
AI translation · View original & related papers at
chinaxiv.org/items/chinaxiv-202310.01094

On the Relationship Between New Media Art and Technology (Postprint)

Authors: Yin Yixing, Zhang Zhennan, Song Yihui ³

Date: 2023-10-08T00:00:00+00:00

Abstract

The continuous development and iteration of new media technology compels various industries to seek integration with it while maintaining their own platform advantages, thereby achieving sustainable development and institutional transformation. Technological advancements in new media technology in areas such as information transmission, real-time broadcasting, and big data cloud computing provide technical assistance to numerous industries and fulfill their needs for industrial upgrading. New media art and technology are increasingly integrated into people's daily lives, delivering visual and auditory feasts through diverse expressive modalities such as somatosensory interaction, digital projection, virtual simulation, and augmented reality. Based on this, this paper discusses the application of new media art and technology in visual representation, exploring a new chapter for new media art and technology in visual expression.

Full Text

On the Relationship Between New Media Art and Technology

Yin Yixing¹, **Zhang Zhennan**², **Song Yihui**³ ¹ Nan Guang College, Communication University of China, Nanjing, Jiangsu 211100 ² Zhejiang University of Media and Communications, Tongxiang, Zhejiang 314500 ³ Changchun Normal University, Changchun, Jilin 130031

Abstract: The continuous development and iteration of new media technology compels all industries to seek integration with it while maintaining their own platform advantages, aiming to achieve sustained development and institutional transformation. Technological progress in information transmission, live broadcasting, and big data cloud computing provides technical assistance to numerous industries and meets their needs for industrial upgrading. New media art and technology are increasingly integrated into people's lives, delivering visual and

auditory feasts through diverse expressive forms such as somatosensory interaction, digital projection, virtual simulation, and augmented reality. Based on this context, this article discusses the application of new media art and technology in visual expression, exploring a new chapter for visual expression in this field.

Keywords: New Media; Art and Technology; Integration; Digital Media

Classification: G206 **Document Code:** A **Article ID:** 1671-0134(2021)05-046-03

DOI: 10.19483/j.cnki.11-4653/n.2021.05.013

Citation Format: Yin Yixing, Zhang Zhennan, Song Yihui. On the Relationship Between New Media Art and Technology[J]. China Media Technology, 2021(05): 46-48.

In today's era of rapid scientific and technological advancement, digital media technology will enjoy increasingly broad development space and expanding application fields. However, it will not completely replace older media technologies and forms. Instead, it will assume a new identity in modern society where learning and daily life are inseparable from digital technology—especially for art students who must master information technology proficiently to express their artistic ideas.[1] For majors in new media art and technology, the level of information technology mastery not only affects their artistic creation but also shapes their future development. As new media integrates with multiple industries in modern life, it jointly promotes social progress. This paper explores the basic theories of new media art and technology and their application in visual expression, examining how to seize the opportunities of our era and open a new chapter of development.

1. Current Development Status of New Media Art and Technology

Current trends indicate that digital media technology remains in an ascending phase of development, exerting broad and profound influence across numerous industries. With unique advantages and potential, it delivers distinct experiences and sensations to consumers. In future development, it may integrate with multiple other technologies, such as information digitization, computer technology, digital communications, and other interdisciplinary and technical fields, bringing new technological transformations to people's lives. Many universities have established digital media technology programs, supported by a robust information industry. Through careful cultivation in academic settings, these programs will produce a large number of outstanding talents who will make significant contributions to society and the nation across film, television, journalism, and other industries. Whether in real or virtual domains, digital media technology will occupy an absolute advantage in future development processes. Subsequent research must continue to analyze and expand its internal momentum, treating it as a professional skill for future employment. In the na-

tion' s continued development, the application fields of digital media technology will become even broader—culture as the foundation, technology as the medium. The prospects of digitization present new requirements, and audiences should strive to adapt while strengthening their capabilities to transform this industry into a key pillar of the nation, creating greater value. The rapid development of new media technology has brought unlimited development space, affecting all aspects of social life and playing an increasingly important role in people' s convenient daily lives.

