Research on Visual Design in the Context of Immersive New Media

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Abstract. Immersive experience brings new opportunities for the development of experience economy. Visual design is the most core means to bring immersive experience, and visual interaction with immersion as the core is essential in the experience link. Immersion experience can be divided into virtual environment experience and real environment experience, which go beyond the interactive experience brought by TV, computer, mobile phone and other media. It provides a new way for people to perceive information, and also brings more possibilities and more complex requirements for visual interaction design. What is visual design, what kind of immersive experience can be brought by the design results, how the application can empower the development of the industry, and what breakthroughs can be made in the application mode. There is no doubt that the discussion on these issues is urgent and valuable. This paper takes the visual design of immersive experience as the core, explains the concept and characteristics of visual design, and analyzes the practical significance of visual design based on immersive new media context under the integration of immersive experience, visual design and media technology from the perspective of application.

Keywords: New media · Visual design · immersive

1 Introduction

With the application of digital media technology, the word new media has been widely mentioned, resulting in new art forms and thinking. Immersive digital media technology, which comprehensively processes text, sound, graphics, images and other information through software and hardware, can make abstract information into perceiveable, experiable and interactive content presentation, and this technology also promotes the rapid development of visual design. To some extent, visual design has become an important visual carrier for people to experience and transmit information and emotions. Nowadays, the development of new media art has gone beyond the single expression form and creation limitation of traditional video art, and the sensory stimulation brought by media technology can bring viewers an immersive visual experience.

2   Concept and Characteristics of Visual Design

2.1   The Concept of Visual Design

Visual design is an active behavior for the purpose of disseminating specific things through visual means. Visual presentation is an indispensable part of it, and the influence of two-dimensional space presentation such as logo, typesetting, painting, graphic design, illustration, color and electronic equipment is the embodiment of visual presentation. In short, visual communication design is the process of using media to convey information to the audience, so that people can receive information through vision. In this process, designers and communication objects are used throughout, the former is the sender of information, and the latter is the receiver of information [1].

2.2   The Characteristics of Visual Design

First of all, visual communication design is the design of conveying relevant information to the audience through visual media. Visual communication integrates complex and difficult information, and packages it into beautiful images, visualizes the world, and makes people have intuitive understanding. This reflects the characteristics of The Times and rich connotation of design [2]. Under the background of the rapid development of science and technology, with the emergence of new energy and the development and application of product materials, this field slowly expands its scope, intersects with other fields, and gradually combines with other visual media, forming a new design field.

Secondly, visual communication design is also called decoration design because most of it uses printed matter as the main medium. From the perspective of development, visual communication design is scientific and rigorous, and it also contains the general direction of future design. As far as the current development of design is concerned, its main content still lies in graphic design. Finally, visual communication design emerges at the historic moment in the era of rapid development of commerce, and ultimately serves modern commerce. Visual communication design has a wide range of fields, mainly including logo, advertising, packaging and corporate image, etc., mainly serving brands [3]. These designs are transmitted to consumers through visual images, so they are called visual communication design, which is a connecting tool between enterprises, goods and consumers.

3   Classification of Immersive Visual Design

3.1   Immersive Visual Design for Performing Arts

Immersive visual design for performing arts can bring the audience the most expressive experience, not only based on the classic adaptation of traditional drama, but also the regional culture of emotional performing arts, as well as the conceptual performance of imagining the future. In tourism, an emotional performance can let you experience humanistic stories in different regions. Large-scale song and dance realistic performances are widely used in tourism culture development. The "Impression" series of realistic

performances directed by Wang Chaosong uses the real performance experience of landscape, and then the scene experience performance of the indoor theme space *See Pingyao Again* integrates the elements of the ancient city with the performance [4]. The audience can travel through different themed Spaces in 90 min to experience and immerse themselves in the history of cultural experience.

Thinking in the rapid iteration of the torrent of science and technology, concept performance also came into being, presenting an immersive experience environment for the audience in a new form of artistic expression, which is an immersive experience of double agitation of thinking and sense. In 2017, the *Dialogue and Fable 2047* directed by Zhang Yimou came out, which triggered people's discussion on future science and technology and traditional culture [5]. This concept exhibition continued the style and concept of the performance, integrated the elements of scientific and technological innovation, and made an unprecedented integration and connection between the most primitive culture and the most forward-looking technology. Each participant is both a viewer and a reader, and will also be a part of the participating works, presenting a profound cultural implication in an innovative form. So far, it has been performed for three seasons, and in each season, the works have the emotional interpretation of intangible cultural heritage culture combined with technology, carefully selected those little-known intangible cultural heritage projects, and then used various media to put the latest technology on the art stage to interact with the performers, and the ancient art and modern technology collide with subtle chemical reactions. *Innovation is good inheritance* and the premise of innovation is to understand and sense the culture, based on the root of culture, insight into the voice of *The Times*, in the innovation of inheritance, innovation in the inheritance. Using the interweaving of sound, light, electricity, science and technology and cultural elements, it brings the audience a space for perception and thinking, and participates in an immersive performance of science and technology interpretation [6].

3.2   Immersive Visual Design for Entertainment

Immersive entertainment includes immersive theaters, immersive KTV, immersive theme parks and other immersive entertainment consumption areas. Disney spent $1 billion to build the *Galaxy's Edge* immersive theme park, participants can build their own robots and lightsabers, and interact with aliens, enter the exact replica of the Millennium Falcon can experience in the cockpit, The striking images are very concrete and immersive, blurring the line between reality and fantasy [7]. Through arc screen projection and 360 degree ball screen theater, the digital display content presents a more three-dimensional viewing effect through projection technology. The immersive package, surround sound, and dynamic electric seats are also the immersive entertainment experience brought by sound, light and electricity, which is the development direction of future theaters. The same technology can also be applied to KTV theme space construction, full scene space design integration of digital technology to bring the ultimate experience of film, video, listening, participants in the virtual and real environment, the formation of a dreamlike immersion experience [8].

