

## The Implementation of Augmented Reality Technology Through Trans-Media Strategies in Interactive Art Creation

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### **Abstract**

*In the contemporary art era, artworks are no longer constrained by media limitations. Technological advancements have become tools that enhance artistic expression. Experiments combining traditional art and technology are employed to capture the attention of modern audiences. This artwork employs a practice-based research method using a transmedia approach. Data collection is conducted through observation and literature review. The results of this artistic creation offer two distinct forms and experiences. The first is a two-dimensional painting that is representational, deformative, and symbolic, created using acrylic on canvas. The second is an interactive experience where the painting is combined with augmented reality (AR) technology, accessible via an Instagram filter. This artwork demonstrates that technological progress is not a threat to the art world; rather, it presents an opportunity. Therefore, it is crucial to respond to technological advancements with creativity, contributing to the evolution of art.*

**Keywords:** *Painting, Augmented reality, Transmedia, Interactive art*

### **Introduction**

In today's world, technological advancements have become a key driver of development across various aspects of human life. Technology plays a crucial role in shaping modern society by facilitating communication, increasing production efficiency, and revolutionizing multiple fields. One area significantly influenced by these advancements is the art world. Sustiwati (2021:97) articulates that the integration of physical, digital, and biological realms through new technologies has impacted all disciplines, including the economy, industries, and the arts. As technology evolves, so does art, moving beyond traditional media to explore new possibilities, such as the integration of Augmented Reality (AR) with painting. This convergence offers a platform for greater experimentation and innovation, allowing artists to push the boundaries of conventional art forms.

The development of contemporary art has encouraged artists to think more creatively and overcome the challenges within their craft. Artists are no longer confined to the media they have traditionally mastered but are urged to explore new media that can more effectively express their ideas. The emergence of new media does not render older media obsolete but rather complements them (Supriadi, 2018:87). In this context, combining painting with AR technology provides a space for greater experimentation and creative expression, freeing artists from the constraints of traditional media and allowing them to explore new directions in art.

There is no doubt that technology has opened many opportunities for fostering creativity in the art world. It serves not only as a new medium for artistic expression but also as a tool that offers artists the chance to produce unique, innovative, and fresh works. Technology can act as both a medium and a tool in creating visual art (Yuningsih & Rachmawanti, 2022:77). For example, the use of AR technology in painting not only enhances the visual impact of the artwork but also deepens the engagement between the artwork and the audience, creating a more dynamic and immersive artistic experience.

Moreover, the fusion of art and digital technology enhances audience engagement in the artistic process. By incorporating interactive technologies such as AR into artworks, audiences can actively participate in the experience. This interactive dimension not only allows them to connect more deeply with the artworks but also with the artists behind them. Interactive artworks in exhibitions allow visitors to engage directly, fostering a sense of enjoyment and comfort, as they are no longer passive observers but active participants (Arbiyanti & Artanto, 2010:34). This creates more memorable experiences for the audience and strengthens the communication between artist and viewer, enhancing the aesthetic and emotional significance of the artwork

## Research Method

This research is a form of art creation research, employing a practice-based research method with a trans-media approach. Generally, practice-based research is an investigative method that places artistic practice at the heart of the research process. It involves innovative inquiry aimed at generating new insights, with knowledge derived both from practical engagement and the outcomes of these practices, which may take various forms such as visual representations, musical compositions, designs, prototypes, digital creations, and other forms of presentation such as performances and exhibitions (Guntur, 2016:29). In the context of art creation, this method emphasizes direct experimentation in the art-making process as a means of acquiring new knowledge or deepening the understanding of specific artistic issues.

Fundamentally, practice-based research combines creative practice with critical reflection on that practice. This approach involves conducting original investigations to gain new insights, utilizing both practical engagement and the outcomes that result from such engagement (Candy & Edmonds, 2018:63). The art creation process becomes a systematic inquiry, where artists use artistic practice to explore, experiment, and test specific ideas. In this process, artists not only act as creators but also as researchers, seeking to gain a deeper understanding of the concepts, techniques, and implications of their work. Practice-based research typically involves several stages, including planning artistic experiments, executing artistic practices, reflecting on the process and outcomes, and discussing the findings. These steps help artists better understand their work, the motivations behind it, and its broader implications within the contexts of art and society.

