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Analytical Study of Augmented Reality Simulation System Application on Paintings

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Abstract. Augmented reality technology is a revolution of the 21st-century on the other side paintings are a traditional tool of expression. Representation of painting through technology is innovative, effective, and exciting to watch. The use of augmented reality is rising in every sector, and it has changed the perception of paintings in the last few years. As we know paintings are the most beautiful and famous way to express an artist's feelings and thoughts on canvas, and this time art and technology collaborative study gave an extraordinary and unique result. This research paper is about the augmented reality simulation system application on paintings and its communicating presentation. It is an interactive installation art due to the involvement of spectators. Augmented Reality paintings are demanding in the international art market, as artists accepted that augmented reality interferes in fine arts territory. This paper is about the process and analytical study of augmented reality simulations on paintings with conceptual thinking and Its deliberation as a new media art in the international art market.
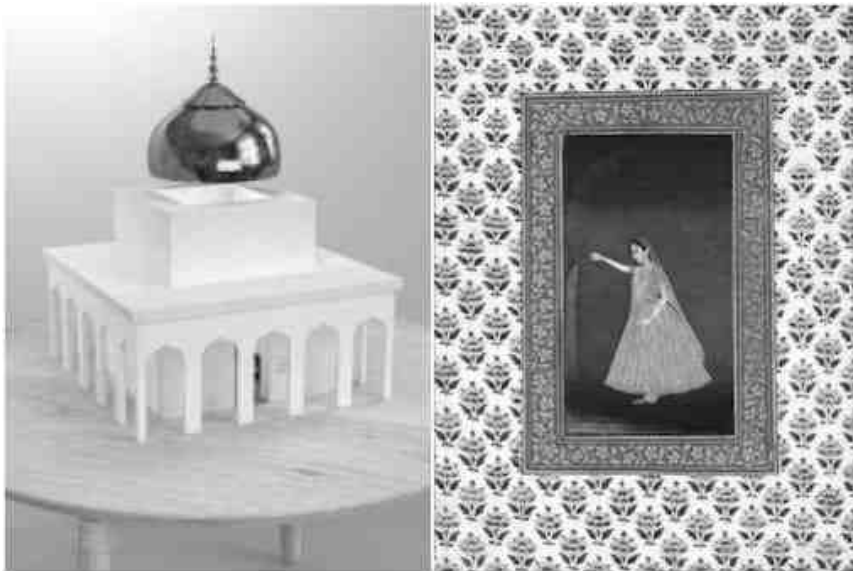
Keywords: Augmented Reality, Augmented Reality Simulation System, Technology, Painting, Fine Arts, International Art Market.

1.   Introduction

Contemporary paintings diameter is increasing gradually and globally with the help of astonishing technologies. Contemporary artists are using augmented reality technology widely in the art sector. Augmented reality paintings are the invention by the technological artist where spectators can see moving objects or characters on the paintings. It can be a celebrating moment for not only a viewer but for a traditional painter also. Traditionally, artists have experimented with various mediums, surfaces, and the mixing of multiple mediums to create paintings, but in recent decades, artists have begun to use digital platforms to create unexpected artworks such as digital paintings, installation art, digital interactive media, new media art, audio-video interactive art, and now augmented reality paintings. In order to produce augmented reality paintings, artists first create a painting on a 2D surface, then digitally transfer it using 3D software, and finally simulate both using augmented reality programmes.

2.   Augment Reality appearance in paintings

Augmented reality is a powerful tool that is utilised in a variety of disciplines such as education, entertainment, medicine, aviation, and many others in today's world, but this application in painting is novel and revolutionary. In India, the emergence of augmented reality technology in artworks appears to have occurred between 2010 and 2014. Numerous traditional and technical artists in India developed an interest in new media art and participated as contemporary artists in many national and international art festivals. Animated paintings are a common term these days. The digital version of Indian miniature paintings developed by Google to highlight rich Indian culture and tradition is the best example of augmented reality painting [1]. Art galleries in Hyderabad, Mumbai, Delhi, and Bengaluru are supporting augmented reality artists and presenting their work around the world. They support and purchase the work of augmented reality artists. These paintings are more collaborative, appealing, and unique than other contemporary art forms, and they are significant as 21st-century media art.

Figure 1 Indian miniature painting digital version

2.1   Related Works

Augmented reality is now a required component of new media art [2]. Several artists are using self-developed techniques and related animated art to create augmented reality paintings. During the pandemic, many art galleries used augmented reality techniques for online exhibitions to engage visitors, buyers, and art enthusiasts. People use augmented reality software to scan the painting and observe the animated figures

and objects on their phones or tablets. The advent of augmented reality paintings, in which artists convey their conceptual ideas using fundamentals of fine arts, is due to the usage of artificial intelligence technology in new ways.

The creation of augmented reality paintings is a typical process in which artist ideas collide with technology as they transition from pencil and paper to AR. Artists use paint materials to paint on paper or canvas, then generate a digitally animated version to emulate with an AR application like "artviva." These artworks are a great example of people's positive and negative thinking levels. Moving visuals throughout the application can be more impactful than fixed images since they allow the viewer to interpret the painting according to their mental shape.

