

Exploring User Experience Design in Computer-Based New Media Art

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Abstract. New Media Art is a modern interdisciplinary art, It integrates fine arts, psychology, sociology and computer science. With the rapid development of information society and computer science, in the information age of big data, the rapid development of artificial intelligence technology has raised computer science to a higher level, while art still stays in aesthetics, acoustics, vision, psychology and other aspects, lacking logic, intelligence and integration. Therefore, the new media art urgently needs to be further developed with the support of the new computer technology. The project uses big data and artificial intelligence technology to realize the basic model of new media art, which greatly improves the quality of art classification, reduces the labor production costs, and increases the operating income of enterprises, produces good economic benefits. To strengthen user experience design as the core, improve user participation and sense of gains.

Keywords: New media art, computer technology, user experience design.

1. The Characteristics And Current Situation Of New Media Art

In the form of new media art expression, European and American countries have been leading in China. There are many new media art branches, each one can be finely divided into a mature major or topic. These branches are all related to computer technology, so the new media art is the new art that integrates art and computer technology. In the past decade, China's new media art has reached a higher level, but relatively speaking, it is still catching up with western countries, and it is not surpassing western countries to some extent. We also need to bring forth the new on the basis of our predecessors, integrate more design and scientific concepts, and strengthen the introduction of new computer technology, mainly big data technology, metaverse and artificial intelligence technology, etc., to design more new media art works in line with the user experience, so as to make the new media art more in line with the development of The Times.

1.1. The interdisciplinary and multi-branch characteristics of new media art

The problems reflected in science can be reflected through some phenomena, and a good knowledge structure through analysis and aggregation; Art is a perception of life or spirit produced through the inner feelings of things and human inspiration. These things are often formed through people's experience of life or work, and have personal aesthetic characteristics and artistic color. Art needs to explore the spiritual feelings of humanity. The process of exploration can be aided by new modern computer technology. It is stated that " Science and art are inseparable, just like the two sides of a coin." Therefore, the integration of science and art always exists, and new media art is not a new thing. Therefore, in the new media era, due to the rapid development of information technology, the integration of science and art will inevitably undergo new changes. Mathematics, physics, chemistry and other basic disciplines are the main science of people's research at present; Art is a kind of aesthetic feeling across time and space, which is the mutual integration of space art, time art and time and space art. Science and art are not isolated, they are interdependent, mutually reinforcing, and more closely integrated. New media art incorporates disciplines like fine arts, psychology, social sciences, life sciences, engineering and computer science.

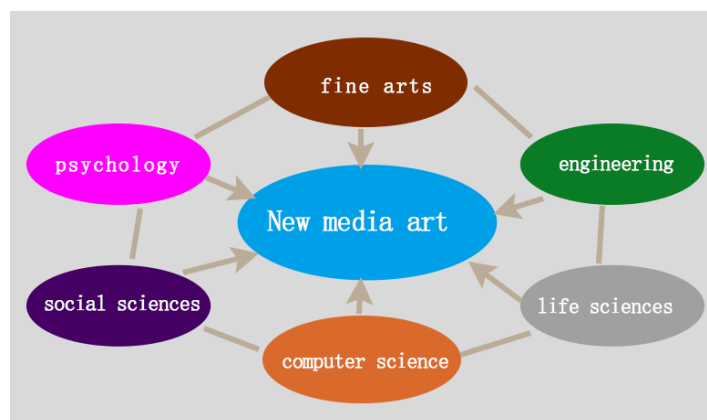


Fig. 1 Intersection diagram of new media art discipline

1.2. New media art emphasize on user experience.

With the enrichment of material life and the development of information, people's lifestyle has undergone great changes. People pay more attention to spiritual enjoyment, and they are more and more accepted and willing to create emerging art forms. In the current new media art, because it is not a product of the new era, although it contains the characteristics and elements of high technology everywhere, but it is still an art form formed in the last century. For the new media art, it itself is deeply rooted in the network platform of human beings, with a profound sense of democracy and popular ideas, which is more convenient and simple to spread. New media art shows the current state of people's survival and the expectation for the future life. It is an art form displayed in a science fiction or profound way through computer and other technologies.

The development of information technology has created a new digital form of art design language for modern art design, and reflected the interdisciplinary multi-branch characteristics of new media art. To use advanced computer technology can perfectly integrate the virtual and real art elements, create a new art form beyond the real life, and bring people a different visual experience and aesthetic feeling, which is incomparable to the traditional art design. However, the development of new media art in the past decade is still in a stage of imitation. And the requirements of new media art are higher than the general art, because the new media art is not only the visual aesthetic feeling of users or the auditory enjoyment, but also the intelligent interaction with users. Therefore, through the use of new computer technologies such as big data technology and artificial intelligence technology, the modern new media art is not only the expression of aesthetics, acoustics and vision, but also the interdisciplinary application of computer science and art and other disciplines such as psychology, sociology and life engineering. More attention is paid to the application of information technology, people's interaction, learning process, use of experience and gain.

