

# A Concise Analysis of the Impact That Virtual Reality and Augmented Reality Technology Have Had on Digital Media Art

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## To cite this article:

Jun Dong, Liang Cao. A Concise Analysis of the Impact That Virtual Reality and Augmented Reality Technology Have Had on Digital Media Art. *American Journal of Art and Design*. Vol. 7, No. 4, 2022, pp. 150-155. doi: 10.11648/j.ajad.20220704.17

**Received:** October 17, 2022; **Accepted:** November 8, 2022; **Published:** November 22, 2022

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**Abstract:** Virtual reality (VR) and augmented reality (AR) are two forms of technology that are based on the Internet and may successfully improve people's understanding of various concepts. Emerging as a new field of study, the field of digital media art is focused on the innovative production of content as well as the artistic presentation of works using various forms of modern technology. The technologies of augmented reality and virtual reality are essential components of this. The relationship between the two is symbiotic, Mutual reinforcement, inseparable, Indivisible, Interpenetrating, Blending in, Interaction, Encourage one another. Because of the development of the Internet, technology is now at a point where it is considered to be quite mature. The advent of virtual reality (VR) and augmented reality (AR) has significantly contributed to the enhancement of the digital media art form, providing people with a new way to have a visual experience. And significantly increased the potential customer base for digital products. The expansion of businesses that are directly connected has been encouraged. Additionally, it presents fresh issues for the design of digital media art. As a result, it is essential to do research on the composition of virtual reality and augmented reality artwork. Unavoidable, quickly approaching. There is no room for error at this point. Crucial, impending, this is something that must be prioritized for the growth of the digital media business. The purpose of this article is to investigate the qualities of digital media art that are affected by virtual reality and augmented reality technology, discuss the role they play in the field of digital media art creation; the characteristics, classification and development trend of digital media art, the combination of vr and ar technology, virtual scene production, and examples of virtual reality applications, as well as the effect of these technologies on digital media art.

**Keywords:** VR and AR Technology, Digital Media Art, Impact

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## 1. Introduction

The fields of science and technology in China have been making remarkable progress as of late. The development of the Internet has not only made our daily lives and places of employment more convenient, but it has also given rise to new artistic expressions, raised people's overall living standards, and expanded their spiritual horizons. The introduction of virtual reality (VR) and augmented reality (AR) technologies has, to some extent, liberated artists from the constraints of the conventional art profession. Increase the variety of artistic expression; significantly broaden the

creative ideas of the artist. The expressiveness and influence of artistic works are both elevated as a result. revitalize contemporary aesthetics; Contributed to an increase in the overall worth of the work; Contribution to the advancement of society; Realization of Significant Economic Benefits; Achievement of Outstanding Social Benefits It has a lot of meaning. Both the tendency toward variety in creative expression and the development of mathematical media art were altered as a result of this development. It has encouraged the sustainable growth of China's cultural sector

and promoted the merger of science, technology, innovation, and cultural heritage. The link between virtual reality technology and digital media art design is the subject of investigation in this article. Investigate its potential future development trend and application prospect; anticipate the influence of the combination; consider its advantages, possibilities, and difficulties. A window of opportunity to make a breakthrough in power. When used to creative creativity, including the concepts and ideas of new technologies can create a new path forward for the evolving form of consciousness that digital media represents.

## 2. Digital Media Art

In the context of the internet age, the field of digital media art is a relatively young academic study and emerging market sector. The presentation of many artistic forms, the articulation of philosophical concepts, and the utilization of scientific and technological knowledge are all part of its extensive canon of content. At the same time, it may make the industry more informational and networked, which will lead to an even greater improvement in the quality of life for individuals. Therefore, the digitalization of society's social, economic, and cultural practices is an unavoidable tendency in today's modern world. The most essential factor that is driving this trend is scientific and technological advancement [1]. Both parts contribute to the whole, yet only one is sufficient. Each other in a way that is complimentary. Mutual causation. Connect. It is able to successfully promote the integration of media arts, science, and technology, as well as identify new growth directions in mutual promotion, and it can better fulfill the demands of a broad audience for information resources. While doing so, it also has a number of positive effects on both the economy and society. This time around. There are now specialized fields of art and design for digital media. The birth of this new field is in accordance with the general direction that things are heading in these modern times. to satisfy the preferences of the majority. It offers a wide range of potential development applications. It is something to think about, investigate, explore, discover, innovate, and break new ground with. Because of the emergence and development of the new industry, there is a gradual increase in the demand for talents within the industry. These talents must possess excellent technical ability as well as some artistic appreciation ability. Therefore, a large number of talented people are required in order to promote the overall development of the industry.

