



Depiction of the Philosophical Meaning of Malang Masks based on Augmented Reality as a Learning Medium for Nusantara Art

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ABSTRACT

Masks have various roles and functions in various regions and countries, including the use of masks as manifestations, worship tools, funeral equipment, dance costume attributes, and others. Masks are considered as carvings that reflect individual characteristics. In Malang, East Java, Indonesia, there is a Malang Mask tradition that is an icon of the city and inspired by the Panji story. Some masks are kept in museums, while others are used as props for the Malang Mask Dance. The Panji Museum and Kampung Topeng are places that preserve the history of the Malang Mask so that it does not become extinct. Unfortunately, these places do not provide complete information about the character of each mask, so visitors are often confused. Therefore, researchers developed an application that can present infographics of the character of each mask along with its philosophical meaning. The development method used is the Borg & Gall model, which is simplified into 7 steps due to time constraints. The result is an Augmented Reality-based Panji Story Mask infographic application that depicts the masks and costumes worn by the dancers along with their philosophical meanings. The depiction of the character of each mask is expected to be an example for the younger generation to understand good and bad traits. This digital application is also expected to improve the image of the museum and become a learning medium for students and the general public.

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1. INTRODUCTION

Masks have different roles and functions in each region and country, influenced by different customs and beliefs. These differences include the use of masks as an embodiment, a means of worship, grave equipment, dance costume attributes, and other purposes (Martono, 1994). In the Arupadhatu concept, masks are not used as representations of ancestral spirits or tools of worship, but as depictions of the faces of story characters such as Panji who are already known in folklore (Sukadana, 1985). Each mask often represents a certain character or trait and is considered a carving that reflects a person's personal characteristics (Hidajat, 2014). The use of masks in traditional performances or ceremonies can depict the character of a particular figure or entity, with each element on the mask reflecting a special attribute (Kustiawan, 2016).

Currently, many traditional masks that have high historical value are stored in museums as a source of learning and information regarding the development of masks, which contribute to the history and cultural roots of a nation (Syakir et al., 2017). The uniqueness of regional arts and culture is an identity that has long been inherent in a homogeneous society and has one vision and mission to maintain the unity of the nation (Tayibnapis et al., 2020). In Malang, East Java, Indonesia, there is a Malang Mask tradition that is an icon of the city and is inspired by the Panji story. For Javanese people, the Panji Story is not only a literary work, but also part of the Panji Culture, which is a concept of awareness of local wisdom with Panji character values such as simplicity, self-confidence, people's spirit, and purpose (Kieven, 2018). In Panji Culture, ethos and outlook on life are reflected through the Panji Story (Vickers, 2009). Historically, the Panji Story first appeared in the mid-13th century during the reign of the Singosari Kingdom. Mask art is believed to have existed since the Kediri Kingdom in the 12th century and developed further during the golden age of the Majapahit Kingdom (Winarno & Widyatmoko, 1998). The Penataran Temple relief built in 1369 depicts the Panji Kartala scene by Panakawan Prasanta, proving that the Panji Story was already popular in East Java in the 14th century (Sumaryono, 2011).

The Panji Museum, located in Tumpang village, houses a large collection of historical masks. In addition, there is the Mask Village in Tlogowaru village, as well as the Malangan Mask dance performance in Kedungmonggo village which is held every week. These mask locations and performances are sources of learning and tourism for teenagers, adults, and researchers who visit there. One of the research focuses at the Panji Museum is the Panji Story room in Performing Arts, which includes the Panji mask as an icon of Malang. The Panji mask is displayed in the museum as a learning tool for traditional culture for various groups of visitors. However, the results of observations show that information about the Panji mask on display is very minimal, even without a name label. As a result, the function of the museum as a learning medium is not optimal, and visitors do not get enough information to study further.

