



Emerging Techniques of Fusion and Amalgamation in the New Age Media Art Forms

VIDUSHI NEGI,

Department of Media Mass Communication, Graphic Era Hill University,
Dehradun, Uttarakhand, India 248002,

Abstract

As time and technology progress, the role of virtual reality technologies as a cutting-edge innovation becomes more pervasive and consequential in every facet of modern life. The swift growth of digital new media technologies and the gradual development of a diversified media pattern have allowed for the emergence of virtual reality technology, which uses three-dimensional graphics generation, multisensing interaction, and excellent quality display technology to create a convincing digital simulation of the real world. Entering the virtual world calls for the use of a specialised interaction gadget. This is cutting-edge IT that is finding widespread use in key areas of contemporary media production. In order to encourage the development of VR creation technology, this article presents a number of digital media.

Keywords— development, science and technology, virtual reality technology.

DOI Number: 10.48047/nq.2019.17.06.2443 **NeuroQuantology 2019;17(06):188-195**

Introduction:

Using cutting-edge scientific technology, virtual reality immerses users in a synthetic setting that stimulates all of their senses. Dedicated inputs and outputs allow users to seamlessly transition between the virtual world and their everyday lives. The most notable characteristics of VR technology are those. The use of virtual reality software is a cutting-edge innovation that has already found several applications. This new

technology has not arrived late. A prototype of virtual reality equipment has existed for roughly half a century: two rectangular shows that can be collapsed on the eye of a person, managing the control through certain tool control, the human eye sees what's on the screen of the show, generating the body's feelings, having bodily contact with the alteration or movement of what is displayed in the monitor, and following changes or moving. Oculus revealed their virtual



reality helmet display to the public a few years ago, and the company has since steadily gained prominence in the digital media landscape.

Immersion: By fully submerging themselves in the simulated environment, users are said to be "immersed" in the experience. Virtual reality may provide varying degrees of immersion, from minimal to total. Desktop virtual reality software, for example, provides a semi-immersive virtual reality experience in which the viewer feels not just the influence of the virtual scene but also the impact of the actual world. With the use of VR technology, the user may join a wholly fabricated virtual world and act out a scenario unaffected by real-world factors. All of these methods may provide consumers varying degrees of immersion, but they share the need for additional hardware.

Interactivity: Because of its emphasis on interaction, virtual reality technology has the potential to quickly gain widespread market adoption; the technology's technical features allow for interaction with users to form gives and dialogue, creating a realistic scene by mimicking real-world settings and influencing user behaviour.

Imagination: When it comes to imagining the worlds of the future, the unknown, and the ideal, virtual reality technology offers a more conducive "play space" for designers or users. For instance, the virtual world allows the character designer to bring the characters' visual design to life, while the virtual world allows the scene designer to replicate the simulated environment. Fans may create their own

eISSN1303-5150

designs in whatever way they see fit. Incorporating technology and cutting-edge technical tools with classical painting, modern art, art layout, dance, and cinema, the internet art is an all-encompassing art course. Create scientific artwork by including a variety of disciplines and making sure they all work together. Tech is a noun if we refer to it as a "tool," which is a common phrase. Everything has an explanation, and that explanation is found inside itself. The "Tao" is the "Tao," and it should be respected in all works of art. Digital media art is a new branch of creative expression made possible by the science and technology of virtual reality. The fundamental rules of artistic production are separate from their basic laws of artistic production and the aesthetic achievement of the makers of art, no matter how much technology and science are included into the creative process. It is essential to listen to one's inner "Tao" and build one's own "tools" while doing digital media art. New life has been breathed into the art of digital media by the proliferation and improvement of VR technology. Trendy sound art, real-time conversation, dynamic games, electronic sculpting, networked equipment, and experimental imagery connected to digital technology are just a few examples of the numerous new art forms that have emerged in recent years.

Literature Review: Digital Media Art Creations made Convenient

While many other technologies have been used to create virtual reality experiences, QuickTime VR has emerged as the frontrunner. On the microcomputer platform, QuickTime VR is the leading



virtual reality solution for still pictures. Observers may enjoy a fully immersive 360-degree environment, as well as a panoramic view of a three-dimensional graphic picture, all from the comfort of a flat observation platform. The same technology used in QuickTime VR provides a satisfying experience in addition to a high-quality rendering of 3D settings and objects. On the other hand, its editing features are both user-friendly and very effective. Under QTVR virtual reality equipment, contemporary media and participants are more dynamic, and the viewer may control the playback process and engage in the play's content, as well as be based on the play's players. It has to be flexible at all times to accommodate a wide variety of uses.