## 3. VR and AR Technology

Virtual reality (VR) and augmented reality (AR) are both examples of technologies that have emerged as a result of the rise of the Internet.

The first option is known as virtual reality (VR), which uses computers to generate simulated environments that are meant to seem like real-life settings. Users can have the sensation of being in a real-life setting by using virtual reality (VR), immersive VR, which allows users to connect and engage with

one another via the use of information technology, or augmented reality, which transports users into an actual location. The second type of technology is known as simulation technology. Virtual reality technology is mostly utilized in the gaming business. It has the potential to provide gamers a powerful sense of realism and an immersive experience. The effect of the simulation is much more accurate. Multiple modes of operation; high levels of playability; high levels of interactivity; and high levels of real time. Highly participatory; the encounters are both entertaining and emotional, and they seem more real. For example, virtual reality (VR) games make use of this technology to put the player in the middle of real-life scenes devised by the game's creators [2]. Their settings are more realistic, giving players the opportunity to enjoy the immersive pleasures that significantly boost the amount of fun they get from playing the game. The field of virtual reality (VR) technology includes an essential subfield known as immersive simulation. The outcome is a more original and one-of-a-kind visual impression since it incorporates both the virtual and the actual worlds. The new technology is not yet ready for widespread usage in homes and businesses. There is no rollout that covers everyone. The future seems promising. There is a great deal of work to be done. The possibilities are really vast. The forecast for the market is rather optimistic. Virtual reality (VR) technology has transformed the arts by immersing users in immersive environments, simulating real-world scenarios, and mirroring real-world events. This has made it possible for users to experience new types of art.

The second kind is known as augmented reality, which integrates digital data with the physical environment and provides consumers with an experience that is both immersive and engaging. Again, this refers to the technology of virtual reality, which enables the superimposition of virtual items on actual scenes. Then there is intelligence that is created by machines. Technology based on artificial intelligence makes it possible for humans and machines to communicate with one another. It does this by simulating the text information and 3D modeling that is generated by information technology, and then applying this simulation to real life in such a way that they complement each other and enhance the real world. Some of the techniques that are used to accomplish this include real-time tracking and 3D modeling. The technology of augmented reality (AR) is becoming increasingly relevant in people's day-to-day lives. By continually improving this technology, not only are we able to fulfill the requirements of people in terms of entertainment, but we can also increase the amount of cultural content that we have. Additionally, it could be beneficial to the economy. Therefore, it is well-liked by customers. The future seems promising [3]. The possibilities for development are encouraging. Deserves to be publicized. There is a great deal of work to be done. Imperative. Significantly. At this point, the technology is already being implemented in a variety of settings across the board. For instance, companies will promote the positioning and utilization of furniture in their homes by presenting it to customers using augmented reality technology, which will in

turn give them with an improved purchasing experience. The merging of virtual reality (VR) and augmented reality (AR) technology with real life can provide individuals with a novel experience in their routine lives and allow them to better appreciate the benefits of IT.

## **4. Main Features of Digital Media Art under VR and AR**

### **4.1. Interaction**

The ongoing development of information technology related to the internet not only opens up new avenues for the dissemination and exchange of information but also broadens the channels through which people may communicate and engage with one another on a daily basis. Traditional art forms don't offer participants the chance to engage with one another, which creates a certain barrier between participants and the art. This gap inhibits participants from achieving a higher level of aesthetic value and spiritual delight from the experience. It is vital to use new scientific and technical approaches to the process of artistic production in order to make it more modern. This is necessary in order for artistic creation to better suit the requirements of modern society [4]. The technology behind digital media is an example of one of these new technologies. It instills a feeling of aesthetic appreciation in people. Interaction; amusement; diversity of experience; genuineness; and originality One of the most important characteristics of digital media is its interactivity, which may be adequately compensated by widening the gap between art and people through engagement with experiencers, therefore encouraging deeper integration between individuals and works of art. To produce an interactive design, you need make effective use of digital media. in order to be of greater service to the work of art. It is anticipated that all who are participating may find some inspiration via the use of this technique. With the purpose of advancing and enhancing the arts, it turned out to be a masterpiece in the end. Achieve its worth. The spreading of cultural ideas. Spiritual content improved. In order to stimulate people's interest in art and bring them into closer physical and emotional touch with it, provide them with opportunities to have these experiences.