2. User Experience Design Of New Media Art

2.1. Design new media art with technical advantages and interdisciplinary characteristics

Combined with the related technologies of human artists and computer scientists, this paper mainly starts with the new technology and artistic design of computer science, attaches great importance to scientific thinking, adds humanistic factors, and studies the development trend of new media art using computer technology. With the use of computer science data technology and artificial intelligence technology, modern new media art is not only aesthetics, acoustics and visual expression, but also the process of the application of information technology, people's interaction, communication and cooperation, and emphasizing cultural emotion. Starting from the diversity of new media art and user experience, make full use of people experience of personalized design, using technical advantage and interdisciplinary design, new media art has developed from the original imitation to the original, from the dependence on science and technology to the concept of innovation, from virtual art to the

metaverse, has been loved and recognized by the people. As shown in Figure 2, according to the gender, age and personality characteristics of users, cultural, art and modern technological means are integrated to render different spatial fields and give users a dreamlike immersive experience.



Fig. 2 New media art user experience project

But we find that in the art design of new media art, there are time-consuming, miscellaneous ideas, manpower consumption. Use the big data collection of computer technology and artificial intelligence technology, and use computer programming can automatically generate sample legends, activity plans according to product needs, it will certainly improve work efficiency, save expenses, reduce costs and increase profits for enterprises and public institutions in new media operation.

2.2. Integrate thoughts and emotions into the new media art design.

From the ideological and emotional point of view, when the interaction is smooth, familiar, and meets the expectations, the user will be happy and inspired from the product. Through data mining of users' thoughts and emotions, combined with artificial intelligence technology, key information is collected to generate art maps or mathematical models, recommended to artists, and then the artist designs the products that users like. In this way, the artist has reference and material in the design process, saving time to avoid exhaustion of inspiration. The artist not only through his own observation and perception of life, integrates their own thoughts and emotional experience and innovative thinking into the design works, but also shows the commonality of the audience and the public aesthetic in the works.

The development of information technology has created a new form of digital art design language for modern art design, and provided more development space for designers' artistic creation. Using the advanced computer technology, we can perfectly integrate the virtual art elements and the real art elements, create a new art form beyond the real life, and bring different visual experience and aesthetic feeling to people, which is incomparable to the traditional art design. The original demand and innovation of new media art are very important, because new media art pursues users' sense of use not only in visual beauty or auditory enjoyment, but also interacts with users more intelligent, and enhances users' sense of experience and gain. Modern new media art is not only the expression of aesthetics, acoustics and vision, but also the cross-sectional application of computer science and art, psychology, sociology, life engineering and other disciplines. In this rapidly developing era, people began to pursue a dynamic, interesting, material, and spiritual and prosperous way of life. As long as the artist works it well, it can make the work more infectious and better communicate with the audience. By designing a variety of new media art works, express people's emotions either excited or sad, or happy or afraid. Artists play the role of emotional drive and monitoring, thus guiding people's cognition, behavior, and judgment. Computer technology team needs to understand the artist's design concept, combine big data technology with artificial intelligence, and use computer programming and other technologies to produce new media works consistent with the artist's design concept.

We should shift our attention to the emotional needs of the users, integrate the emotional design into the product, and achieve the unity of beauty and availability. Then we can carry out emotional design from the analysis of the elements of pleasure, which trigger the emotional design (instinct, behavior, reflection, etc.), so that "emotion" has become the main design of the current Internet products. The pleasant mood of users using products comes from the reflection of the behavior process. At the same time, due to the synthesis of instinctive acceptance and other emotions, it is designed to

create continuous and impressive products. The pleasant experience of users is an important content of integrating thoughts and emotions into the new media design. As shown in Figure 3.

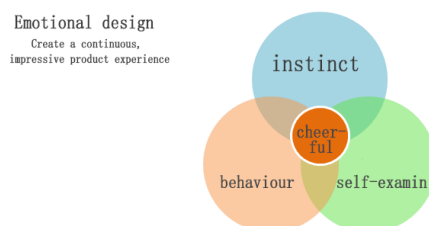


Fig. 3 Emotional design model

3. Using Big Data And Artificial Intelligence Technology To Build A New Media Art Model

We found that in the art design stage, new media art is often time-consuming, single creativity, and large human consumption. If we use computer programming can automatically generate sample legends or activity scenarios based on product requirements by the big data collection of computer science and artificial intelligence technology. Therefore enterprises and institutions in the new media operation can improve work efficiency, save capital, reduce costs, increase profits. Once computer technology and art are deeply integrated, it will open up a new world for modern art design, which will not only improve the level of artistic design, but also bring more different aesthetic feelings to people, and improve the work efficiency of artistic design.

