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Visual Communication Design Method in Folk Art Based on Multimedia Data Transmission Technology

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ABSTRACT

With the rapid development of science and technology and China's economy, the internet, big data, computers, and multimedia technology are widely used in all walks of life to promote the application and improvement of visual communication design concepts, the gradual implementation of multimedia technology, and the continuous improvement of innovation. In this paper, from the multimedia transmission technology based on network coding, some key technologies in the network communication of data and video streams are studied in depth and, based on the transmission-quality assessment model, the working effect of the jitter-buffering algorithm and WebRTC jitter-buffering algorithm is compared in different network environments. The experimental results show that the jitter-buffering algorithm proposed in this paper has better working effect. This research is of great significance for the realization of multimedia transmission technology in next-generation networks.

KEYWORDS

Multimedia Technology, Visual Communication Design, Transmission Technology, Algorithm, Modeling

INTRODUCTION

The rapid development of multimedia technology has brought earth-shaking changes to the entire field of visual communication. This change requires us to adopt more innovative ways to meet user needs and drive social development. In this context, this paper aims to improve the quality of multimedia transmission and verify its practicality and feasibility by comparing the effectiveness of the proposed jitter-buffering algorithm with the WebRTC jitter-buffering algorithm in different network environments. To evaluate the transmission quality of different algorithms in network environments, we compared the proposed jitter-buffering algorithm with the original WebRTC system. The results show that in a normal network environment, the system transmission quality improved by 19.8% using the jitter-buffering algorithm proposed in this paper. In congested network environments, the transmission quality increased by 17.5%. This indicates that the jitter-buffering

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algorithm proposed in this article has better performance compared to the original WebRTC jitter-buffering algorithm in different network environments and can significantly improve network transmission quality.

These experimental results not only provide reference ideas and methods for subsequent research but also contribute to promoting the progress and development of multimedia technology. Through the jitter-buffering algorithm proposed in this article, we can effectively improve the quality of multimedia transmission and enhance the user experience. The research results of this article will provide valuable ideas and methods for subsequent research while also promoting the progress and development of multimedia technology.

LITERATURE REVIEW

Today, it is necessary to continuously implement the integrated development concept of visual communication technology and multimedia technology, meet the aesthetic standards and requirements of the public (Cecchinato et al., 2023). However, due to the constraints of traditional thinking modes, visual communication art designers are faced with heavy work pressure; the result is that the final design works displayed are at odds with the aesthetic art and thought concepts of current society (Silpa & Korra, 2023).

The application advantages of multimedia technology in the field of visual communication design have gradually emerged (Dhar et al., 2023). Using multimedia technology for related design can enrich the work. It has designed an intuitive and user-friendly user interface that allows users to easily interact with visual information, such as scaling, rotating, filtering, etc. For visual transmission based information visualization, consideration was given to how to transmit data in real-time and update visualization effects. (Jiang, 2023). The use of multimedia technology can not only enable designers to better showcase their design concepts, but also innovate the entire artistic design. (Gaikwad, 2024). Although multimedia technology has been greatly developed, it is still a major artistic medium for visual communication (Zhang & Cui, 2023). With the continuous development of this medium, multimedia technology and visual communication design can achieve deeper mutual promotion (Sharma et al., 2023).

All kinds of unprecedented electronic products have also changed the traditional ways of life of the public (Okpok & Kihei, 2023). For example, the emergence of robots, artificial intelligence, electric dishwashers, vacuums, etc. has improved people's standard of living but also made people more dependent on the conveniences conferred by technology (Mubarakali et al., 2023). New products are fun and addictive. However, it is also precisely because of the application of multimedia technology that more consumers and audiences have gradually increased their requirements for various new products with better use effects and wider functional coverage (Zhao et al., 2023). Existing high-tech products are constantly being upgraded. In view of the background of innovation and development, the visual communication design concept should highlight simplicity, and focus on the life of users. Satisfy user needs, so that consumers can feel the impulse to consume when they first see the product. (Yadav & Tiwari, 2023). Finally, visual communication designers should fully consider the use needs of consumers for the product and the possible expected uses when designing (Amiruzzaman & Bhuiyan, 2023). The design and style of the product can attract consumers and break through their psychological defense lines (Ahmed et al., 2023).

With the continuous improvement of China's production and development level, the functions of various electronic products are more abundant, the use effect is more convenient, and the design elements are more diversified (Makeeva et al., 2023). At the same time, the electronic products can also carry out personalized settings and function matching according to the actual needs of users (Mubarakali et al., 2023).

With more awareness of electronic products, consumers have more expectations of and thoughts about appearance and design. During the process of implementing the visual communication design

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