



PIXEL ART STYLE CHARACTER DESIGN FOR “PANJI TALES” GAME FROM CHARACTERS DEPICTED IN JAVANESE TEMPLES BAS RELIEF

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Abstract:

Purpose: The purpose of this research is to design main characters for pixel graphics game entitled “Panji Tales” based on characters depicted in the scenes at Javanese temples’ bas relief.

Research methods: General design methods is used for this research. This method consists of identification, analysis, synthesis, and evaluation.

Findings: Result of this research are character design for four main characters of the game consist of turn around view for each character. Designed characters depicts their body shapes, clothing, jewellerys, and hairstyles derived from bas relief into pixel art form. In addition to depiction in pixel art form, designed characters also adjusted to make them possible to be animated. Also, for that purpose, walk cycle animations are made as example how the characters are animated.

Implications: Finalized character design will be used as guidelines for main characters’ animation in game currently being developed.

Keywords: pixel art, animation, temple, panji, game.

INTRODUCTION

“Panji Tales” is a currently developed side scrolling pixel art game that adapts Romance of Panji stories. Romance of Panji is not a single story, but rather a kind of literary genre that consists of various version of tales and literatures that always tell stories about love story between Prince Panji and Princess Candrakirana, the real historical figures that lived during Kediri Kingdom era of Java (11th to 13th century). These stories are depicted in various form of Javanese and Malay traditional arts. Some of oldest visual depictions of these stories are in the form of bas reliefs. These bas reliefs are carved in several East Javanese style temples and archaeological sites built during Majapahit era (13th to 15th century) [1].

There are several Indonesian folktales that have been adapted into video games. Some of them are *Game Eduksi Cerita Rakyat Bali* (Educational Game of Balinese Folktales) that has kid’s story book style illustration and has multiple storylines [2]. Another example is a sidescrolling game titled *Pak Sakera* that adapted from story of Sakera from Madura Island. In this game, *Sakera* character is specifically designed to represents Madurese cultural identity [3]. Romance of Panji, although widely adapted into various Javanese and Malay traditional arts,



and some of its stories also adapted into more modern arts such as comic, illustrated books, and animations, is never adapted into video games before.

Two well known traditional visual art adaptation of Panji stories are Wayang Gedog and Wayang Beber. Wayang Gedog is a set of leather puppets for shadow puppet show first created in 15th century according Sunardi et al [4] or 16th century according Setyani [5]. Visually, it resemblances the more popular Wayang Purwa that tells Ramayana and Mahabharata stories, but instead of telling stories about Ramayana and Mahabharata, Wayang Gedog tells stories about Panji. Wayang Beber mostly same to Wayang Gedog. The difference is instead of a set of individual puppets, Wayang Beber are set of parchment scrolls contains images of scenes from Panji stories. Both Wayang Gedog and Wayang Beber images can be adapted into pixel art form, but East Javanese Temples bas relief images are chosen because of its closest depiction of the story setting.

Most East Javanese style temples have similar carving style of bas relief which show side view of characters with rather large head compared to their body proportion. This thing also happens at bas reliefs containing stories from Romance of Panji. This visual depiction can be adapted easily into 2D sidescrolling game especially in pixel art. Pixel art adaptation from bas relief images has some technical advantages. Loss of detailed image due to eroded bas relief won't be a problem if adapted into pixel art since pixel art image is low resolution and thus, also low detail. Beside that, the simplicity of pixel art images make them possible to be made in short time. The aim of this research is how to design the characters for "Panji Tales" based on East Javanese Temples bas relief in pixel art style.

RESEARCH METHODS

This research uses general design method consists of identification, analysis, synthesis, and evaluation. The focus of this research is to design main characters for "Panji Tales" game. Some Panji Story manuscripts and related literatures will be read to identify the main characters. Photograph of bas relief from Penataran Temple in Blitar will be collected as main visual data. Pictures from Wayang Gedog and Wayang Beber will be observed as reference for character coloring. Visual appearance of main characters will be analyzed by comparing visual data and physical characteristics of Panji Stories characters described by Kieven [1] and Siswanto [6]. Analysis result will be interpreted into concept art and then synthesized into pixel artwork.

