

Reflections on Application of VR Technology in Field of News Media

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Abstract

In recent years, virtual reality (VR) technology has been widely used in many industrial fields, especially in the fields of medical treatment, games, film and television, to improve the interaction between medical teaching and practical treatment. On the gaming side, the production of virtual reality gaming screens and scenes became increasingly popular, greatly expanding the form of the visual experience. But VR is no longer confined to the health care, education and entertainment industries. During this time, the news media industry has also begun to integrate virtual reality into interviews and user interactions. This study aims to analyze the development of VR technology from the perspectives of immersive VR news experience, real reporting, and prospects, and analyze and think about the interactive participation of media users, the transformation of traditional media, and the upgrading of practitioners' roles.

Keywords: *Virtual Reality, VR News Media, Media Innovation, Immersive Journalism, VR Technology Use*

1. Introduction

The history of VR dates back to the 1960s, but it wasn't until recent years that it has gained widespread attention and commercial application, thanks to advancements in technology and the increasing accessibility of VR equipment. 1960s-early 1990s: The early days of VR technology, mainly used for military, aviation, and automotive simulations and research. Mid-1990s-early 2000s: VR technology started being used in the entertainment industry, such as in gaming and movies, but the market remained small due to technical limitations and high equipment costs. With the continuous advancement of VR technology and hardware, including head-mounted displays, controllers, and tracking sensors, VR began to be applied to various industries, including gaming, education, healthcare, tourism, and real estate. 2020s: As VR technology continues to mature and improve, developers and manufacturers are investing heavily in hardware, software, and cloud services. Supported by technologies like smartphones and wireless networks, VR is now being rapidly promoted and adopted on a global scale. Overall, with the ongoing development of technology and the increasing accessibility of VR equipment, we can expect VR to continue to grow and evolve, providing

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new and exciting applications in a range of industries.

2. The Origin of News Media and VR Technology

The news media industry has been at the forefront of technological advancement. From the invention of the printing press in southern Germany by Johann Gutenberg in the fifteenth century to the rise of digital media in the new century, media forms have evolved to keep up with changes in technology. The traditional form of news dissemination has been greatly impacted, and the form has undergone a fundamental transformation. Recently, VR technology is one of the technologies that has made important changes to the news media industry.

2.1 VR Technology

VR is the abbreviation of virtual reality, known as virtual reality or spiritual technology, VR technology uses VR headset, glasses, headsets, handles and other special equipment, integrated digital image processing, multimedia technology, network technology, artificial intelligence, sensor technology and high-resolution display technology, etc., through the integration of sight, hearing, touch and other sensations, to generate a realistic three-dimensional virtual environment information integration technology system. The development process of VR technology has been about 60 years, in recent years, with the continuous maturity of mobile intelligence, computers, 3D images and other technologies, VR equipment and technology have achieved commercialization and popular development, user experience has been continuously optimized, and gradually approached the public's vision.

2.2 Immersive VR News Experience

Through the Internet platform of multimedia and VR, create a simulated reality environment where users can interact, that is, immersive VR news experience. The concept of immersive journalism was first proposed by scholars such as Nonny de la Pena in the article "Immersive Journalism: Immersive Virtual Reality for the First-Person Experience of News" (2010). And use the current VR technology to collect news content to enrich the content. Immersive VR journalism technology has the potential to change the way news is reported and consumed by viewers, enabling users to experience news events in a more way.

The main criterion for the dissemination of news media is the principle of authenticity of content. Through virtual reality technology, the news scene is perfectly presented in front of the audience through VR technology, and the authenticity is brought to a higher level. The impact of virtual reality technology on the news media industry is to reinforce this sense of authenticity and immersion. In the near future, China's mainstream media—CCTV produced a VR report titled "Underwater Archeology in the Beibu Gulf·Tracing the Origin of the Maritime Silk Road" technology news. Through wearable VR devices, users can experience entering underwater, entering the archaeological workshop, and working with them. Experience the whole process of underwater archaeology together. This approach brings a novel experience to users. This is unmatched by traditional news. Because of this, VR news can bring stronger emotional resonance to users. VR technology in the news media industry will focus on academic reports, industry reports, news reports, etc.

3. The Impact of VR Technology on The News Industry

At present, mainstream media in many countries have cooperated with mobile network providers to launch

immersive VR news conference experience projects. For example, in 2021, in China, due to the epidemic, online office and meetings became the main working methods. Taking this as an opportunity, Xinhua News Agency joined hands with network operators to reconstruct news scenes of large-scale conferences with the help of VR technology, combined with 3D modeling, and combined with the form of three-dimensional multimedia studios, breaking the three-dimensional wall of presence and absence, realizing the synchronization of the audience and the on-site personnel of the conference, discussing hot topics in the conference, realizing real-time interaction inside and outside the venue, and realizing the grand event of "immersive" participation of users in the conference. VR technology has the potential to change the news media industry in many aspects, in terms of the development status and application of existing AR technology, The impact of VR virtual reality technology on the news media industry is summarized as follows:



Figure 1. Practical Applications of Immersive Journalism

3.1 Improve Interactivity and Experience

It can provide users with a more engaging experience, allowing them to experience events in a more realistic way. View 360-degree panoramic images through glasses-free devices. Immerse yourself in journalism or other areas with VR devices. In 2020, Netease News uses VR as a typical case in news reports: An Illustrated Book of Spring Festival Travel. At present, most of them can only be viewed on simple head-mounted devices, and even the panoramic version can only be viewed through the screen of a mobile phone. Look at the Spring Festival travel from a new perspective, allowing users to participate in the report of the event with a better sense of participation. Some animation elements are deployed in the scene. When the user interprets some links of the media settings one by one through the elements in the panoramic picture, the user has a more profound experience of the entire Spring Festival travel scene through three levels. Running on the news client, the final statistics show that users can reach an average participation time of 3 minutes. As a result, it is easier for users to remember and share news experiences in VR, so engagement with news content can be increased. Through the interactivity of VR technology, the user's position is changed to a decisive position, reflecting good autonomy and interactivity, and through the free control of the device, to a certain extent, the user's autonomy is improved, and the attractiveness of news content is increased.