Input devices like cameras and SLRs are only the beginning; with QuickTime VR, almost any digital input device may be used in tandem with the input. Viewers may freely edit, level, and edit different photographs and films on the camera by feeding them into the Divx VR plug-in, for instance. The ability to link together many still images into a moving picture is a novel feature. By tying together disparate elements of an image, you may make its expression more fluid, enhancing not just the viewer's impression of the picture but also the narrative it tells. Moreno is meant to make readers think about how museums have evolved in the digital era. The artist's authority is weakened in works created using new media, and the audience takes on the role of active participant in the creative process. Ceranoglu explores prospects for public health actions by advocacy organisations

and the online media sector, in addition to discussing crucial interventions for families and physicians to aid adolescents who are reliant on digital media. Chan et al.'s [9] research aimed to clarify how multimedia technologies may support inmates' rehabilitative efforts behind bars.

Flexibility of Digital Media Art Creations More Flexible

Virtual reality technology allows for a greater range of expression in the arts than was before possible. Virtual space ideas like TILT Brush virtual reality (VR) [10], for example, have been used by various artists as virtual reality and augmented reality technologies have developed. It blends the use of a pen and paper with the modern technology of 3D modelling on a computer. Cherker may use VR technologies to directly execute virtual forms. Tilt Brush is a programme used to create 3D illustrations in a digital environment. Headers, envelopes, and free-standing machinery [11] are some of the tools used. Using the creator's own mobile device, Cherker is built in the virtual world according to the designer's own ideas. It's easy to express, and some even call it a creative method of expression. Artists may analyse and enjoy their own work in virtual places since they were born there. This creative approach of making art not only affords the artists more leeway and engagement, but also provides them with new insights and insights from others. Google's first augmented reality art show in San Francisco features paintings produced using Tilt Brush VR. More can be made in animation thanks to this technology,



which improves the depth of emotion in both characters and scenes [12].

Digital Media Art Creations Made Expense Free

Virtual reality technology allows for more flexibility and playfulness in the design of stereo space. Architects using the XRTISAN [13] technique may "build" homes in virtual space without ever leaving the computer. The designer may adjust the virtual object's dimensions and height with the press of a button on a mobile device, as well as add or remove materials for the object's convenience. The designer may work entirely in virtual reality to get the most lifelike results. As a result of using this method, designers may get more done in less time without sacrificing quality. The designer, clad in an external gear helmet, may stroll through the house's renovation as if really present there. HoloStudio is similar to other programmes, in that it allows users to execute 3D modelling in the virtual world in response to user gestures, to which they may then apply materials and colour. Using a 3D printer to produce the final product is a more cutting-edge option [16].

Programmes with a similar focus might also be found. Scholarships for using one's quill in the area of cinema and television production; activities include collaborative scriptwriting, the development of film concepts, and the creation of artwork for feature films. This programme improves upon traditional linear editing methods by adding a temporal component to the painting process.

These are Morgan Rauscher 2's most recent works. Robots, a kind of artificial

eISSN1303-5150

intelligence, are expertly used in this interactive artwork [18]. To create this 32 "face" to respond to passive consumers [19], the exhibition has 32 faces made from customised acrylic materials and controlled by a computer. Gallery and look, watching then gazing, watching then gazing, watching then watching, surviving in a certain place [20] inspired the author to consider this kind of human-machine interaction challenge.

Input Mode Research

Digital interaction artists now rely heavily on "machine" research as their primary method of inspiration [21]. To express themselves in their own computer art language [22], the writers have a firm grip of the necessary abilities and application know-how. Because of the complexity of the technological considerations inherent in computer interaction art, the capacity to create cold-ice-ice machine unique expressions of cultural spirit is challenging. The following elements fall within this category.

Australian-born new media designer Jeffrey Sauore 1 (whose work includes "the Legible City") fits this description. To measure the speed of the pedal bearing and input that information digitally, Jeffrey attached the sensor to the bearing. The spectators take a seat atop the bike, while they steer using the steering wheel, set their pace with the foot pedal, and cycle around a simulated metropolis. While the streetscape itself is a computer-generated three-dimensional text model, the audience engages in a physical riding motion in the actual world. You, the viewer, may choose your own pace and swim in any direction through this 3D



word labyrinth. The author envisions a scenario in which readers may wander around a virtual setting and choose which tale about these structures to read. This experience is reminiscent of the development of interactive media in the 1990s.

The early interactive art gadget "hallucination" by American digital creator Jim Campbell is exemplary of this trend. A camera captures the full screen as it is seen by the viewer as it happens, and the audience may see the recording on the 50-inch backpoint TV. In response to audience participation, the image's audience suddenly pulls out flames to complement the "ZIZI" burning, giving onlookers a sense of both reality and fantasy. Viewers on the other side of the screen may see the bears' aggression firsthand, and this enchantment will transport them to the world of a combative master featured in China's martial arts literature. This study uses the camera to record external visual signals and serves as an early example of machine vision technology. In machine vision, the target is identified using the frame difference technique of the universal picture sequence. As long provided the audience is able to distinguish between the two frames, this viewer will be able to tell which parts of the first and second frames belong to which parts of the sequence. The spectators are sitting here. In the midst of the action, the artist uses a wide range of creative methods, including the enhancement of a number of simulation effects, to convey the author's thoughts and feelings.