3.1. Set up data acquisition range model

Using big data automated data collection tools to conduct external data collection and internal data mining, analyze the development trend of new media art, predict the future art trend, clean up and process the art map under the background of new media. Using big data cleaning technology to quickly collect, process, store and analyze all kinds of art data, discover new art knowledge, create new value, and improve the performance ability of new media art. The integration of information technology and art has led to the rapid growth of art-related data, which has become the basic resource of art, and then classified through the production, circulation, distribution and operation mechanism of global art elements, applied to modern new media art design, and generated art maps and models for designers' reference. Through the database, business system log, Internet application, container log, and operating system log and network equipment log, data collection, cleaning and storage operations, to obtain the data collection model. As shown in Figure 4.

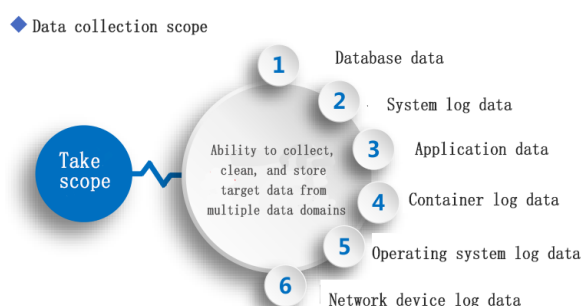


Fig. 4 Data acquisition range model

3.2. Using New technology

The use of mobile terminal devices is becoming more and more common, coupled with the widespread use of wireless network. Mobile terminal devices are favored by most users for their convenient operation, diversification and low threshold characteristics. Therefore, in order to adapt to

the development of the society, the new media art will also shift from the big screen to the mobile phone screen.

Using the artificial intelligence technology of the branch of computer science, to construct the granular art knowledge graph. Combined with psychology, sociology, various elements classification, intelligent adaptation of color, composition, level and user portrait analysis, through artistic thinking, language recognition, image recognition, natural language processing, expert system research, the process of information simulation consciousness and thinking, produce new forms of thinking of intelligent new media art.

3.3. The specific research methods

Specific Research Methods of Computer Technology and Art Design In the user experience. New media art focuses on the public's experience and practicality. Therefore, big data technology and artificial intelligence technology are the key computer technologies introduced in this paper. The specific research methods are as follows:

Through the demonstration and analysis methods, the main reasons and development trends of the changes of new media art are discussed, and the interesting development of new media art in the current multidisciplinary literature is summarized, so as to provide a more valuable reference for the development of art forms in the new media era. Use the comprehensive induction method. Have a comprehensive understanding of the development history of new media, new media technology, aesthetics, psychology, sociology, and new media art, as well as the development status of new media at home and abroad, and understand the latest scientific research achievements in related fields. The technical analysis of the interest points, practicability, convenience and effectiveness of the new media art is conducted, to find the concerns of the users, and then summarized through inductive reasoning, and applied to the actual needs. Comprehensively analyze the basic elements of new media art, and better summarize the characteristics of new media art.

Through the demonstration and analysis methods, the main reasons and development trends of the changes of new media art are discussed, and the interesting development of new media art in the current multidisciplinary literature is summarized, so as to provide a more valuable reference for the development of art forms in the new media era.

Making full use of technological advantages and making full use of computer technology can promote the reform and innovation of new media art. The development of information technology has created a new digital art design language form for modern art design, and provided more development space for designers' artistic creation. Make full use of advanced computer technology, the perfect integration of virtual and real art elements, to create a new art form beyond the real life, to bring people different visual experience and aesthetic feelings, which is incomparable to the traditional art design. In addition to visual enjoyment, the public needs are also changing. Hope that the more intelligent modern new media art can realize the intelligent interaction and practical experience. Using the effective combination of art discipline and computer discipline for more in-depth research.

4. Brief Summary

New media art design takes user experience as the center and uses computer technology to establish an interactive environment. Through the use of multi-sensory, multi-channel and multi-dimensional intelligent human-computer interaction, the interactive plot and entertainment art are unified. For example, in the dynamic voice interaction, the human-computer interaction software interface adds new media elements such as voice and animation, which improves the vividness, interest and effectiveness of the interaction, and enables the software to realize the natural language dialogue between people and machines. By adopting intelligent interaction channels, devices, and voice, gestures, images and other interactive technologies, users can naturally communicate and collaborate with multiple characters through multiple channels.

Computer technology is an auxiliary tool of fine art design, which can help us to break the limits of art. Therefore, we need to strengthen the integration of the two, further innovation, to provide more convenience for users; Generate algorithmic models of automatic implementation of new media art, provide artists with design inspiration for artists, and help ordinary enterprises to develop new media works that they want to achieve through templates. To improve the work efficiency of enterprises, reduce expenditure, reduce costs, improve returns, and at the same time, a higher pursuit is to lay the foundation for the popularization of new media art. However, this process will have a lot of detailed work, including demand analysis, feasibility report, network information technology, cutting-edge computer technology, computer application disciplines selection, etc., which will require a strong comprehensive team cooperation to complete. In addition, the research on the integration of computer technology and art needs to be deepened. At the current research stage, this is only a preliminary research idea.

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