2. Overview of New Media Art and Technology

New media art and technology is a comprehensive discipline based on information technology that utilizes digital information technology to express art through images, videos, and other forms. In this information age, students' learning and lives are inseparable from digital technology. For art majors in particular, proficient mastery of information technology is essential for artistic expression.[1] The level of information technology mastery in the new media art and technology major not only influences students' artistic creation but also affects their future development.

3. Comparative Analysis of New Media and Traditional Media

3.1 Media Form

New media and traditional media share both commonalities and differences in form, exhibiting both distinctions and connections. First, their presentation methods differ. Traditional media primarily refers to conventional print publications such as newspapers and magazines, as well as various audio-visual media products including radio, television, publications, and film. New media is characterized by networking, digitization, convenience, and diversification, with the internet, internet TV, mobile phones, and various mobile terminal devices serving as its carriers. Second, there are significant differences in transmission speed, effectiveness, and coverage.[2] New media holds a clear advantage in transmission speed, being fast and covering a wide range. Traditional media often requires production, printing, publishing, and transmission processes, resulting in slow production cycles and content update speeds that differ greatly from new media. Third, traditional media is more visual and intuitive, offering better visual effects. New media shows differences in transmission effectiveness, clearly surpassing traditional media in portability, accessibility, and direct interaction. The reading experience also differs significantly from traditional media, with visual impact varying from person to person. Fourth, with the progress of the times and changes in transmission technology, new media' s appeal to the general public continues to grow, and people' s dependence on it increases daily, while attention to traditional media has declined significantly compared to the past.

3.2 Media Content

Due to new media's excessive freedom and openness, where everyone can be a media content creator, much work remains to be done in content and qualification review, resulting in low barriers, numerous platforms, and difficult management. This inevitably leads to the spread of unverified false rumors and information that violates social ethics and norms, easily affecting social atmosphere and guiding negative public opinion. Traditional media, with its relatively strict content review system, produces comparatively less content but maintains quality and credibility. In the content-is-king era of new media, traditional media's content holds a very obvious advantage—this advantage is the magic weapon and powerful tool for survival in fierce competition with new media. It is precisely this advantage that makes traditional media a major content provider for new media, becoming an object of dependence.

3.3 Media Service Market

Driven by profit and characterized by its openness, new media faces relatively intense market competition. Traditional media, with its relatively stable audience, serves the Party, government, and the general public, widely belonging to state-owned and collective institutions, and faces little intra-industry market competition. Although moderate competition benefits industry development, new media operates under imperfect policies, regulations, and management systems, with market competition and various risks and challenges ever-present. Compared with traditional media, new media's survival and development environment is more complex and competitive.

3.4 Media Audience

In recent years, particularly as the pace of life has accelerated, fragmented reading has become a common mode of consumption, and the traditional media market shows signs of atrophy. Statistics show that the daily reach rate of newspapers has fallen to 5.4%, with daily contact time decreasing to 17 minutes. The time people spend browsing information and socializing online has already exceeded time spent watching television. Internet users are in a stage of rapid development and growth, while the audience for traditional media such as newspapers and magazines shows an overall declining trend. Currently, radio still maintains a good market prospect, with daily reach rates remaining at 13%-15%.^[3] With the rapid development of mobile audio platforms and increasingly large user bases, audiences have gradually formed the habit of using internet radio as their primary listening channel, with mobile phones becoming the most commonly used receiving terminals. For television media, prime-time TV ratings still maintain a relatively high proportion, with television's daily reach rate remaining at 65% in 2018, thanks to television media's professional advantages, authoritative advantages, and stable audience base. Thus, significant differences exist between traditional and new media in terms of audience engagement and public acceptance methods.