Immersive theater design is more widely used in indoor venues such as museums and science museums. In the audio-visual space of Shanghai Science and Technology Museum in China, the audience can directly face the six-story high stereoscopic giant

screen screen when playing the movie, and the audience in the IMAX ball screen theater is immersed in the stereoscopic screen under the dome. It is the first multimedia spherical theater in China that uses video and image stitching technology, making it as exciting as riding on a spaceship when watching Cosmic Adventure. The spherical theater next to the National Science Museum of Korea is considered to be a real VR theater. After entering, the audience walks on a glass viewing bridge across the sphere and places themselves in the center of a 360-degree video projection, presenting a sense of wrapping in the whole field. In the film, the audience can experience the development process from the Big Bang to the origin of life, and show the historical evolution in an interactive way. The audience can feel the vastness of the universe and the unique immersive sensory experience without wearing VR glasses.

3.3 Immersive Visual Design for Restaurants

Immersive restaurant is the use of projection and other digital media technology to dig deep into the food culture, the dining environment uses more projection technology to create a *Sense of Immersion*, through the theme of the projection screen switch to achieve visual senses, around the food at the same time enjoy the multiple stimulation of vision, taste, touch and so on, this form of restaurant is more novel immersive experience form. The innovation and development in the past two years will be the future direction of catering, and also the opportunity under the immersive experience industry. Immersive scenes use splicing projection technology to display the dining environment on the floor and wall. Technology adds artistic sense to food, which can be promoted around culture and tell different stories. Li Lin, the founder of light and shadow Art restaurant from light and shadow visual artist and music, has made a breakthrough attempt in the commercialization and popularity of immersive art [9]. He uses light and shadow art to tell personal customized stories and experiences for customers, positioning the restaurant as a delicious light and shadow art museum, so that customers can get the ultimate experience of tasting food and interaction with light and shadow.

The visual design of the immersive perception restaurant *Liangshe Banquet* takes humanistic life as the concept, and creates an immersive restaurant that integrates six senses of sight, hearing, smell, touch, taste and knowledge. Participants can enjoy Tang culture, food, music and dance. This is a feast jointly created by science and technology, art and culture. Designers Wang Yang and Zhou Ping are inspired by Han Xizai Banquet, one of the top ten famous paintings in China [10]. From the exploration of Tang history and Tang Dynasty food culture, they create an immersive experience of the Tang Dynasty, which can be picked easily by the participants, and even a glimpse is a poetic holographic projection. This is not only the meeting of culture and food, but also the process of integration of science and technology and art. It is the application of immersive experience in Chinese food culture, which uses the understanding of life itself to immerse the experier in the ultimate sensory experience and deep spiritual enjoyment.

3.4 Immersive Visual Design for Art Exhibition

Immersive art exhibitions no longer bring traditional contents only for viewing, but upgrade these contents to immersive exhibitions for experience, which has both display

effects and can mobilize all-round sensory experience, breaking through the panoramic, interactive and super shocking big exhibition era brought by the traditional exhibition hall display method. The works of Team Lab can be said to let more people know and understand the art exhibition of immersive experience. In 2012, the team adopted big data, real-time rendering and other technologies to create an immersive and interactive experience work *Eternal Life in full Bloom*, which presents an immersive experience virtual space of flowers blooming and falling, and shows the beauty of life and the mystery of nature. Since the Team Lab exhibition led by Shouzhi Zhu was well known to the public, there has been a boom in new media art creation. The new media interactive installation based on database and multi-sensory experience has been applied in the design of large and small Spaces, and new media art and immersive experience have also become the title of art exhibition. With the development of digital storage technology, Data-driven intelligent interactive devices have become a new space for scientific and technological innovation experience.

Digital technology is leading the value of immersive experience. In terms of the innovative experience of traditional art, the theme of the immersive digital artistic conception exhibition of *Magnificent Jujie in the Scene* is to take the artistic conception elements from the three classic works of *A Thousand Miles of Rivers and Mountains*, *Luo Shen Fu* and *A Hundred Flowers Scroll*. Through the installation, interaction and deduction of the projection of the image, the scene and artistic conception in the scroll are presented. The audience can walk into the scene created by the artist to feel the poetic meaning of the painting scroll, and feel the modern aesthetic language expressed by science and technology. So that *A Thousand Miles of Rivers and Mountains* is like a movie scene in front of the eyes, so that *Luo Shen Fu* is like a dream of space error, so that *Deep Flowers* is like a spirit flying all over the sky, and the scenery in classical aesthetics is vividly displayed in front of the audience. As if *People Swim in the Environment*, the immersive interactive images directly touch the audience's inner world on the innovative experience of traditional art, and achieve a dreamlike full sensory experience, a real immersive interactive art exhibition.

4   Conclusion

The new media environment has many influences on visual design, and the most important one is the influence on the concept of design thinking. In the era of continuous technological innovation, it is necessary to make more use of different media, different elements and different ways and integrate them with each other. It is necessary to pay more attention to the diversity and synthesis of brands and the immersive experience of products brought by media for customers. An excellent design should not only be because of its good-looking labels and attractive packaging, but also should comprehensively consider how to use new media platforms, VR immersion technology, dynamic communication and other forms of integration after the basic design, so as to improve the communication effect of visual design. Designers should also have new media literacy, so that visual design works can better adapt to communication in the era of media convergence, so that visual design can show more interesting effects in the perspective of media convergence.

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