Additionally, the trans-media approach represents a bold step for artists to transcend the boundaries of traditional media. Etymologically, "trans-media" in art refers to the crossing or spanning of various forms or platforms of media. This approach allows an artwork to be experienced through two or more distinct mediums, often combining conventional and digital media. By adopting a trans-media approach, artists aim to create immersive experiences that engage audiences in innovative ways, breaking free from the limitations of single mediums. This approach fosters experimentation and exploration, enabling artists to express their ideas and narratives across different channels, enriching the artistic landscape with diverse and multifaceted creations.

## Discussion

### The Concept

The concept of this art creation is to develop an interactive artwork that merges conventional two-dimensional painting with augmented reality (AR) technology. This piece, created for an experimental project, is inspired by the traditional Indonesian game *dhakon*. The idea was chosen to address the urgent need to preserve this cultural artifact, which is increasingly being forgotten and replaced by digital content, often laden with negative influences. The aim of the work is to reintroduce *dhakon* to the younger generation in a manner that resonates with modern audiences. As Dewi (2022:2) states, new media has become a uniquely positioned form of creative expression, often diverging from traditional practices that engage with media solely for functional or entertainment purposes.

In this artwork, technology-particularly gadgets and social media platforms like Instagram-plays a key role in creating an interactive experience. While the piece critiques the negative aspects of digitalization, it also acknowledges the relevance of electronic devices, digital technologies, and social media in contemporary life. The artist hopes that this approach will gradually reduce the spread of negative content on social media, replacing it with more creative and positive content.

### 1. Visual and Motion Description



Image 1. *Ngunduh Wohing Pakarti* – Panel 1  
Source: Arum Wilis Kartika Ayuningtari, 2023

This artwork draws inspiration from the traditional children's game *dhakon*, a popular game among children in the 1990s and earlier. Beyond evoking nostalgia for childhood,

The work explores deeper thematic elements. The game includes significant terms like *sawah* (rice field) and *lumbung* (granary). The visualization of the artwork depicts children's imagination, portraying them as guardians of the granary, similar to the Javanese dragon figure, which symbolizes protection over the land of Java. This theme connects to the narrative of the *dhakon* game, which has roots in the agrarian sector. The game was traditionally used as an educational tool by farmers to teach their children about the responsibilities of helping with parental duties, such as filling the granary. This is reflected in the cyclical gameplay, where players collect and distribute seeds into *sawah* holes and ultimately place them in the *lumbung*. This clever and thoughtfully designed game is rich in moral values, making it both enjoyable and educational. Nursarofah (2022:41) states that when learning is presented in an engaging manner, much like a game, children are more likely to find pleasure in the learning process. This artwork aims to reintroduce the traditional *dhakon* game to a new generation of children who are gradually forgetting it.

The representation of a farmer's child participating in the harvest is depicted through painting and enhanced with motion animation using augmented reality (AR). The hand movements of the child lifting a farmer carrying rice symbolize the harvesting process. Additionally, the farmer being lifted towards the granary figure above the child's head reinforces this narrative. Further details, such as blinking eyes and the dragon's head movements, are incorporated to enhance the realism and dynamism of the imaginative figures within the artwork.

## 2. Motion Process

The creation of the motion animation for this artwork follows four stages: cutting, layering, rigging, and animation. As previously explained, the AR motion begins with the completion of the traditional painting. This painting is digitized using a digital camera to create a JPEG file. The next step is to separate the objects in the painting (JPEG format) from the background (cutting stage), and crop the parts that will be animated. The background of the painting is digitally repainted using software to remove the objects, creating a clean slate. The objects, having been separated using the Procreate application, are then exported as PNG files.