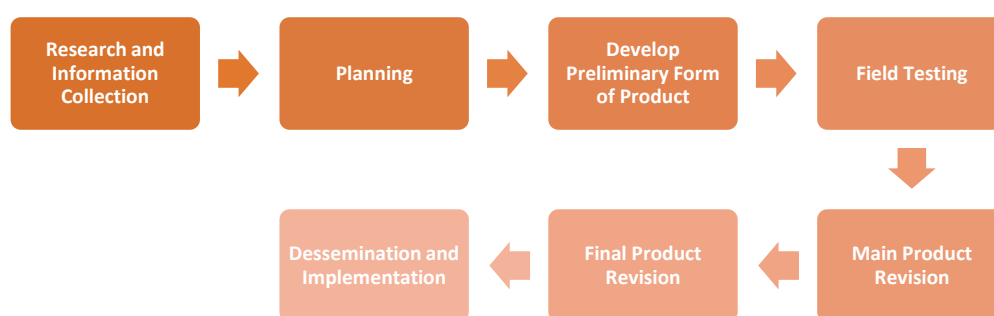
The existence of comprehensive learning resources regarding the Panji Mask Dance Drama in Malang is a momentum for the international community to recognize the existence of the Panji Mask Tourism Village. Although many researchers have visited to research the Panji Mask, the preservation of this cultural asset should be a shared responsibility of all levels of society. Panji culture has many character education values that can be used as life guidelines (Mukti & Lestari, 2021). However, the challenge in the field is the lack of publications related to the Panji Mask Tourism Village tour package. According to the results of observations and interviews with Village Officials and tourism managers, this problem is caused by the lack of

complete tourism facilities and learning media. Therefore, the Panji Mask Tourism Village is only considered an ordinary family tourism vehicle and has not met the standards to become an international tourist destination.

Based on this problem, researchers try to provide a solution, namely a mask infographic using Augmented Reality (AR) technology. AR is a technology that combines the real world with the virtual world in real-time (Alfitriani et al., 2021). The use of AR in introducing the Panji mask is expected to increase public interest in the traditional art of the Panji mask in Malang. The implementation of AR allows clear visualization by users, enhancing their perception and interaction with the real world. With its three main characteristics, namely interactive, real-time, and three-dimensional objects, AR becomes an interactive technology that can be used to introduce cultural heritage objects to the public (Haryani & Triyono, 2017). Previously, AR has been successfully used as an interactive application at the Sangiran Archaeological Museum based on Android and markerless, where objects in the museum's exhibition room were successfully created virtually and ran well (Purnomo et al., 2018). Research by Fenu & Pittarello (2018) found that the use of AR provides a different experience for adults and the elderly. In addition, supporting media in learning the introduction of traditional houses in Indonesia for elementary school students provides an applicable approach through AR visualization (Pramono, 2013).

2. METHODS

The development method used in this study adopts the Borg & Gall development model. The selection of the Borg and Gall development model is based on the suitability of the research steps with the availability of time, funding, and development concepts to be implemented by the researcher. Sukmadinata (2011) explains that in the Borg and Gall development model there are ten steps in implementing Research and Development (RnD) strategies. However, in the context of this study, the number of steps is simplified to 7, considering the limited research time, so it can be described as follows:



3. RESULTS AND DISCUSSION

The researcher presents the core of the Panji story through augmented reality visualization with the aim of providing concise, clear, and quick-to-read information to tourists visiting the Panji Museum. This core story was taken so that visitors can gain an efficient understanding. Infographics is short for Information Graphics, which is a visual representation of data, ideas, information, or knowledge through various elements such as diagrams, graphs, and

schedules, so that the information can be conveyed with more than just text and has a significant and more interesting visual impact (Kurniasih, 2016). This approach aims to stimulate readers' awareness in understanding data, ideas, information, or knowledge more quickly and accurately.

The purposes of making infographics are: 1) To communicate complex messages more simply, 2) To present information more concisely and easily understood, 3) To explain data more easily, and 4) To periodically monitor each change parameter. The infographic visualization of the characters in the Panji story combined with the typical Malang Mask dance costume along with its philosophical meaning can be described as follows:

3.1 Panji Asmorobangun

The Panji Asmoro Bangun Mask is a mask in the Panji Malang Museum. The researcher uses the mask as a markerless marker, so that tourists can immediately scan the original Panji Asmoro Bangun mask in the museum which will then display information that can be read by visitors.



Figure 1. Panji Asmoro Bangun Mask
(Source: Researcher Documentation, 2021)



Figure 2. Malangan Mask Dance Costume, Panji Asmoro Bangun Character
(Source: (Khotimah & Febrianto, n.d.)
www.antaranews.com)

Figures 1 and 2 are the Malangan Mask Dance, equipped with costumes that support the Panji Asmoro Bangun character. The character of the dance using this mask is the basis for the researcher to be displayed as a 2D Panji Asmoro Bangun animation character design. In the display on the cellphone and gadget screen, the Panji Asmoro Bangun character will be seen on the left and the information text is on the right. This was developed based on the principle of graphic design, namely sequence. Sequence is creating priority sections and ordering them from what should be read from the first to what should be read from the back (Alam et al., 2023).



