Postprint: VR Technology Applications in Journalism in the New Media Context

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Abstract

With the continuous development of VR technology, people can utilize computer technology to create virtual worlds, providing users with immersive content ecosystem experiences. Simultaneously, as new media technology matures, new media has gradually integrated VR technology for news reporting. This paper focuses on the application of VR technology in the new media context, exploring the current status and development trends of both new media and VR technology.

Full Text

Application of VR Technology in Journalism Under the New Media Context

Abstract: With the development of VR technology, people can now use computer technology to create virtual worlds that provide immersive content experiences. As new media technologies mature, new media platforms have increasingly integrated VR technology into news reporting. This paper examines the application of VR technology within the new media context, exploring the current state and development trends of both new media and VR technology.

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With the rapid advancement of science and technology, particularly computer technology, industries built upon computational foundations have exhibited significant development momentum. In today's new media environment, the visual

communication industry has undergone tremendous transformation, transitioning from single media to multimedia, from planar to three-dimensional, and from static to dynamic, fundamentally changing people' s lives through entirely new perspectives. In this era of highly developed new media, audiences have raised new demands for news delivery. The evolution of VR technology has created both new opportunities and challenges for news reporting in the new media landscape.

VR, or Virtual Reality, employs computer simulation systems to create a completely virtual world environment based on multi-information fusion technology, providing users with realistic three-dimensional experiences. This virtual environment operates in real-time; by wearing VR glasses, users can immerse themselves in lifelike virtual worlds where the scene perspective shifts with head movements, creating an authentic sensory experience that allows people to enter the virtual world with rich emotional engagement. Today, major global media outlets including *The New York Times*, ABC, and BBC have all introduced VR elements into their news reporting methods, competing with one another and gradually advancing the technology.

1. VR Technology Creates a New Media Context

VR technology constructs a virtual world independent of reality, first emerging in the 1960s. With the development of computer technology, the field has experienced corresponding advancement, though relatively slow. In recent decades, VR technology has once again become a research hotspot, with augmented reality (AR) also entering the research domain as a popular focus. Contemporary VR technology is now enhanced with sensor technology, making virtual worlds more realistic and providing more perfect immersive experiences. In simple terms, the principle of VR technology involves dividing space into slices, each representing a small segment of pixels. The thinner the slices, the more realistic the virtual world feels. By capturing images from different directions and using specific algorithms and techniques to stitch these slices together, users wearing VR glasses can see a three-dimensional world, with the ability to switch perspectives freely, creating an immersive experience.

The advantages brought by VR technology are, first and foremost, a shift in perspective, transforming journalists from observers into on-site participants while audiences observe the environment from a third-party perspective. Second, VR news content can deliver more powerful interactive experiences, allowing viewers to move around, change perspectives, and observe on-site conditions as they wish, thereby obtaining more information actively rather than passively.

2. Current Application Forms of VR News Practice

Regarding specific VR news products, they can be mainly divided into three categories, each discussed below.

2.1 Image-Based Scene Presentation Image-based VR technology employs 360-degree panoramic photography, using computer technology to integrate images captured from various angles at a news scene. VR technology news presentation offers more advantages than traditional formats, enabling 360-degree display of all scene details. Traditional scene reporting captures from a single angle, requiring close-ups for detailed representation. However, news reporting often demands urgency and may involve danger—for instance, war reporting—where shooting from multiple angles is time-consuming and poses safety risks to journalists. VR technology effectively compensates for these shortcomings by delivering massive amounts of realistic information. For example, *The New York Times* published a news piece titled *The Displaced*, where viewers can watch from any angle, depicting the scene of rescue workers in a helicopter delivering food to refugees. When wearing VR glasses, viewers can look down to see the pitiful conditions of the refugees and look up to see the helicopter dropping food, conveying the refugees' longing for peace. This is something ordinary news cannot achieve.

Image-based news can achieve excellent results simply by controlling angles. The technical requirements are not very high, and the operation is relatively simple while allowing real-time effect control. However, this technology inevitably misses some information and still needs to be combined with conventional news reporting methods for comprehensive coverage to present news events more fully.

2.2 Video-Based In-Depth Reporting Video-based in-depth reporting incorporates VR technology into a guided narrative mode to present news events. Audiences feel as though they are fixed to a character' s body, automatically moving as the character moves through the event, with the ability to change angles for scene switching during movement. This form is similar to video news, commonly known as VR 3D video, which can better guide audiences through the course of a news event. For example, the work *The Displaced* describes a group of children forced to leave their homes and live miserable lives due to the cruelty of war. The entire work uses video-based in-depth reporting, following the camera' s movement to clearly understand the entire experience and making us more aware of the horror and cruelty of war. Another work, *Harvest of Change*, also employs video-based in-depth reporting and incorporates gaming elements, allowing audiences to operate with a handle to participate in the event, deepening their impression of the reported event and making the news reporting more purposeful.

2.3 Live Broadcasting Live broadcasting is a major feature of modern new media. With the development of new media, many social media platforms have launched live streaming functions, and even social software like QQ can conduct live broadcasts. However, such live streaming remains in two-dimensional planes, where audiences lack autonomy in obtaining information, and interacting with anchors wastes time and is inconvenient. Combining VR technology with live streaming achieves much better results, allowing audiences to change angles dur-

ing viewing and experience immersion to a greater extent. This method offers good operability, but audiences may experience fatigue after wearing glasses for extended periods, and they still cannot view the scene from an overall perspective, ultimately producing a sense of spatiotemporal limitation.

3. VR Technology Reshapes News Reporting Business Process

VR technology reshapes the news reporting business process in three specific aspects.

3.1 Targeted News Selection Currently, many news topics relate to ecological protection, environmental issues, and war. Such subjects are difficult to present with a sense of presence using conventional 2D news. VR technology can better solve this problem by deepening the immersive experience of news reporting and better meeting development needs.

3.2 News Value No Longer the Primary Criterion In modern news reporting processes, journalists and others directly involved in news may partially incorporate their own news value-oriented elements into reporting, potentially influencing news coverage with their value orientation. VR technology is a multi-information integrated technology, and applying it to news reporting involves many personnel, thereby better directing value orientation toward public values.

3.3 News Content Develops from Simple Narrative to In-Depth VR technology can present a simple matter in great depth, showing news reporting more comprehensively to audiences, avoiding the "one-sided" characteristic of news and making news deeper in depth and broader in breadth.

The entry of VR technology into the new media field represents a new revolution that can deliver better experiences and meet development needs. However, VR news development remains in its initial stage, with deficiencies in equipment, audience adoption, and resources. Moreover, the evaluation of VR news effectiveness on audiences remains uncertain and controversial, requiring our efforts to promote the maturation and improvement of VR news.

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