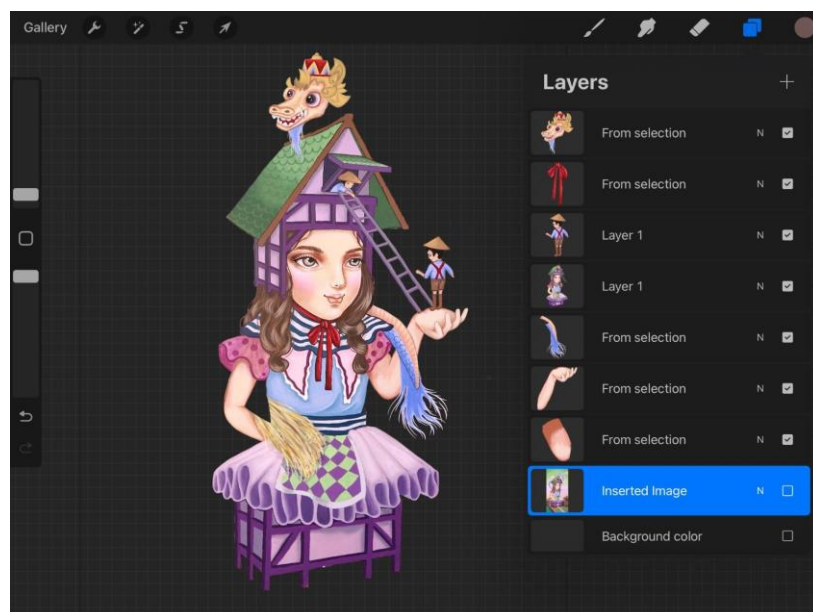


Image 2. Cutting process with Procreate software  
Source: Arum Wilis Kartika Ayuningtari, 2023

The next step involves reassembling the PNG object files into a complete painting using Blender. The layering process is not simply about combining or pasting several image fragments together, but rather about organizing each overlapping layer in a way that, when viewed from the front, it closely resembles the original painting. After layering, the artwork proceeds to the rigging stage, where a framework or skeleton is added to the objects to facilitate animation. Once rigging is completed, the animation is executed based on the concept envisioned by the artist. The result of these processes is saved as a Blender file (.blend).

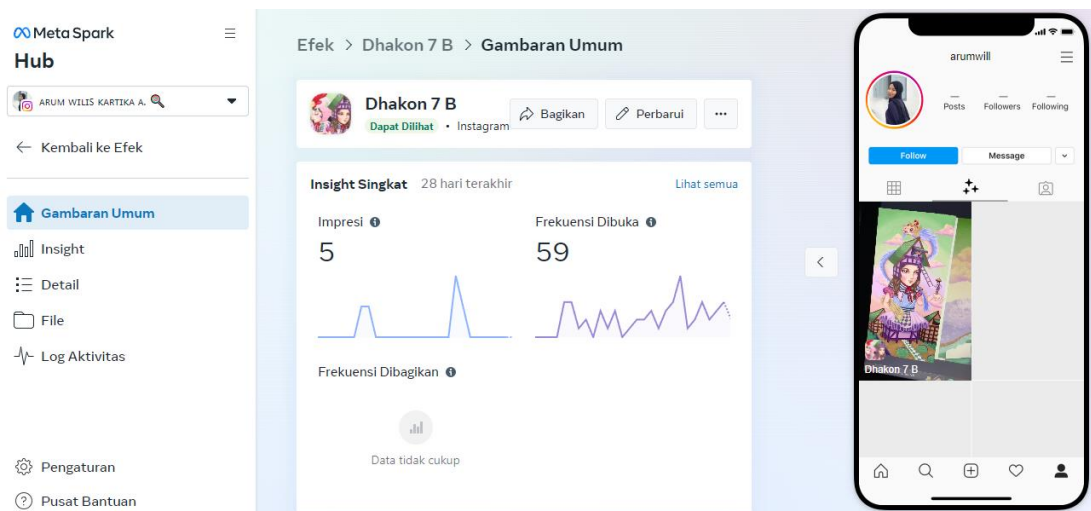


Image 3. The appearance of the filter uploaded on Meta Spark  
Source: Arum Wilis Kartika Ayuningtari, 2023



Image 4. The final result and appearance of the filter  
Source: Arum Wilis Kartika Ayuningtari, 2023

## Conclusion

In the contemporary era, technological advancements have profoundly influenced various aspects of human life, particularly in the field of art. The fusion of Augmented Reality (AR) technology with traditional painting exemplifies how technology can push the boundaries of artistic expression. This integration not only encourages innovative experimentation but also facilitates more dynamic interactions between the artwork and its audience. The evolution of art through technology allows artists to surpass conventional limitations, fostering new forms of creativity and engagement.

Moreover, incorporating AR into artistic practices strengthens the connection between the audience and the artwork. Through digital interactions such as AR filters, viewers can engage with the art in a more immersive and participatory way. This approach enhances the aesthetic experience while fostering a deeper, more intimate communication between the artist and the audience. Ultimately, the integration of technology into art contributes to the cultural landscape by introducing more creative, engaging, and meaningful artistic experiences. Following this, the blend file undergoes a "publishing" process using Meta Spark, which integrates the artwork with an Instagram account. Finally, the AR filter is ready for use on the Instagram app. Audiences can access and interact with the filter through the author's Instagram page.

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