Figure 3. Visualization of Panji Asmoro Bangun Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background screen is made in dark blue to reflect Panji Asmoro Bangun's nature as a great and reliable figure. The choice of dark blue is based on color theory, which symbolizes trust, loyalty, gentleness, greatness, loyalty, and reliability (Wicaksono et al., 2013). This color refers to the representation of Panji Asmoro Bangun, also known as Raden Inu Kertapati, the son of King Lembu Amiluhur of the Jenggala Kingdom who is persistent in fighting for the truth, defending his territory and people, and being loyal to his partner.

3.2 Dewi Sekartaji

Dewi Sekartaji is another name for Galuh Candra Kirana, the daughter of King Lembu Amerdadu of the Panjalu Kingdom, and is the wife of Panji Asmoro Bangun. The infographic visualization of the character Dewi Sekartaji is taken from the original form of the Dewi Sekartaji mask and combined with the Malang mask dance costume.



Figure 4. Mask of Dewi Sekartaji
(Source: Researcher Documentation, 2021)



Figure 5. Costume of Malang Mask Dance Character of Dewi Sekartaji
(Source: (Yoiki_malang, n.d.) www.instagram.com)



Figure 6. Visualization of the Dewi Sekartaji Mask in Augmented Reality (Source: Researcher Documentation, 2023)

The background on the screen is made in dark blue to represent that Goddess Sekartaji is a woman who is steadfast in her stance in any situation. The color dark blue in color theory symbolizes wisdom, strength, friendship, and truth (Wicaksono et al., 2013). In addition, in the background there is a pink Frangipani flower effect flying which represents love and affection. This refers to the embodiment of Goddess Sekartaji that she is a woman full of love who holds fast to the truth and is steadfast in her stance.

3.3 Dewi Ragil Kuning

Dewi Ragil Kuning is the wife of Raden Gunungsari, daughter of King Lembu Amiluhur, and also the younger sister of Panji Asmoro Bangun. The infographic visualization of the Dewi Ragil Kuning Mask is taken from the original form of the Goddess Ragil Kuning mask and combined with the Malangan mask dance costume.



Figure 7. Mask of Dewi Ragil Kuning (Source: Researcher Documentation, 2021)

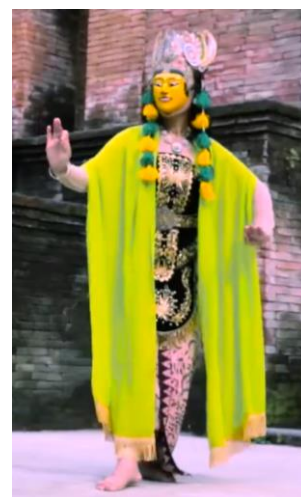


Figure 8. Malangan Mask Dance Costume Character of Dewi Ragil Kuning (Source: (Prasetyo, n.d.) www.youtube.com)

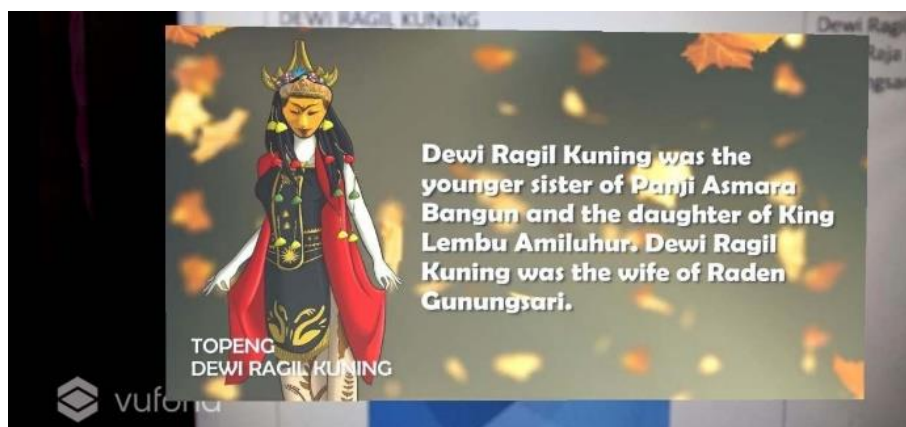


Figure 9. Visualization of Dewi Ragil Kuning Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background on the screen is made in gray to represent that Dewi Ragil Kuning is a person who is full of affection and care for her siblings and family. The color gray in color theory symbolizes intelligence, simplicity and respect (Wicaksono et al., 2013). In addition, in the background there is a golden yellow flying leaf effect. This refers to the embodiment of Dewi Ragil Kuning that she is a symbol of optimism and happiness when Dewi Ragil Kuning encourages Dewi Sekartaji to remain loyal to Panji Asmoro Bangun when she is in a quarrel.

