is beginning before stepping into the animate (move). Animating process, which brought the animated characters appear more "real", more determined character design. The role of an animator could be analogous to a movie or a stage actor. Animators and character designers become actors through a process of manual or digital.

Along with advances in information technology, the animated movie character evolved into a game character. The emergence of diverse games is the development of entertainment industry-based development of IP (Intellectual Property) in the field of character design.

There are various ways to campaign for the city's forests to the public. Options in the creation of the character design for flexibility function dynamic and exciting in terms of visuals. The character designs could serve as the campaign mascot and character in educational games.

C. Character Design Purposes

Urban forest in Jakarta is a rare object that is less aware of its existence. This happens because of the lack of information about the urban forest itself. This condition was the inspiration for the urban forest awareness campaign in Jakarta. The

design aims to create a character "spoke person" unique, dynamic and interesting. These characters serve as a tool to introduce the existence of urban forests in Jakarta, through educational games.

D. The Cornerstone of Character Development

In the book The Foundations of Screenplay, Field emphasizes the importance of creating a strong character in a story [1]. Meaning here, the role of the character is very important, because he who brought the whole story is going, including the characterization of the educational games.

The concept is great about the game's characters who live in an urban forest with all the attending problems, form the basis of the researchers in determining the characterization of the game character. Also according to White the character of the design should have style [2]. This style is related to the visualization of the characters later. Styles can vary from cartoon style, the realist style, the style of manga and others.

E. Silhouette of Characters

The interaction between the individual and the environment called the perceptual field. Each field has a perceptual organization, which tend to be perceived by humans as figure and ground [3]. Therefore, the ability of this perception is a function of the human innate and not learned skill.

In the design of this character, this principle applied in the visual characters in silhouette (shape and simple lines seemed visual character is represented by a dark or black shadow on the foundation of a bright or white). While the function of the shape and silhouette of functioning menampilakan character expression looks more powerful and should be easily recognizable audiences, who characters. This is similar to Gestalt principles that highlight the figure and ground.

II. RESEARCH METHOD

To get the execution conceptual design that has depth, it would require an appropriate research methods in the context of the design. This study will use methods of DRM (Design Research Methodhology) which consists of four stages; Clarification Research (RC), Descriptive Study I (DS I), Prescriptive Study (PS), and Descriptive Study II (DS II) [4].

Explanations of each stage in the DRM method is as follows:
1. Clarification Stage Research (RC):
Conducting Survey, Observation and get a direct visual reference to the location of the urban forest to get an overview of forest condition.
2. Descriptive Study Phase I (DS I): literature and case studies to develop strategies to formulate visual identity

of the form of characters and background story that inspired the city forest conditions.
3. Phase Prescriptive Study (PS): The process of visual strategy as a foundation, followed by the process of determining the shape of the character designs based on visual elements that have been determined.
4. At this stage of Descriptive Study 2 (DS 2): The end result of this flow be selected character design and character design identity.

Points 1, 2, 3 and 4, in the field of visual communication design, can be translated into the groove as follows:
1. Observation:
Search visual data to the process of designing the characters, in this case the photographing various elements of trees and leaves as the inspiration for the character.
2. Elaboration:
Analysis of mapping visual problems associated visual elements that will be used.
3. Synthesis:
Finding and determining the visual form based on existing visual data selection.
4. Actual Concept:
The design of the characters and their application, based on the visual data of forest elements, such as leaves and other related visual elements.

III. RESULT AND DISCUSSION

A. Character Design as A Symbol or Mascot

In the animated film, the technical term character design. On the other hand is also known as the mascot. Between designs mascot characters have similarities and differences. In the reality they are the same, but different functions. Mascot is a character that can take the form of animals, plants, or something that represents human nature. Mascot or symbol is representative of an activity, organization or institution. Activity sporting events, for example: PON (Pekan Olah Raga Nasional/ National Sports Week) or the Olympics, often utilizing mascot (character design) as a spokes person. Social campaigns are often also utilize the functionality of this character design. The character designs in the game have in common with the character design in animation.