FINDINGS

Panji story that used to identify characters is *Cariyos Andhe Andhe Lumut* manuscript written by M Sinoe Mandisoera [7]. There are four main characters identified from this story. They are *Prince Panji*, *Princess Candrakirana*, *Jurudeh*, and *Prasanta*. There are also side characters such as *Mbok Randha Karangwulusan*, *Kleting Biru*, *Kleting Abang*, *Kleting Ijo*, *Yuyu Kangkang*, and *Mbok Randha Dhadhapan*, but they don't appear in any stories from other manuscripts or episodes of Wayang Gedog and Wayang Beber.

Princess Candra Kirana and *Prince Panji* are identified according to description by Kieven. Kieven described *Prince Panji* as a male figure that always wears

tekes cap, curly hairs, and wears ring shaped earrings as appeared at 43rd panel of *Teras Pendopo* structure in Penataran Temple complex (Figure 1) [1]. Kieven also describes *Princess Candra Kirana* as young female figure that usually appears in intimate scenes with *Prince Panji*. According to researcher's observations, most female figures' face that appear in intimate scenes at *Teras Pendopo* structure, are already worn out. The best image of this female figure is at 51st panel of *Teras Pendopo* structure that still has half of her face intact (Figure 2). This female figure appears wearing flower shaped head accessories, partially bun hairstyle, earrings, armbands, and necklace with flower shaped pendant.



Figure 1. 43rd panel of Teras Pendopo structure's bas relief at Candi Penataran complex depicting face of Prince Panji
[Source: Tegar Andito]



Figure 2. Princess Candra Kirana's Face depicted at 51st panel of Teras Pendopo structure in Candi Penataran complex
[Source: Tegar Andito]

Jurudeh and *Prasanta* in Panji Stories are loyal servant of Prince Panji. Kieven doesn't mention the name of servants of Prince Panji that appear in Penataran Temple complex, but only identifies a fat servant and a skinny servant that always appear near Prince Panji. Meanwhile, Siswanto described *Prasanta* as fat body,

large belly, tuft hair, and ponytail [6]. The fat servant has large belly, fat body, wearing cap, tuft hair, wearing bracelet at both arms, ring shaped earrings, and armbands. Best detailed picture of this figure is at 54th panel of *Teras Pendopo* structure (Figure 3). This physical appearance fit with Siswanto's description of *Prasanta* character except for the cap instead of ponytail. The appearance of this figure is also similar with *Prasanta* or *Doyok* [8] character in Wayang Gedog (Figure 5). On the other hand, the skinny servant figure that appeared at 46th panel (Figure 4) has rounded nose, ponytailed hair, and wears same jewelry as the fat servant. A skinny, rounded nose, and ponytail character is a description of character named *Punta* [6]. However, in Wayang Gedog, the skinny servant figure that is resemblanced this description is *Jurudeh* or *Bancak* (Figure 5). Considering Siswanto's descriptions of servant characters and similarities with *Jurudeh* and *Prasanta* characters in Wayang Gedog, it is decided that the fat servant is used as model for *Prasanta* character design and skinny servant is *Jurudeh*.



Figure 3. Fat bodied servant at 54th panel of Teras Pendopo structure in Candi Penataran complex
[Source: Tegar Andito]



Figure 4. skinny bodied servant at 46th panel of Teras Pendopo structure in Candi Penataran complex
[Source: Tegar Andito]



Figure 5. Scene of Wayang Gedog puppet show. From right to left, there is Doyok or Prasanta, and next is Jurudeh or Bancak
[Source: Metrum [9]]

The identified characters are then designed into pixel art style characters. The designed characters are not only displayed in $\frac{3}{4}$ view, but also in *turnaround* view. *Turnaround* is a term for displaying single character in multiple angles of view. *Turnaround* view is used as guide to turn a character design in space [10]. In this research, the characters are displayed in a 5 points *turnaround*. According to Tillman, 5 points *turnaround* is front, $\frac{3}{4}$ front, side, $\frac{3}{4}$ back, and back views [10], however, the *Panji Tales* as a side scrolling 2D game is planned to not show back view of characters. Instead of displaying $\frac{3}{4}$ back, and back views, the 5-point *turnaround* in this character design are displaying left side, $\frac{3}{4}$ front left, front, $\frac{3}{4}$ front right, and right-side views of characters.

