

Research on the Application of Augmented Reality Technology in Book Publishing: Postprint

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Abstract

With the continuous progress of the era and the ongoing development of science and technology, reality technology is being applied more extensively and its status is becoming increasingly important, which is also true in the field of book publishing. It is precisely the integration of reality technology that enables the combination of print and electronic versions of books, thereby achieving a state of virtual-real integration that greatly promotes the prospects of print reading. Therefore, it is necessary to strengthen reality technology so that it can play a more important role in the field of book publishing. This article first introduces the application modes of Augmented Reality technology, its innovative impact on traditional book publishing methods, and analyzes the current status of book publishing and corresponding solutions, hoping to lay a foundation for the better application of reality technology.

Full Text

Abstract

As society progresses and science and technology continue to advance, augmented reality (AR) technology has been applied increasingly widely and has gained greater importance, particularly in the field of book publishing. The integration of AR technology enables the combination of print and electronic versions of books, achieving a virtual-real fusion that significantly promotes the development prospects of print reading. Therefore, it is essential to strengthen AR technology to enable it to play a more significant role in book publishing. This article first introduces the application modes of AR technology and its innovative impact on traditional book publishing methods, then analyzes the current status of book publishing and proposes solutions, hoping to lay a foundation for the better application of AR technology.

Keywords: augmented reality technology; book publishing; application; analysis

Introduction

The advancement of technology has driven the widespread application of augmented reality technology and prompted domestic and foreign publishing institutions to conduct in-depth research and exploration to enhance its capabilities. Using enhanced AR technology to improve and produce interactive books not only preserves print graphics and text but also integrates sound, animation, and video to make illustrations more vivid and dynamic, providing readers with a new reading experience that combines virtual and real elements with real-time interaction. This approach also promotes the development and innovation of information presentation forms in print media.

1. Application Modes of Augmented Reality Technology

Augmented reality, commonly known as AR, refers to an advanced computer imaging technology. Through computer processing, it combines virtual information with the real environment and displays it visually.

2. Importance of AR Technology in Book Publishing

The application of AR technology has substantially transformed the content and methods of traditional book publishing in China, shifting from single, static content to dynamic, diverse reading forms such as dynamic text and three-dimensional animation. AR technology has expanded the carrying capacity of print books, not only increasing the volume and scope of information but also making content more vivid, engaging, and interesting, thereby effectively extending the boundaries of print publications. Moreover, applying AR technology in book publishing provides readers with novel reading experiences and sensations. In the previous era of print media, communication and promotion methods were overly linear and monotonous, preventing readers from actively searching for content based on their own interests. AR technology enables interaction between readers and book content, allowing them to influence story development and transforming reading into multi-directional exchange and interaction, thereby strengthening the development of the book publishing field. Furthermore, AR technology effectively narrows the distance between print and digital versions, bringing the two into closer integration, breaking the content limitations of traditional books, and playing a crucial role in promoting innovation and development in China's book publishing industry.

3. Current Status and Issues of AR Book Publishing

3.1 Relatively Small Number of AR-focused Publications

According to survey statistics, during the four-year period from 2011 to 2015, only nine sets of AR books were published, totaling 24 volumes, mostly single titles that neither formed independent systems nor achieved scale. Among them, the copyrights for *Interesting 3D Pop-up Books* and *Banana Rocket Picture Books* were imported, and their AR programs were also largely imported. This indicates that China's current book publishing industry remains relatively weak in applying AR technology, with few participating publishers, leaving the AR book publishing field still in its initial stage.

3.2 Limited Publication Categories, Dominated by Children's Books

Currently, AR book publishing features relatively limited categories, with children's books accounting for more than two-thirds of total AR publications, while other categories remain relatively scattered and feature simpler applications of AR technology. This phenomenon largely stems from the fact that AR technology aligns well with children's psychological characteristics and interests, satisfying their curiosity and desire for exploration, and its application is relatively mature domestically for this demographic.

3.3 Mobile Terminal-Based Implementation

When readers use AR technology for reading, they must install corresponding applications and use their device cameras to scan content to trigger digital content. The development of AR books is closely linked to the rapid growth of China's smartphone industry. However, due to varying book technologies, significant differences remain in AR implementation. Some books merely incorporate videos and images without integrating three-dimensional animations or immersing readers in virtual-real combined scenes, resulting in limited interactivity. Other books face constraints from cost and technology, featuring very little AR-interactive content throughout the book and imprecise 3D animations. Additionally, the relatively high barriers to AR book publishing, insufficient media resource reserves, and lack of proper understanding have all impacted the promotion of such books.

4. Solutions and Development Measures

4.1 Innovate and Correctly Understand AR Technology

The application of AR technology in book publishing plays a vital role in the development of print media, laying a solid foundation for expanding its development space. Therefore, publishing institutions and technology companies must strengthen technological innovation and improvement, strive to expand markets, and enhance editors' understanding and mastery of new technologies. This enables them to effectively integrate digital media with print books during

planning, strengthening the AR form and allowing static graphics and text to be displayed vividly through three-dimensional animations and videos, thereby enhancing overall interactivity.

4.2 Strengthen Technical Research

To better and more rapidly integrate AR technology with book publishing and promote the publication of AR books, in-depth research and exploration of the technology are needed to reduce R&D costs and difficulty. The R&D process primarily involves interactive technology, sensor technology, multimedia technology, and three-dimensional display technology, all of which require comprehensive research to facilitate problem-solving. Additionally, technology companies must seize opportunities to develop publishing service platforms that provide readers with more convenient and professional solutions.

4.3 Actively Cultivate the Market and Increase User Awareness

During the promotion of AR books, diversity and uniqueness are needed to capture readers' attention, as relying solely on text and images cannot satisfy reader interest. Therefore, publishers must innovate promotion methods, using streaming video and other approaches to attract readers and encourage deeper understanding of AR books. Furthermore, bookstores can be utilized for demonstration and promotion, providing readers with appropriate trial experiences to strengthen their awareness and cognition.

5. Conclusion

As evident from this analysis, China's publishing industry has entered a breakthrough development stage that necessarily relies on key technological innovations. Combining AR technology with print publishing represents an important attempt and innovation in new media information technology with tremendous significance. This integration not only achieves the fusion of print and digital technologies, freeing print media from environmental constraints, but also fundamentally enables interaction between readers and print books. Therefore, this combination will undoubtedly develop rapidly in the coming years due to its substantial advantages, inevitably bringing enormous impact and transformative changes to print book publishing and reading.

References

- [1] Tao Ran. Application of Augmented Reality Technology in Children's Publishing[J]. Digital Printing, 2016(09): 53-55. [2] Zhang Dan. Application and Prospect of Virtual Reality Technology in the Publishing Field[J]. Journal of News Research, 2016(12): 373-374. [3] Wang Hui, Li Jincheng. Research on the Application of Augmented Reality Technology in Book Publishing[J]. China Publishing, 2015(17): 38-40. [4] Zhang Ruijing, Wang Hui, Li Jincheng. Application of Virtual Reality Technology in the Publishing Field[J]. Publishing

Research, 2015(05): 47-50. [5] Wang Pu. Research on the Application of Mobile Augmented Reality Technology in Libraries[J]. Library and Information Science, 2014(01): 96-100.

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