3.4 Raden Gunung Sari

Raden Gunungsari is the brother of Dewi Sekartaji, the son of King Lembu Amerdadu from the Panjalu Kingdom who united Panji Asmoro Bangun with Dewi Sekartaji. The infographic visualization of the Raden Gunungsari Character is taken from the original form of the Raden Gunungsari mask and combined with the Malangan mask dance costume.



Figure 10. Raden Gunung Sari Mask
(Source: Researcher Documentation, 2021)



Figure 11. Malangan Mask Dance Costume
Character Raden Gunung Sari
(Source: (Jeand82, n.d.) www.youtube.com)



Figure 12. Visualization of Raden Gunung Sari Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background on the screen is made gray to represent that Raden Gunung Sari is a person who is full of affection and care for his siblings and family. The color gray in color theory symbolizes intelligence, simplicity and respect (Wicaksono et al., 2013). In addition, in the background there is a golden yellow flying leaf effect. This refers to the embodiment of Raden Gunung Sari that he is a symbol of optimism and happiness when Raden Gunung Sari encourages Panji Asmoro Bangun to remain loyal to Dewi Ragil Kuning when he is in a quarrel.

3.5 Klana Sewandana

Klana Sewandana is the King of the Sabrang Kingdom, the enemy of Panji Asmoro Bangun who wants to marry Dewi Sekartaji by kidnapping her. In the end, Dewi Sekartaji can be saved by Panji Asmoro Bangun. The infographic visualization of the Klana Sewandana Character is taken from the original form of the Klana Sewandana mask and combined with the Malangan mask dance costume..



Figure 13. Klana Sewandana Mask
(Source: Researcher Documentation, 2021)



Figure 14. Malangan Mask Dance Costume
Klana Sewandana Character
(Source: (BEST, n.d.)www.youtube.com)

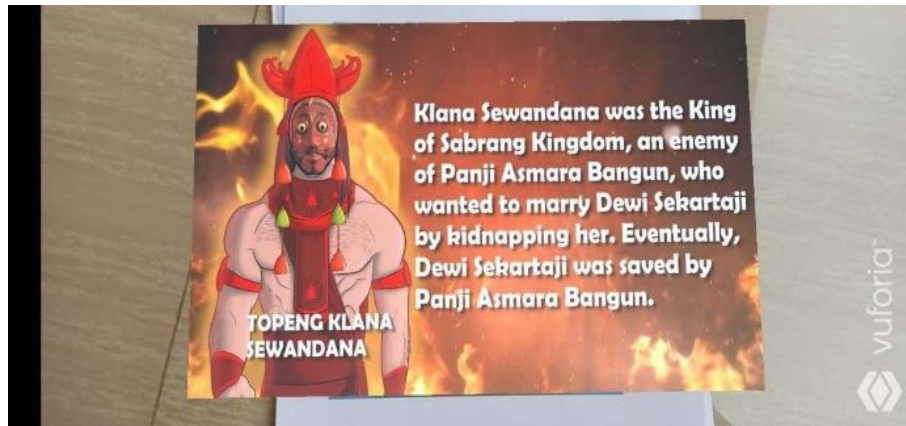


Figure 15. Visualization of Klana Sewandana Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background is made in brownish black to represent that Klana Sewandana is an evil person. The color black in color theory symbolizes regret, anger, death, and fear (Wicaksono et al., 2013). In addition, in the background there is a fire effect that represents anger. This refers to the embodiment of Klana Sewandana that he is a symbol of a human being who in his daily life does evil and is full of greed and fights for something that does not belong to him, such as fighting over Dewi Sekartaji from Panji Asmoro Bangun.

3.6. Bapang Jaya Sentika

Bapang Jaya Sentika is a duke from Banjar Patoman, which is one of the territories of King Klana Sewandana. Bapang is a follower of the Klana Sewandana party, the enemy of Panji Asmoro Bangun. The infographic visualization of the Bapang Jaya Sentiko character is taken from the original form of the Bapang Jaya Sentiko mask in figure 16 and combined with the Malangan mask dance costume.