Princess Candra Kirana is designed as a rather tall female character. Most of her body features, clothing, and jewelries are modelled after a young female character that appears at 51st panel of *Teras Pendopo* structure. Color of the clothing and jewelries are modelled after same character in *Tari Topeng Malangan* (Figure 8). Above her forehead, she wears gold colored head accessory with blue gem in the middle. She also has partially bun hairstyle and ponytail with gold colored hairpins. She also wears purple shawl, gold-colored earrings with red gem in the center, bracelets around both wrists. This character is also wearing *jarik* cloth that covers waist down to ankles and secured with purple sash as appears in Figure 6. For the color of *jarik*, the cloth is depicted as plain brown with white edge. Plain texture is used for simplification and brown color is used because it's common color of *jarik* cloth. These features of *jarik* are used in all characters' clothing for lower body parts. Originally, female character that appears at 51st panel of *Teras Pendopo* structure has exposed breasts. The purple shawl is an addition covering the breasts. The shawl itself is modelled after shawl worn by kneeling female figure at 65th panel of *Teras Pendopo* structure (Figure 7), but the purple color of the shawl is taken from *Princess Candra Kirana's* shawl used in *Tari Topeng Malangan* performance.



Figure 6. Turnaround view of Princess Candra Kirana character
[Source: Tegar Andito]



Figure 7. Female figure wearing shawl at left side of 65th panel of Teras Pendopo structure
[Source: Tegar Andito]



Figure 8. Scene from Tari Topeng Malangan. Left is Prince Panji
and right is Princess Candra Kirana
[Source: Tegar Andito]

Prince Panji's (Figure 9) character design depicts a male figure wearing cloth covering waist down to ankle and secured with yellow sash. Both of his arms wear golden bracelets. He also wears a pair of ring shaped golden earrings. He also wears *tekes* cap similar with the one that appears in Figure 1 but with brown color. Yellow color of the sash is taken from *Prince Panji's* sash in *Tari Topeng Malang* performance. It is still unknown what *tekes* cap made from, but Kieven speculated that closest comparable headgear is *Blangkon* [1]. Most visible parts of *blangkon* are made from same material as *jarik*. From this reason, brown is used as his headgear color.

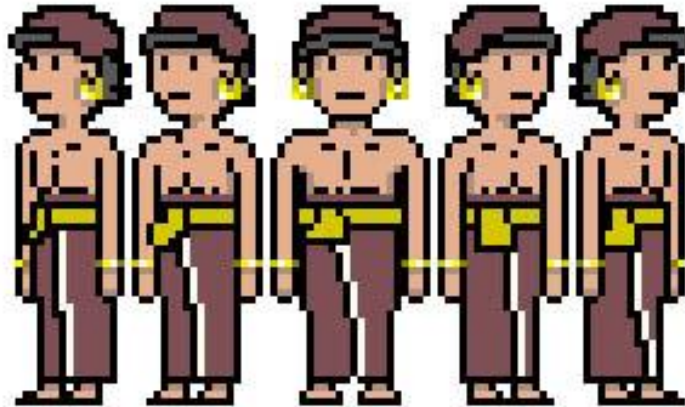


Figure 9. Turnaround view of Prince Panji Character
[Source: Tegar Andito]

Character design of *Prasanta* (Figure 10) depicts a fat male figure wearing loincloth covering waist down to thigh. Jewelries that is worn by *Prasanta* are a pair of brass colored bracelet at both of his arms and both of his ankles, ring shaped and brass colored earrings and brown hairtie. He has dark gray hair with ponytail hairstyle.



Figure 10. Turnaroun view of Prasanta
[Source: Tegar Andito]

Character design of *Jurudeh* (Figure 11) depicts a rather short, but muscular male figure wearing cloth from waist down to slightly below knees. *Jurudeh* wears same jewelries and has same hairstyle as *Prasanta* except *Jurudeh* has yellow hairtie instead of brown. His facial feature has rounded nose and thin beard.



Figure 11. Turnaround view of Jurudeh
[Source: Tegar Andito]

CONCLUSION

There are four characters designed with pixel art style in this research. Princess Candra Kirana and Prince Panji are main characters in original stories. Although Jurudeh and Prasanta are side characters in original stories, they will be included as main characters in “Panji Tales” game. The shapes of characters’ appearance, clothing, hair style, and jewelries have been made based on bas reliefs at *Teras Pendopo* building’s wall in Penataran Temple complex. Because of lack of color at the bas relief carvings, other references are used for characters’ coloring. In this case, outfits from Topeng dance are used for color reference. All characters are presented in 5 points and 180 degree turnaround view. Because of turnaround view, it can help for further character developments to stay on-model as artists draw more action sprites from different angles and in varying poses. It is suggested to use subpixel animation to animate pixel art characters to produce smooth character movements because of limited pixels.

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