 Examples of augmented reality contemporary artworks include "Priya's Shakti," "Alappuzha," and "Juggernaut." Priya's Shakti is a painted-style conceptual comic series that concerns rape cases, gender-based violence, and sexual harassment situations that are on the rise in society. Priya, which means beloved, is a rape survivor, and Shakti, which means power to substance for a change, is the project's theme [3]. The Blippar programme allows users to see augmented reality street paintings. Mahendra Parshuram Vartak, Niren Vashram Savaniya, and Sham Maruti Jadhav created these life-size paintings on the walls of Dharavi, Mumbai, India. The goddess Durga appears to be perched atop a tiger in an agitated mood after scanning the murals with an AR programme. Priya's shakti website/application offers a digital replica of these murals.

Figure 2 Priya Shakti wall mural

"Alappuzha" is an example of augmented reality art developed by Fabin Rasheed, an artificial intelligence, augmented reality, and virtual reality artist from India. His

contributions to art and technology are well-known around the world. "Alappuzha" is an interactive live generative art piece based on the spectator's conceptual observation during the show. Alappuzha is a southern Indian city with magnificent beaches and farmland. This work of art is a blend of changing locations, times of day, weather, and city seasons. Artist made 1024 different scene images of five key metropolitan places, each with its own time (morning, evening, night, afternoon), season, and time (morning, evening, night, afternoon) (summer, winter, rain, etc.). These illustrations are available for viewing on the artist's website.
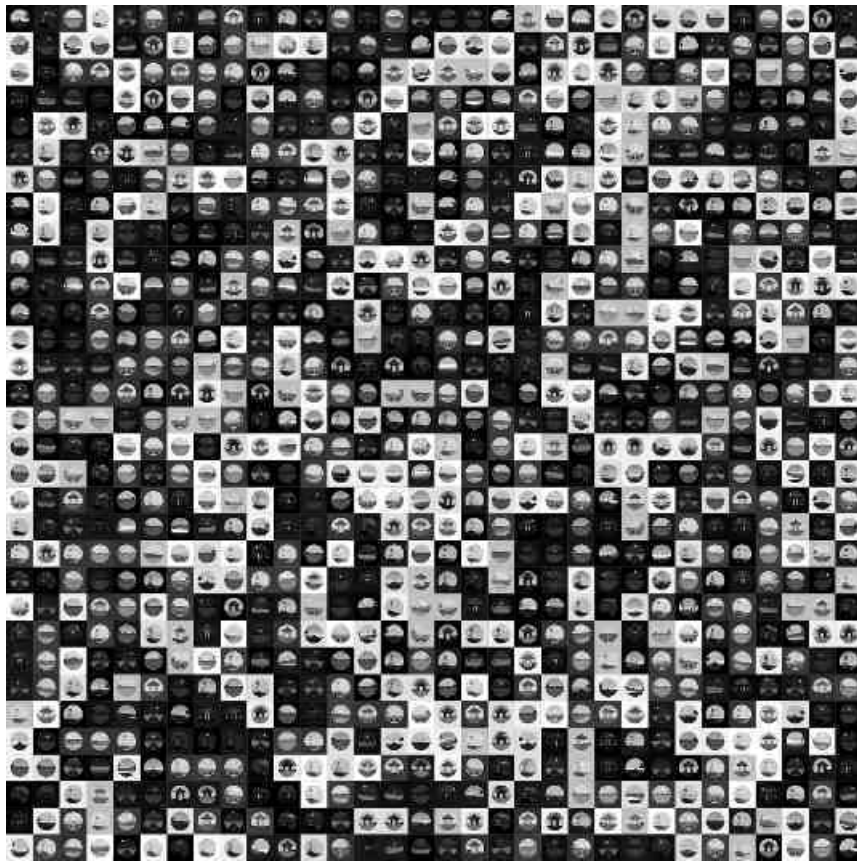
Figure 3 variations of combined illustration into one single generative artwork by Fabin Rasheed

Sahej Rahal's "Juggernaut" paintings are an example of animation simulations generated with an augmented reality application system. According to the artist, "Juggernaut" is corruption at the Jagannath Vishnu temple. Sahej painted paintings of numerous gods with hundreds of arms and animal heads, complicated shapes, disproportionate figures, and amazing appearances akin to superheroes. While

Figure 4 Juggernaut by sahej rahal

observing through an application, elements such as the tail, eyes, hands, and legs are visible moving. That is how alternative civilizations are represented. This artwork is a one-of-a-kind revolutionary work of contemporary art due to its powerful visualisation of shapes, colours, and forms, as well as its use of technology.

3. Conclusion

Digital NFTs and crypto art, a subset of augmented reality art, are becoming increasingly popular among young people and in the art industry. Art, animation, computer science, and artificial intelligence are all used to create this work. Both fine art and technology graduates are interested in learning how to use augmented reality to produce mind-blowing masterpieces; they represent the virtual art world's future. Spectators are drawn to the fascinating artificial world, which encourages them to attend art events all over the world. The audience is awestruck as they enter the artificial world of fiction, truth, fantasy, psychology, good vs evil, and thinking manipulations. On social networking platforms like Instagram, Facebook, Twitter, and LinkedIn, the popularity of augmented reality painting may simply be calculated. Traditional art education and technological knowledge are important components of creating great conceptual content. The popularity of augmented reality art could be a reason for it being the next component of the art in the future, and art academies will most likely include it as a part of visual arts in the near future.

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