In games and animation, character design serves as an "actor". In this study, the design of characters starting from the visual ideas are inspired by the elements of the plant, which is processed into a visualization of a specific character.

B. Visualization Standard Characters

Before the designing process begins, the most important thing to look for is data to support the design. These data are generally in the form of visual data as a reference. Visual research and find the root visual problem becomes important

that the design character has a unique personal charm, unique and easy to apply in a variety of media. In design it, keep in mind the rules that will strengthen the character display, including:

- Standard display characters
  Display or create images with different looks:
  - front view
  - side view
  - back view
  - Three quarters / medium shot view

- Introducing the cast of characters in various angles:
  - It appears from the above
  - It appears from the bottom of

Points a and b above apply when the characters are similar or close to human form in general. In designing the character of this game, more emphasis on the shape of leaves with cartoon facial expressions approaches.

Generally take the personification of the human character, the appearance of the head or sector becomes an important part. The head is a factor that determines a person's body language expressions called facial expressions. The facial expression becomes a means of communication to the audience, for example, as follows:
  - A sad facial expression
  - Happy facial expression
  - Angry facial expression
  - Facial expression smile
  - Facial expressions laughing
  - The facial expressions of fear

For the design process other than by drawing sketches, there are some important things to note are: inspiration characters, acting, charm, characteristic attributes, clothing and other properties. To design the characters, usually the designers have different ways.

C. Visual Approach

To facilitate the way in the process of designing, set visual strategy by creating some of the main ideas in the form, namely:
  - Friends of urban forest
  - Playing in urban forest

The main idea of the two alternatives above, was selected: "Playing in the urban forest " as the main design ideas.

D. Naming Characters

In the identity of the character, created the name and personality of the character. If the main character is personified as humans are:
  - Name: Huti & Syca. Huti have an understanding "Hutan kota kita" and Syca comes from the

Sycamore, which is one type of tree with a unique leaf shape.
  - Youth: the age range 10-12 years
  - Personality: cheerful, sometimes mischievous but kind and caring environment

E. Visualization Character

In this process, using visual elements that exist in the tree, particularly the leaf element. It is identical to the image of a collection of forest plants or trees. To add a sense of exciting and unique character, coupled with the element of human facial expression. Key visual expression on the face is the mouth and eyes. Here's the process visualization:

- Selection is based on a simple shape leaves
- Silhouettes of leaves
- Design a character with several expressions and supporting visual attributes.

The basic idea leaf elements such as the face and body. Shape of the leaves should be clearly visible in silhouette, as shown below:
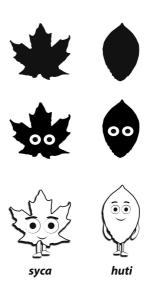

Fig 1. Basic characters from leaf silhouettes

F. Final Characters and Character Identity

In this section, the visualization of the final character with vector-style approach.

Syca   **Huti**

Fig 2. Character final expression

Fig 3. Name and identity of character design

G. Background Story

Character design is the main character in the game that informing the existence of some of the urban forest in Jakarta. By doing these games, users will be invited to identify the location of some of the urban forest. The challenge in the game is the obstacles to the location of the forest. Researchers in this case is not focused in the creation of the game, but focus on the creation of characters that can be used for the urban jungle mascot.

IV. CONCLUSION

In this design, researchers start with a simple way of taking elements of the leaves as the main idea of the character. From the shape of the leaves, and then developed into a basic silhouette characters. Silhouette which is the body of the character. To develop a character expression, takes the form of the eyes and mouth follows the style of human expression. Approach shape human facial expressions easily make dynamic character and expression. The background story that could be developed into a game is a challenge to know the urban forest in Jakarta.

The character designs have many opportunities to be developed. Function character as a messenger does require other designs in order to clear his position. This is where the role of the character became an icon of a strong urban forest, through educational games.

The idea of a urban forest matter could still voiced by utilizing the characters special variety of other products, for example: comics, animated series and merchandising. With the approach of this game, a sense of caring about the city forest seemed easier to be accepted, because of the nature of entertaining games.

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