### **4.2. Virtual Reality**

By imitating the development of real-world settings using digital technology, virtual reality may pique the interest of participants in the experience in the underlying artistic practice. Experiencers are able to simulate the development of people's vision, hearing, and touch in the virtual world thanks to the production of three-dimensional space. This allows them to have actual experiences while they are within the virtual world. However, virtual reality technology is still in its early stages of development, and the breadth of its applications is still relatively limited; hence, the future of virtual reality technology seems promising [5]. Virtual reality technology has seen widespread adoption across

many different industries as a direct result of the ongoing development, maturity, and improvement of computer technology. In the world of movies and television. The technology behind virtual reality offers some very special benefits. Deserves to be investigated in deeper detail. Promotion. The scope of the development opportunity is immense. The future has untold possibilities. For instance, when George Lucas was making the second film in the Star Wars franchise, he employed virtual cameras to generate realistic camera motions on the space station, so bringing spaceships and robots to life. This was accomplished through the use of motion capture technology. The use of virtual reality (VR) technology enables a more intuitive grasp of the resources that the Earth has to offer; Let us better comprehend nature and safeguard ecosystem. There is a great deal of potential for the incorporation of virtual reality technology into film and television production, as well as for the advancement of this field. It will be beneficial to the motion picture and television industries. enhanced effectiveness in terms of the economy. achieving goals related to sustainable development. fostering the advancement of society.

## **5. The Impact of VR and AR on Digital Media Art**

### **5.1. Innovative**

The use of virtual reality (VR) and augmented reality (AR) technology has led to an increase in the popularity of digital media art due to the innovations it incorporates into its form. These innovations allow the artwork to not only be more realistic in its setting, but also provide viewers with an entirely new experience in video and audio. We address the role that augmented reality technology plays in contemporary film and television production, as well as its potential future growth, by examining the impact that AR technology has had on the production of films and television shows. The development of mature virtual reality technology has led to the widespread adoption of augmented reality technology in the creation of films and television shows. Extended. Changing human life. Expand. Making history. blazing new trails into the future. Looking forward. For instance, in *Captain America: Civil War*, the application of AR was a groundbreaking example of imaginative utilization. When Iron Man traveled back in time to meet his parents, only to learn that it was a picture projected through augmented reality eyes based on his own memories, the innovation in the art form provided moviegoers an experience they had never had before and, to some extent, enhanced the film's storyline. People should not only be allowed to experience the joy and effect of science and technology, but they should also be given the opportunity to comprehend the significant significance of science and technology. Within the realm of digital media, the augmented reality (AR) technology has a bright future. It rang true for many people [6]. We should strongly encourage all of

humanity to cooperate in order to move this task ahead and make progress. The Avatar films make use of augmented reality technology, which enables more efficient communication between the films and their audiences. There is potential for interaction between art and digital technology when the two converge. The advent of digital technology has opened up new avenues for artistic expression while also allowing for improved artistic representation. Virtual reality (VR) and augmented reality (AR) serve as the theoretical foundation for "Avatar's" integration of digital media art and VR in a manner that is fairly understated.

