

Exploring the Application of VR Technology in Television News: Postprint

Authors: Wu Zhenyu

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

Abstract

With the rapid development of digital technologies, VR technology has been integrated into multiple fields. Due to its unique mode of representation, the media sector has also begun to widely adopt it, bringing changes to the forms and modes of news communication in the new era. Under this trend, traditional media has also entered a new normal of development. This paper briefly elaborates on the application scope and considerations of VR technology in news reporting, and analyzes the challenges faced by VR news reporting and its development prospects.

Full Text

An Analysis of VR Technology Application in Television News

Abstract: With the rapid development of digital technology, VR technology has been integrated into multiple fields. Due to its unique mode of expression, the media sector has also begun to widely adopt it, bringing changes to communication forms and models in the new era of news dissemination. Under this trend, traditional media has entered a new normal of development. This paper briefly elaborates on the application scope and considerations of VR technology in news reporting, and analyzes the challenges and development prospects faced by VR news reporting.

Keywords: VR technology; television news; application

Classification Code: G212.2

Document Code: A

Article ID: 1671-0134(2018)04-080-02

DOI: 10.19483/j.cnki.11-4653/n.2018.04.030

Author: Wu Zhenyu

1. The Concept of VR Technology

VR is the abbreviation for Virtual Reality. VR technology integrates diversified information to create a three-dimensional dynamic scene through computer simulation, providing users with a realistic three-dimensional virtual world that reflects changes and interactions of physical objects in real time. Through specific output auxiliary devices, it offers users a three-dimensional interface to observe and interact with this virtual world, with human-computer interaction and immersive sensory experience at its core. “VR news,” or 360° panoramic news, utilizes virtual reality equipment to allow audiences to freely choose viewing angles and content, creating the sensation of being physically present at the news scene. This immersive approach enables audiences to watch, listen to, and read news in an entirely new way, allowing news content and meaning to be expressed more profoundly and intuitively through VR technology, thereby continuously expanding the breadth and depth of audience cognition of news events.

2. Application of VR Technology in Television News

2.1 Technical Characteristics of VR Systems VR technology represents a comprehensive application of computer networks, sensor technology, audio processing, artificial intelligence, and various other technologies. The key components include VR platform design, 3D display and interaction technology, and VR integrated control technology. The VR platform serves as an effective carrier for VR technology, and platform selection should be optimized for the specific usage environment and target audience. This approach better unleashes the creativity and imagination of production staff, further improves production efficiency, reduces labor intensity, and effectively enhances product design quality. The interactivity of VR systems is primarily achieved through 3D display and interaction technology, where display effects significantly impact the sense of immersion and realism in VR experiences. This necessitates improvements in visual fidelity to achieve optimal results.

2.2 Application Effects of VR Technology in News The application of VR technology in news reporting represents a deep integration of new technology with traditional journalism, enabling audiences to experience on-site atmosphere immersively. Using VR technology for news production involves capturing footage from all directions and angles—front, back, left, right, up, and down—with panoramic shooting equipment. After shooting, the content is modeled to construct a dynamic environment, with dynamic modeling focusing on accurately acquiring three-dimensional information to simulate real-world scenarios, creating a full-scene video segment. Journalists can synchronize video and panoramic content for cross-platform distribution across computer terminals, news clients, and other platforms, enabling rapid aggregation of multiple

media products on a unified platform. Audiences can experience news events panoramically, perceiving facts in the news more objectively and comprehensively. For instance, China's first VR news film *Kindergarten in the Mountain Village*, released in September 2015, allowed audiences to swipe their phone screens to view the children's living environment in 360 degrees, or even enter the entire news story from the children's perspective in three-dimensional space using VR devices. The sense of impact and immersion this provides is difficult to describe with words—something traditional media could only aspire to but never achieve.

Therefore, the application of VR technology in news reporting breaks through the limitations of the frame. Through multi-level, multi-angle footage capture and unique model construction functions that reproduce the three-dimensional space of the entire news scene, VR technology achieves a synergistic effect of vision, hearing, and touch, making audiences feel as if they have truly arrived at the scene when watching news. This enhanced sense of authenticity represents the most significant transformation VR technology brings to news reporting.

3. Suitable Topics for VR Technology in Television News

Not all news topics are suitable for VR technology reporting. For example, during the 2017 National “Two Sessions,” numerous media outlets launched VR panoramic videos for viewing the sessions, but audiences could only see the interior scenery of the venue while obtaining insufficient effective information about the session's content, hot issues, or proceedings. Which content is suitable for VR reporting and which content holds VR reporting value should be measured by the effectiveness of news communication; otherwise, news reporting will fall into the awkward situation of having technical gimmicks without journalistic value. Therefore, VR technology in television news should primarily be used for in-depth reporting of major news events and for news storytelling presentation.