3.2 Create New Economic Growth Points

virtual reality allows journalists to cover events more fully. As mentioned earlier, news to truth. When

news media reports, increase the credibility of news content through the restoration and reconstruction of news scenes. For example, VR allows journalists to provide 360-degree video coverage of events, allowing users to experience events from different angles. This allows a more complete description of the incident and allows users to form their own opinions based on the evidence provided. With the continuous upgrading of mobile media and the Internet, users have a variety of ways to obtain news, the threshold for reporting and disseminating news has been lowered, and true and fake news has become rampant, and how to distinguish the authenticity of news has become a new problem. Increase the credibility of your news and mention your loyalty to the media with immersive VR news reporting.

4. Difficulties faced by the news media industry in the VR era

4.1 The High Cost

The high cost of VR content production is one of the issues. VR equipment can be expensive, and producing high-quality VR content requires specialized technology and professionalism. At present, there are complex and expensive real problems in virtual reality technology, which can only be limited to the coverage of major events or topics. Multiple VR devices and their supporting facilities are required to complete a major news report or project's pre-production high-definition material shooting and post-production at the same time. The cost of equipment and labor is nearly one million yuan. There are barriers that small news organizations can't break into with VR technology. But with the continuous upgrading and innovation of technology, the issue of production costs will no longer be a key issue hindering the development of media.



Figure 2. Comparison of price parameters of consumer-grade VR devices

4.2 The Limited Availability

The limited availability of virtual reality devices. While VR is growing in popularity, it is still not widely used, and many users do not have access to the equipment they need to experience VR content. For example, the test of VR equipment with tactile perception was also released not long ago. In the future, with the help of cloud servers, 5G signal transmission and other support means on the platform side, through cross-media linkage, social resource linkage and other channels, integrate interview resources to achieve collaborative cooperation in different fields. At the same time, it is also necessary to pay attention to and control its

potential risks. News media practitioners should gradually improve their business literacy in the new model. Formulate and comply with industry standards, strengthen information screening and control when reporting major news, maintain the fairness and credibility of the news itself, and avoid bias and emotional tendencies when reconstructing news scenes.

4.3 The Impact of VR Technology on Employment

The employment pressure of media practitioners has doubled. The application of VR technology requires professional training for practitioners, and changes in news gathering and dissemination methods put forward higher requirements for practitioners. In the era of traditional media, interviewing and writing are the core professional skills of media professionals. But through the data and conclusions given in the paper "The Impact of AI on the Skills and Future Employment in Media Industry: Using Machine Learning and Network Analysis", it is obvious that In the new media era, multimedia skills have become an important part of news capabilities. In addition to traditional skills such as interviewing, investigation, and editing, practitioners must also learn new media technologies and master composite skills such as writing, photography, and reporting. With the shrinking scale of traditional media, the barriers to entry are also rising, the demand for high-level talents is increasing, and the employment opportunities for personnel in traditional positions are reduced. Firstly, VR technology creates new job opportunities for professionals who specialize in VR content creation, editing, and development. This is because VR technology requires a different set of skills and expertise compared to traditional journalism. For example, VR content creators must have a deep understanding of 3D modeling, animation, and interactivity to create immersive and engaging content. As a result, the demand for skilled professionals in the VR industry is expected to increase, including for roles such as VR content creators, editors, and developers.

4.3.1 Subversion of Traditional Occupational Division of Labor

VR technology will impact traditional journalism roles such as reporters, photographers, and video journalists. These professionals will need to develop new skills in order to stay competitive in the industry. For example, reporters may need to learn how to capture 360-degree footage or record VR interviews, while photographers may need to learn how to capture photos in 360-degree environments. As a result, traditional journalistic roles may require VR skills to remain relevant in the industry, assisted by technology, enabling media content creators to discover and create more engaging content.

4.3.2 Transforming the Programming Process

the adoption of VR technology will lead to changes in the workflow and job requirements of news media organizations. This is because VR content production requires a different set of equipment and resources compared to traditional journalism. For example, news outlets will need to invest in specialized VR cameras, editing software, and hardware in order to produce high-quality VR content. This may lead to changes in job requirements and workflow, as well as the creation of new job roles such as VR producers and coordinators. This also puts forward new requirements for media managers.

5. Conclusion

There are many deficiencies and limitations in this study. It mainly uses the data of a single country for phased analysis and discussion, and then integrates domestic and foreign data and research results to conduct research on the deeper impact of VR technology on the media. The emergence of new technologies is the inevitable of social progress, VR technology has to provide users with a more engaged and attractive

experience, let news interviews into immersive social scenes, and bring new growth points in the form, content and communication effect of news reports. In the future, enabling journalists to cover events more comprehensively, create new revenue streams, and reach new audiences will change the overall pattern and form of the news media industry from the initial gathering of news. For hot events and major reports, there is a broader application space. However, in the short-term news media industry, there are problems such as high cost of VR content production and limited availability of VR equipment, and there are many issues related to the use of VR waiting to be overcome. In general, the application of VR technology is an important support for the innovation and evolution of the news media industry according to changes in technology and audience behavior.

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