### **5.2. Changes in the Art Form**

Because traditional digital media art is overly reliant on image form and has suffered from a lack of creative thought for a considerable amount of time, it is extremely challenging to break through in both the aural and visual domains [7]. This reality has been altered, and a new artistic medium has emerged as a result of the development of virtual reality and augmented reality technologies. The progress of technology has resulted in virtual reality (VR) and augmented reality (AR) technologies becoming ingrained in every facet of our lives and an essential component of our routines. The public's yearning for a better living is not the only thing that virtual reality and augmented reality technologies may fulfill. It also contributes to the advancement of socioeconomic conditions. Raising the bar in terms of culture to make the spiritual world a better place. Enhance the overall quality of life. Increase the scope of your perspective. Increase the scope of your perspective. It is possible to say that virtual reality (VR) and augmented reality (AR) technology has a positive impact on artistic creation because it shifts the focus from traditional image art to the direction of visual art, which enhances the experienter's visual experience overall. This is especially true in terms of the visual realm. The fundamentals of virtual reality (VR) and augmented reality (AR) technology are dissected, after which we investigate the myriad ways in which these technologies might be applied creatively. Investigate how virtual reality and augmented reality technology have influenced the works of many artists. We came to the conclusion that the art form of pictures is two-dimensional, with fixed characteristics that do not provide the observer with a true feeling of what it is like to be there. Virtual reality (VR) and augmented reality (AR) technologies turn static information into dynamic content by creating a three-dimensional space. This gives users the ability to view and engage in all elements of the virtual world, which successfully improves the quality of visual art. The introduction of digital media also enables developers to more freely experiment in many creative forms and channels by allowing them to employ their imagination.

Not only does the utilization of VR and AR technology replicate the actual world, but it also alters the manner in which conventional forms of art are handled. In the mind of the experienter, abstract art forms are solidified when virtual

places are created, and the experienter is assisted in reconstructing the environment in a manner that leads to a greater comprehension of art. Within the realm of digital media, a trend that has recently emerged is virtual reality [8]. The ideal marriage of computer and multimedia technologies is achieved via the creation of virtual reality, which is a product of the evolution of technology in the modern era. It provides viewers with a more genuine experience, albeit one that is virtual. Contributes to a deeper sense of immersion. Better in terms of appeal. Extremely engaging in interaction. High degree of participant input. Make it well known. It has a contagious effect [9]. People's lives are improved by digital media art; it also has novel impacts on people's hearing and eyesight; it broadens people's access to artistic expression; and it plays an essential and positive part in the evolution of digital media art.

### **5.3. Boosting the Industry**

The field of digital media art cannot see expansion without accompanying developments in information technology. The development of virtual reality and augmented reality technologies has bolstered the visual arts, providing individuals with a more visually satisfying experience, and paving the way for new developments in a variety of different industries, including advertising design. The advancement of science and technology has led to widespread adoption of virtual reality technology throughout all spheres of society, which in turn has had an effect on conventional business sectors to a certain extent. The combination of virtual reality and augmented reality technologies has the potential to bring a variety of material to life [10]. The audience will benefit from enhanced visual and acoustic effects. Raise the level of interest in it. a greater degree of interaction. Increase the spread of information. Grow your sphere of influence. Advertising and promotion of sales Awareness of the brand People who work in advertising, for example, have the ability to incorporate augmented reality technology into advertising, bringing the features and benefits of products to consumers through augmented reality applications [11]. People who work in architectural design also have the ability to apply VR and augmented reality technology in order to improve the aesthetic value of buildings. Achieve higher commercial value. Virtual reality is a novel technology that incorporates features that are immersive and interactive. These qualities allow users to experience scenes and environments as if they were really happening, hence providing true visual and tactile input. The structure of the building, together with its data, will be predetermined with the use of computer technology, which will lend the design works an air that is more cutting-edge and scientific. Innovate. in order to fulfill the ever-increasing cultural and material requirements of the people. A novel approach to the display of digital information is known as virtual reality (VR). It does this by using computers to imitate human sensory experiences and the settings of the actual world. in order to accomplish interactive immersion. rather than being completely submerged. Feel genuine life. Productivity levels have improved. Lessen the ferocity of the

job. Consequently, virtual reality and augmented reality technology have the potential to successfully promote the growth of many businesses.