Figure 16. Bapang Jaya Sentiko Mask
(Source: Researcher Documentation, 2021)



Figure 17. Malangan Mask Dance Costume
Bapang Jaya Sentiko Character
(Source: (Tari Bapang, n.d.) infoutama.github.io)

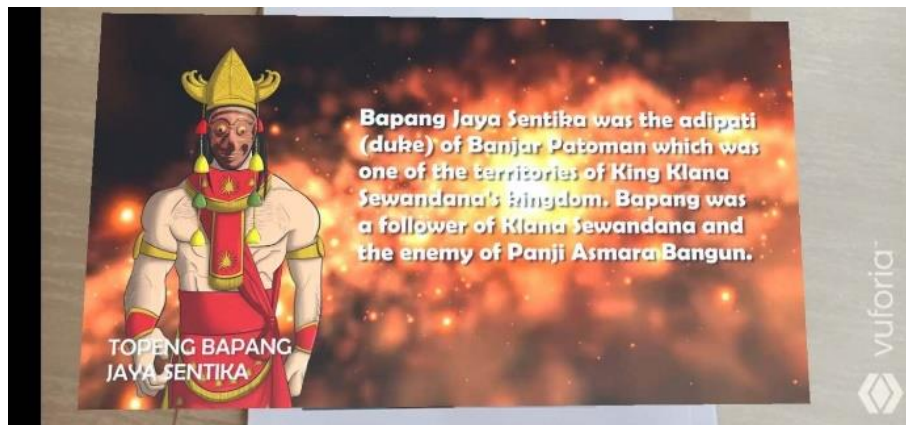


Figure 18. Visualization of Klana Sewandana Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background is colored brownish black to represent that Bapang Jaya Sentiko is an evil figure. In color theory, black symbolizes regret, anger, death, and fear (Wicaksono et al., 2013). In addition, the background also displays the effect of flames that symbolize anger. This depicts the character of Bapang Jaya Sentiko as a symbol of a human who often does evil deeds, is full of greed, and seizes something that does not belong to him, such as when he tried to seize Dewi Sekartaji from Panji Asmoro Bangun to help Klana Sewandana.

3.7 Wanaraseta

Wanaraseto or Anoman is a requirement from Dewi Sekartaji when proposed to by Panji Asmoro Bangun. Panji Asmoro Bangun must be able to present a white-furred sacred monkey to be able to marry Dewi Sekartaji. The infographic visualization of the Wanaraseto Character is taken from the original form of the Wanaraseto mask and combined with the Malangan mask dance costume.



Figure 19. Wanaraseto Mask
(Source: Researcher Documentation, 2021)



Figure 20. Malangan Mask Dance Wanaraseto Character
(Source: (Dwitagama, n.d.)fotodedi.wordpress.com)

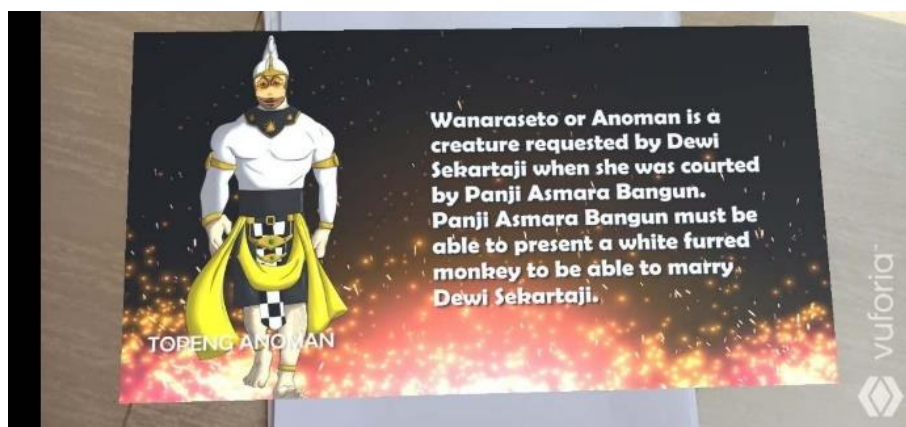


Figure 21. Visualization of the Wanaraseto Mask in Augmented Reality
(Source: Researcher Documentation, 2023)

The background is made brownish black to represent that Wanaraseto is a figure who is difficult to conquer and difficult to obtain. The color black in color theory symbolizes mystery (Wicaksono et al., 2013). In addition, in the background there is a fire effect that represents anger. This refers to the embodiment of Wanaraseto that he is a symbol of a creature whose daily life is full of mystery.

4. CONCLUSION

The Augmented Reality-based Panji Story Mask infographic application displays masks and dance costumes along with their philosophical meanings. Each mask character is depicted with the aim of being a role model for the younger generation in recognizing good and bad traits. The background color and accessories are adjusted to the character of each mask, equipped with interesting and interactive infographics. This application is expected to improve the image of the museum and become a learning medium for students and the general public.

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