Digital Media and Artistic Creation under

eISSN1303-5150

Virtual Reality Technology

The rules of interaction are a collection of directive statements that govern how the work is to be experienced by its viewers or users. The ultimate display state of the work is determined by any interaction from the audience or collaborators within the allowable range of the guidelines. The ideal state's interaction process may be compared to the butterfly phenomenon in chaos theory. This effect demonstrates how sensitively the outcome of a process is dependent on its beginning circumstances, and how even a tiny change in the original conditions may have far-reaching consequences. The aforementioned idea also illustrates that after engaging with digital interactive artwork, audiences aspire to generate effects that match to their level of engagement, if not unexpected random ones. If the ending is too obvious, it will bore the viewers. Works' capacity to inspire involvement and engagement is drastically diminished.

Art creation techniques, as part of the broader umbrella notion of creative processes, include everything from an artist's first idea to the final output, from topic selection to execution. The creative process is strongly impacted by the artist's perspective and aesthetic attitude. The works of certain artists are predicated on the artist's subjective spiritual experiences, while the works of others are predicated on objective realities. Artists primarily address the issue of the connection between form and content when they choose certain ways of art production in accordance with their own perspective and creative philosophy.



Different artists use unique perspectives and perspectives to present the same subject matter information. It happens often throughout art history. Examples are the paintings of Ingres (a neoclassical painter) and Delacroix (a romantic painter) on the subject of "Hero Perseus rescues Andalomedea," with Goya (a Spanish painter) expressing their dissent. In a fit of rage, the French occupiers brutally put an end to the Spanish patriots. They employed romantic techniques for "The Devil Satan Eats the Son of Mankind" and realistic techniques for "The Shot on May 3, 1808."

For the former, an interface design model often entails three different types of models: the designer model, the implementor model, and the user model. The designer's objective is to create a model that is as near to the user's as feasible, but this process is missing from the technology-centric creative model, which is also susceptible to technological limitations.

The end outcome is skewed in favour of the person doing the implementing. It's possible that the model merely accounts for the technical information and leaves out the users' and viewers' mental models.

Human Centered User Models

User models are given greater consideration in human-centered design. When a person uses an interactive system, their subconscious mind creates a mental picture of it called a "user model." Normally, the impressive visual effects and cutting-edge interaction techniques will mask a massive user model. People have a hard time describing their own user

models, and in many instances they aren't even conscious of their own existence, according to Norman, who thinks that user modelling are tied to a person's experience, expertise, and cognitive level. User expectations and knowledge about the system's features, objects, and methods of providing feedback during interaction, as well as the user's desired outcomes from such interactions, form the basis of the user model. While the study of user models is hampered by the fact that each user's perspective will be somewhat different due to their unique set of experiences, the user model remains valuable as a framework for analysing, comprehending, and assessing user behaviour. Different users should be able to engage in predictable and intuitive ways from their own unique viewpoints, according to the principles of interaction design. Therefore, the user's knowledge and comfort with interactive actions will increase in proportion to the degree to which the designer model resembles the user model.

The central idea behind the waterfall framework is to divide the logical realisation from the physical realisation using a structured analysis as well as design method in order to simplify the issue according to the procedure and allow for easier division of labour and cooperation. Each new phase of development is predicated on the successful conclusion of the preceding phase, and the outcomes of the previous phase should be verified before moving on to the next job through testing and assessment. Everything appears wonderful, but after some reflection,



many creatives may wonder whether the process of growth and creativity is too simplistic. Because it's impossible to divide the process into discrete steps, every creative endeavour can be roughly divided into two phases: design and construction execution. The former begins once the requirements have been established and the latter begins once the design is complete and continues until the work or product is finished. During the production phase, especially at the outset of the creative process, the artist may have just a broad sense of purpose and no concrete plans, much less a thorough understanding of the market's needs. That's why the waterfall model's participatory production process is so excellent. Optimising the waterfall model in the actual production process requires a more realistic and powerful model approach.

Creation and Realization Methods of Application

The characteristics of the spiral model itself are as follows: how to apply this model to digital interactive art creation and ensure that this method really promotes the creation of works. The biggest feature of the spiral model is that it introduces risk analysis that other models do not have, so that the software has the opportunity to stop when major risks cannot be excluded to reduce losses. One of the ways to answer this type of question is to use examples. Successful works can usually help understand the use of models and thus serve as examples for future works creation.