#### **5.4. Impact on the Design of Digital Games**

The video game business has the potential to reach the stage of development just as the use of the internet becomes more widespread in our nation. The main internet businesses started hiring experienced gamers and developers, which allowed them to swiftly take control of the gaming sector [12]. As a result of the fact that our nation's degree of economic growth had not yet reached its current level, the human cost was smaller. The expansion of the gaming business, which now includes everything from pixel games to word games, was helped along by the fact that many overseas game producers outsourced the manufacturing of games to gaming firms located in our country. It seems to reason that when people's overall quality of life rises, their interest in playing games will also rise. The video game industry in our country has made significant strides forward in recent years; however, there are still some issues to be resolved, including the following: the game content is too repetitive; there is a lack of innovation, and other issues like these impede the industry's ability to continue to advance. The introduction of virtual reality and augmented reality technologies altered the world and ushered in both new possibilities and new problems. The advent of virtual reality (VR) and augmented reality (AR) technologies has opened up an entirely new sector for gaming. The usual two-dimensional game has been transformed into a three-dimensional experience thanks to VR technology [13]. The virtual reality (VR) technology used in China's gaming business is still in its infancy at the moment. Therefore, we need to include virtual reality technology into the game in order to give it a fresh start. The incorporation of VR technology into the game has the potential to increase overall enjoyment and therefore the number of players. The potential here is enormous for those who create video games. The virtual reality technology is another useful tool. It may be immersive, entertaining, interactive, or any combination of these and other types of activities. In numerous games in various nations, virtual reality (VR) technology has been implemented, which has effectively improved both the playability and entertainment value of games. Players are able to feel the thrill and excitement of the game, as well as a more realistic gaming experience and more immersive gaming environment, all of which are designed to fulfill the demand for games that exists among the general population.

#### **5.5. Impact on Digital Film Production**

The adoption of virtual reality (VR) and augmented reality (AR) technologies has increased across various industries due to its ability to boost both productivity and output quality. The creation of movies and television shows has long made use of virtual reality and augmented reality technology. It also contributes to the overall artistic appeal of the movie. Therefore, virtual reality and augmented reality technology

has emerged as one of the most sought-after film and video technologies. Both an incredible opportunity and a formidable obstacle is before the film business right now. Its benefits are readily apparent, and they merit our consideration, investigation, and efforts to popularize, reference, and utilize it. Virtual reality (VR) and augmented reality (AR) technologies, for example, are employed extensively in all American films, which genuinely showcase for spectators a rich sci-fi universe [14]. The audience is able to become more immersed in the science fiction world during the viewing process thanks to the use of technology. This makes the scenes more shocking and the famous scenes more deeply felt, which is a big reason why the series has been able to garner countless positive reviews all over the world. There are a variety of economic and cultural elements that have, to a certain extent, been a hindrance to China's film industry. As a result, our government came up with the plan of action known as "Internet Plus," which aims to forcefully promote the industrialization of digital cinema and television. Enhanced market competitiveness; Enhanced economic efficiency; Enhanced social benefits; Enhanced commercial value; Broadened market possibilities and successful promotion of the growth of digital film production are all potential outcomes of this initiative. There is no lack of films in China that have experienced a twofold success at the box office, despite the fact that the growth of science fiction cinema in China is still in its infancy at the current time. One example of such a picture is "Wandering Earth." We are of the opinion that the creation of movies and television shows may also benefit from the ongoing development of new applications for virtual reality and augmented reality technologies [15].

## **6. Conclusion**

All things considered, the introduction of the Internet has made possible a whole new world of applications for virtual reality and augmented reality technology. These technologies have the potential to boost innovation in the digital media industry, transform traditional art forms, and combine virtual reality and computer graphics. At the same time, VR and AR technologies provide fresh opportunities for the development of digital media in the future. to be of more assistance to individuals in the productive aspects of their life. It can potentially compete in a variety of different markets. Bring enormous advantages to the economy as well as to society, as well as propagation, influence, radioactivity, permeability, and infectivity. The video game business, along with cinema and television production, are all positively impacted as a result, which is beneficial to the progression of human civilisation. Not only has technology altered the method in which we acquire knowledge, but it has also significantly improved the quality of our spiritual environment and made it much simpler for individuals to have access to a wide variety of novel experiences. Capture the attention of the public, cater to the requirements of the populace, incite a desire for more spending, broaden the scope of the consumer market, and propel the expansion of the economy. To encourage the

production of a significant number of exceptional works of art while simultaneously encouraging the ongoing growth of digital media.

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