3.1 In-Depth Reporting of Major News Events Generally, news reporting demands strict timeliness, emphasizing speed, immediacy, and freshness. However, in in-depth reporting of major news events, timeliness is not the primary characteristic. Typically, VR news reporting follows the same topic selection criteria as television news, choosing materials based on their value, typicality, importance, scarcity, social focus, and news hotspots, combined with their underlying significance and operability. From these, topics suitable for VR video presentation are selected, after which editorial staff plan and implement the event coverage.

3.2 News Storytelling Presentation News storytelling has long been a focal point of media discussion, and its application in news reporting has been increasing. This approach enhances the objectivity and readability of news reporting, making it more interesting and humanistic. In terms of communication effectiveness, readers feel greater proximity to news stories. Since storytelling

news has a linear narrative structure, VR-presented news stories provide audiences with a stronger sense of presence and guidance, thereby deepening their understanding of the entire news story. Audiences explore along the linear narrative structure from the first-person perspective in the VR video. Within the storytelling news framework, audiences' various senses and logical thinking are fully mobilized. Through plot arrangement, they experience the authentic feelings of story subjects during events in the real world, achieving optimal comprehension of the news.

4. Shortcomings of VR Technology in Television News

In television news narratives, close-up shots are often used to express details. Close-up shots have the artistic effect of highlighting and emphasizing subjects, creating visual impact. Whether filming people or objects, they are important methods for showcasing details. However, close-up shots are difficult to achieve in VR news reporting. Since VR shooting aims to approximate normal human vision as closely as possible, it primarily uses fixed-angle long shots. While this approach ensures the integrity of a scene, it simultaneously limits the switching of shooting distances. Within a single scene, it is impossible to switch shooting distances as in conventional filming, as this would cause viewer dizziness. Therefore, close-up shots that shorten shooting distance, break conventional vision, and guide audience attention to details rarely appear in VR news reporting.

This does not mean VR news reporting lacks details, but rather that its methods of guiding audience attention are limited, requiring viewers to search for details throughout the recorded space. This relies on the observer's own perceptual abilities, with the most likely outcome being loss of detail—viewers may simply not notice them. Once details go undiscovered, news stories appear less substantial. Furthermore, VR headset technology remains immature and has not achieved absolute similarity to human eyes, causing a certain degree of distortion between the displayed images and real-world scenes. Prolonged viewing can easily induce vertigo, which is why VR news reports are typically short videos.

5. Development Trends of VR News

As an entirely new form of news reporting, VR application in domestic media remains in its initial stages. Due to technical and other issues, VR cannot currently be utilized by all media organizations. However, based on current VR technology adoption for news reporting across major media, this remains a developmental opportunity. Leveraging VR's technical advantage of "immersion," audiences can experience being at the news scene with just a VR device and network connection, obtaining more convenient and rapid interactive experiences—this is clearly the development trend of VR news. Moreover, news fundamentally reports on recent events, emphasizing factual authenticity, and VR's unique "sense of participation" can also be combined with this for in-depth

excavation of major news events, which will necessarily become a development trend for VR news.

In summary, the use of VR technology enriches news reporting methods, enabling audiences to transition from passive reception in a two-dimensional plane to interactive engagement in three-dimensional space. It breaks the media limitations of news consumption, extends traditional news reporting forms, and VR news will become an emerging form with significant development potential for future journalism.

Although VR technology research has already commenced in China and its application in news media has been attempted, the relatively late start means there remains considerable room for improvement compared to some Western developed countries. Therefore, we need to continuously identify problems in practical application and resolve them promptly to promote better application and development of VR technology in China's television news field.

References:

- [1] Feng Jianfeng. Research on VR Technology and Its Application in Television News [J]. Television Engineering, 2016(02): 23-27.
- [2] Huang Jie. VR News Communication: Media Extension in the Era of Reading Images [J]. Science and Technology Communication, 2016(11): 174.
- [3] Qiu Jiaqiu. Caixin Video: The Process and Potential Problems of Using Virtual Reality Technology (VR) for News Reporting [J]. Chinese Journalist, 2016(4).
- [4] Shi Anbin, Zhang Yaozhong. The Rise of Virtual/Augmented Reality Technology and the Transformation of Traditional Journalism [J]. Shanghai Journalism Review, 2016, 01: 40.
- [5] Zhao Jie. Research on VR Technology and Its Application in Television News [J]. Science and Technology Innovation Herald, 2017, 14(12): 240-241.

(Author's Institution: Xinzhou Television Station, Shanxi Province)

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

Source: ChinaXiv — Machine translation. Verify with original.