Conclusion

There is greater variety and depth of imagination in works of digital media art made possible by VR technology. The door to a new universe has been opened for producers and users thanks to the increased expressive capacity and more stunning visual effects. There are benefits to using virtual reality technology, which is still very new. The creative reform of artistic production may be realised when it is applied to the creation of works in digital media, making up for the deficiencies of conventional creation. To better aid the digital media creation industry and the people who work in it, artists need to adopt a realistic perspective on VR, innovate and upgrade VR's practical implementation, and fully exploit VR's benefits. By satisfying the general public's expectations for works of art in digital media, works of higher quality contribute to the growth of the online media business throughout time. Digital media art is growing more varied in its forms, genres, and varieties as a result of virtual reality technology. Virtual reality technology has made it possible for non-professionals to make works of digital media art. Creating works of art in digital media with VR technology may be a stimulating and instructive experience for its participants.

References

1. A. Bentkowska-Kafel, *Digital Visual Culture: Theory and Practice (Computers and the History of Art)*, Chicago University Press, 2009.
2. A. D. Norman, *The Design of Everyday Things*, Doubleday/Currency, New York.
3. B. Wands, *Art of the Digital Age*, Thames &Huson, New York, 2007.



4. Bentkowska-Kafel, *Digital Art History* 16. P. Christiane, *Digital Art*, Thames & Huson
Computers and the History of Art, Chicago (World of Art), New York, 2008.
University Press, 2005.
5. C. Paul, "New media in the white cube and beyond: curatorial models for digital art," *Leonardo Reviews Quarterly*, vol. 1, no. 2010, p. 33, 2008.
6. D. M. I. Lopes, *A Philosophy of Computer Art*, Routledge, 2010.
7. H. Kessler, L. Dangellia, S. Herpertz, and A. Kehyayan, "Digitalemedien in der psychotherapie – neueansätze und perspektiven in der behandlung von traumafolgestörungen," *PPmP- Psychotherapie-PsychosomatikMedizinisch ePsychologie*, vol. 70, no. 9/10, pp. 371-21. 377, 2020.
8. J. Blais and J. Ippolito, *At the Edge of Art*, Thames &Huson, 2006.
9. J. Chan, J. Yeung, N. Wong, R. Tan, and N. Musa, "Utilising digital media as enabling technologies for effective correctional rehabilitation," *Safer Communities*, vol. 18, no. 1, pp. 30–40, 2019.
10. L. Candy and Z. Bilda, "Understanding and evaluating creativity," in *Proceedings of the 6th ACM SIGCHI Conference on Creativity & Cognition*, pp. 303-304, Washington, DC, USA, 2009.
11. L. Moreno, "Museums and digital era: preserving art through databases," *Collection Building*, vol. 38, no. 4, pp. 89–93, 2019.
12. M. Banzi, *Getting started with Arduino*, O'Reilly media, 2009.
13. M. Lovejoy and D. Currents, *Art in the Electronic Age*, Routledge, 2004.
14. M. Rush, *New Media in Art*, Thames &Huson (World of Art), New York, 2005.
15. M. Tribe and R. Jana, *New Media Art*, Taschen GmbH, 2006.
17. R. Colson, *The fundamentals of digital art*, Bloomsbury Publishing, 2007.
18. S. K. Card, T. P. Moran, and A. Newell, *The Psychology of Human-Computer Interaction*, Lawrence Erlbaum Associates, Hillsdale, NJ, 1983.
19. S. Poole, "Trigger Happy: Videogames and the Entertainment revolution," *Arcade Publishing*, vol. 29, p. 226, 2000.
20. S. Wilson, *Art Science Now: How Scientific Research and Technological Innovation Are Becoming Key to 21st-Century Aesthetics*, Thames & Hudson, 2010.
21. T. A. Ceranoglu, "Inattention to problematic media use habits: interaction between digital media use and attention-deficit/hyperactivity disorder," *Child and Adolescent Psychiatric Clinics of North America*, vol. 27, no. 2, pp. 183–191, 2018.
22. X. Wang, L. Gao, and S. Mao, "CSI phase fingerprinting for indoor localization with a deep learning approach," *IEEE Internet of Things Journal*, vol. 3, no. 6, pp. 1113–1123, 2016.
23. W. Lieser, *The world of digital art*, Ullmann Publishing, 2010.
24. X. X. Zhu, D. Tuia, and L. Mou, "Deep learning in remote sensing: a comprehensive review and list of resources," *IEEE Geoscience & Remote Sensing Magazine*, vol. 5, no. 4, pp. 8–36, 2017.
25. Y. Li, "Application of virtual reality technology in digital media art creation," *International Conference on Cognitive based Information Processing and Applications (CIPA 2021)*, Springer, Singapore, vol. 85, pp. 820–825, 2022.