3.5 Media Management

Having developed over time, traditional media has established strict, systematic, and comprehensive management and review mechanisms. This enables traditional media to maintain unique advantages in content accuracy, rigor, and authority. However, traditional media is also conservative and rigid, lacking innovation consciousness and spirit, making institutional transformation difficult. New media features active content innovation, high marketization, and intense competition, but suffers from inadequate management, resulting in mixed quality and content, with diverse public evaluations.

4. Characteristics of New Media Art and Technology

As an emerging technical means, digital media possesses many advantageous features.[4] Its characteristics will extensively influence other fields, particularly when facing emerging industries such as film, television, and advertising.

4.1 Language Digitization

Conventional language is expressed through text, but language digitization technology can process language digitally. This makes it easier for computers to recognize and simplifies subsequent organization and output. Simultaneously, this technology can make complex work clear at a glance and handle multiple different language types, such as audio, video, images, and photo albums.

4.2 Artistic Diversification

Digital media technology can be applied across multiple fields, such as the well-known film and television industry. It also makes outstanding contributions in smaller branches—for instance, new media art and technology using projectors as a medium is very extensive. Projection utilizes mathematical two-dimensional or three-dimensional space for reasonable arrangement in interconnected spaces, allowing people to have comprehensive, multi-sensory unique value experiences through digital media and making ordinary artistic creations more atmospheric.

4.3 Information Interactivity

Digital media technology represents a revolutionary victory. The experience it brings differs from traditional media, representing a new approach. For example, three-dimensional digital animation, DV art, and editing art have all achieved major breakthroughs. It connects different types of information, generating interactivity from simple information and bringing people realistic life experiences.

4.4 Software Intelligence

As an emerging field, digital media has become a broad public platform, especially after actively responding to national policies. From platform selection to

coordination work, every different creative idea is accompanied by digital media choices.[5] The trend toward intelligent digital media technology is inevitable, and it will be better applied in modern social production and people' s work and study.

4.5 Cultural Simplification

Digital media can transform originally complex formulas and text into simple digital formats for easy computer processing and more convenient display, accelerating people' s reading and information retrieval pace. The cultural simplification of digital media also applies to multiple life domains, liberating people from tedious tasks and bringing new experiences.[6]

5. Visual Expression Applications of New Media Art and Technology

5.1 Animation Design

Digital media technology is an emerging technology born in response to the times. Based on this foundation, animation has undergone corresponding transformations. Traditional paper-based television and broadcasting can no longer meet people' s diverse needs, requiring updated content and forms for animation products. Consequently, the application of new media art and technology in animation has become increasingly extensive and diversified. For example, animation production software such as Flash and digital comics can expand its influence. The effects presented by animation are becoming increasingly similar to real scenes, giving audiences greater immersion.

5.2 Virtual Film and Television

The most important function of digital media technology in visual expression is its ability to enrich artistic effects and deepen emotional expression. In film and television works, modern media technology enhances works by strengthening character emotions and overall atmosphere to express emotional changes, ultimately establishing the emotional tone of the entire work—where new media art and technology play a key role.[7] Additionally, it improves visual effects in film and television productions.

5.3 E-sports Industry

The e-sports industry is currently the hottest new sector. Its diversified game models, after incorporating modern media art, further enrich the user experience.

5.4 Cultural Technology Industry

As a symbolic product of modern communication, new media art and technology born from social progress are also the most influential pioneers in daily life. They rely closely on digital media for development, appearing before people's eyes in a high-speed form and becoming one of the current economy's important pillars. In digital cinema, digital special effects are applied to attract audiences with cool, illusory effects, bringing visual and auditory shock to the public. It serves not merely as a form of expression but as an "additive" providing new momentum for the cultural technology industry. Second, its role in games and animation cannot be underestimated. The emergence of new models enriches original artistic characteristics, delivering highly impactful experiential effects that leave deep impressions on audiences—an essential element for future development. In subsequent development, we must continuously strengthen digital media's deeper integration into the cultural technology industry to promote its faster and better development.

5.5 Digital Protection Technology for Cultural Heritage

In today's rapid economic development, traditional cultural heritage protection faces enormous challenges. Preserving the achievements of the Chinese nation's laboring people over thousands of years is everyone's absolute obligation. The new media era presents both new opportunities and challenges for cultural heritage protection, with protection methods gradually improving and accumulating. Digital media technology can be used to protect cultural heritage completely through digital information technology, bringing great convenience to research teams and leaving valuable wealth for future generations.[8] Subsequent applications of digital cultural heritage protection technology will become increasingly widespread.

5.6 Advertising and Promotion

As a new media form existing in commercial and other economic activities, advertising and promotion uses digitization as an important carrier. The advertising industry will be the biggest beneficiary of digital technology. It presents traditional functions such as sound and animated playback more three-dimensionally, expanding to dimensions such as stereoscopy and color. Second, it can promote structural adjustment in the advertising industry. Digitization is fundamentally a technological revolution that can provide new business opportunities and momentum through new media's unique technologies in development space, with new products and core services emerging accordingly. Advertising media promotion will also differ from traditional advertising, becoming more dynamic.

5.7 Remote Education Systems

With the rapid development of internet technology, people can now receive education almost without leaving home. The remote education industry has un-

dergone transformation and in-depth development, breaking through physical space-time limitations for resource sharing and breaking traditional education models. Digital technology provides obvious technical support for remote education, making it more convenient and simpler for people to use. This unique learning method will inevitably integrate into people's lives in the future, no longer remaining impossible.

This paper has explored the application of new media art and technology in visual expression, illustrating through visual expression methods and fields. Promoting innovation in the teaching model of new media art and technology is not only an inevitable requirement for adapting to the information age but also the only path to achieving talent cultivation goals. Digital media technology is increasingly important in current development, and its advancement has far-reaching implications for multiple fields including cultural technology industries, e-sports, animation design, and virtual film and television. Therefore, greater attention must be paid to the development of new media art and technology, keeping pace with the times to promote modern social progress.

References

- [1] Gong Chunjie, Liang Yan. Rethinking the Ontology of Film Image in the Digital Technology Era[J]. *Film Literature*, 2010(01): 32-33.
- [2] Zhu Yingxue. On Interactivity in New Media Art[J]. *Industrial Design*, 2012(02): 187.
- [3] Du Junfei. Politics, Society and New Network Applications—Key Themes in Chinese Network Communication Research in 2008[J]. *Journal of China University of Geosciences (Social Sciences Edition)*, 2009(04): 91-97.
- [4] Du Junfei. Review of Emerging Media Communication Research Progress in 2008[J]. *Shanghai Journalism Review*, 2009(06): 35-39.
- [5] Ma Chengming. Re-discussing the Impact of Streaming Media Development on Traditional Television's Living Space—Taking the Development of Network Shared Video as an Example[J]. *Today's Media*, 2007(07).
- [6] Gong Yibai. The Digital Revolution in Mass Communication[J]. *Media*, 2005(06).
- [7] Wang Weiyi. The Multiple Possibilities of Digital Media Art[J]. *Journal of Tianjin Academy of Fine Arts*, 2005(03): 64-66.
- [8] Zhang Ning. Research Status and Application Prospects of Content-Based Multimedia Retrieval[J]. *Journal of Shangrao Normal University (Natural Science Edition)*, 2006(03): 79-83.

Author Biographies:

Yin Yixing (1999-), female, from Nanjing, Jiangsu, undergraduate student, research direction: Radio and Television Directing (Network Audio-Visual Programs).

Zhang Zhennan (2000-), female, from Nantong, Jiangsu, undergraduate student, research direction: Radio and Television Directing (Media Creativity).

Song Yihui (2000-), female, from Nanjing, Jiangsu, undergraduate student, re-

search direction: Drama, Film and Television Literature.

(Editor in Charge: Hu Yang)

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv – Machine translation. Verify with original.