

# Research on Interactive Design of Digital Media Art in the Age of Artificial Intelligence

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**Abstract:** With the growth of sci & tech, the application scope of artificial intelligence technology is increasingly extensive. Artificial intelligence not only supports the growth of digital media from a technical point of view, but also gives full play to the advantages of artificial intelligence in creativity and has a very broad application prospect. The interactive design of digital media realizes the application of interactive technology in the field of digital media, strengthens the diversity and effectiveness of digital media interaction, and makes people have a better life and work experience. The world people live in is increasingly driven and dominated by data, sensors and robots, and artificial intelligence is moving from concept to application, constantly producing subversive innovations, thus profoundly affecting and changing people's thinking and behavior. This paper mainly starts from the new discovery brought by artificial intelligence to digital art, and analyzes the interaction design in digital media art in the era of artificial intelligence, so as to seek better development opportunities for today's digital art.

## 1. Introduction

With the rapid change of information and the rapid growth of sci & tech, digital media art constantly influences and changes people's lifestyles. Interactive technology, through the interaction between human and machine, realizes a good dialogue between them and achieves communication and cooperation[1]. Today, with the growth of digital art gradually maturing, the collision between artificial intelligence and digital art will bring unprecedented stimulation to the growth of art[2]. The interactivity and immersion of digital art are consistent with the autonomy and experience formed by powerful algorithms of artificial intelligence, and both of them consider the people-oriented concept[3]. The field of art has been rising in recent days. It has been found that artificial intelligence can be involved in the field of art, but the challenges it brings are also essential, which also makes the expression forms of technology and art different. Artificial intelligence has brought a new look to people's lives, and the upsurge of artificial intelligence has swept through many technical fields[4]. Digital media technology can turn abstract information into vivid and vivid information. Under the background of the combination of digital media and artificial intelligence, the original content will become more active. Digital art contains a lot of artistic content, and it has gained more and more attention among the people. In the era of artificial intelligence, one of the core industries is the perfect combination of scientific innovation technology and digital art, which has become a booster for China's economic development[5].

Interactive technology is a kind of interaction between man and machine, which refers to the technology of realizing the dialogue between man and computer in an effective way through computer input and output equipment[6]. Interactive technology in digital media art is closely related to people's daily life, which brings people a new life mode and makes life more colorful[7]. With the development and popularization of computers, digital media art has also developed under the background of artificial intelligence era[8]. At this stage, digital technology and media art are combined to fully display the charm of culture. The application of interactive technology in digital media art in various fields can greatly improve the comprehensive performance of various fields, which is of great help to the all-round growth of digital media art[9]. In this regard, this paper

analyzes the interaction design in digital media art in the era of artificial intelligence, so as to seek a better development opportunity for today's digital art.

## **2. The Present Situation of Digital Media Art and Technology in Development**

### **2.1 Lack of Support from Advanced Ideas**

At present, with the rapid growth of computer technology and network technology, digital media art has a new form of expression under the impetus of computer and network. The rise and growth of digital media technology makes digital media art surpass traditional media in artistic expression. The biggest difference between digital media and other art forms lies in the form of expression and the digital scientific and technological means used in creation. When creating digital media art, the lack of innovative ideas may make the works circulating in the market even artistic, which will also aggravate the similarity. The growth of digital media technology provides a broader space for artistic creation and a new artistic experience for the audience. The foundation of digital media art is modern media technology and digital sci & tech, and it is mainly an art form that combines artistic perceptual thinking with human rational thinking[10]. With the growth of society and the progress of science, technology and media, more and more digital media art began to appear and be applied to exhibition design. In order to make the works of digital media art meet the market demand, we should correctly and profoundly understand the significance of digital media art, and also accept and understand some digital and artistic creation methods. In the era of the growth of artificial intelligence, the traditional creative ideas are still being used, so the works created will not be sustainable.

### **2.2 Insufficient Understanding of Cultural Background**

More and more people use digital media to get information and learn entertainment. These promote the possibility of human contact with computers, so that human beings can rely on the network platform to obtain a lot of information, and human beings can also share the obtained information with others by using the network platform. The application of interactive technology benefits from the rapid growth of network digital media technology. In recent years, digital media technology based on Internet and wireless communication has developed rapidly all over the world. Digital media combines culture and art, and uses communication technology to spread information in culture, art, business, military, education and other aspects. Only by properly spreading traditional culture, taking China culture as the creative foundation and avoiding idolatry of western culture can we realize the long-term sustainable growth of digital media art and technology. In the era of artificial intelligence, the growth of digital media art and technology is urgent, and it has also increased the diversification of art and technology while developing rapidly.

Interactive technology needs to provide a platform between human and network, which promotes the emergence of database system. Because of the huge amount of information in the network and various ways of network participation, interactive technology needs to load a large amount of information into the database. When people use the network, they use the operation interface to enter their own service area or query system, and then query the information and send an application to the database, and bring up the corresponding content for people to consult. Digital media technology embodies the crystallization of human civilization and wisdom, on the other hand, it also embodies the artist's artistic thought, which is the embodiment of the successful combination of art and science. However, despite the growth of digital media art, it is still obvious that the growth of technology depends too much on the support of computer technology, which makes it difficult for art groups or individuals to really improve their artistic and technical level.

## **3. Interactive Design of Digital Media Art in the Era of Artificial Intelligence**

### **3.1 Realize the Unity of Art and Interactive Technology**

With the rapid improvement of digital media technology and the growth of database system, the

application of interactive technology is feasible. Diversified interactive technology, through receiving instructions, conducting functions and giving feedback, thus realizing data sorting and mutual transmission. With the growth of science and media technology, people can get a lot of information from different angles, including text descriptions, pictures, three-dimensional models and online videos. The above information makes people understand the same thing from different angles. Through three-dimensional, let the audience watch the World Expo with different customs from different times and angles, which well reflects the use of interactive technology. Digital media interaction technology has well realized the unity of art and interaction technology. In the field of digital media, interactive technology can well reflect the whole process of the work, so it requires a higher thinking mode of the subject and requires it to be controllable. No matter how complicated the geographical location is or how different sports modes are being carried out, you can feel the joy brought by interactive technology. The collaborative interactive structure of computer graphics and image design is shown in Figure 1.

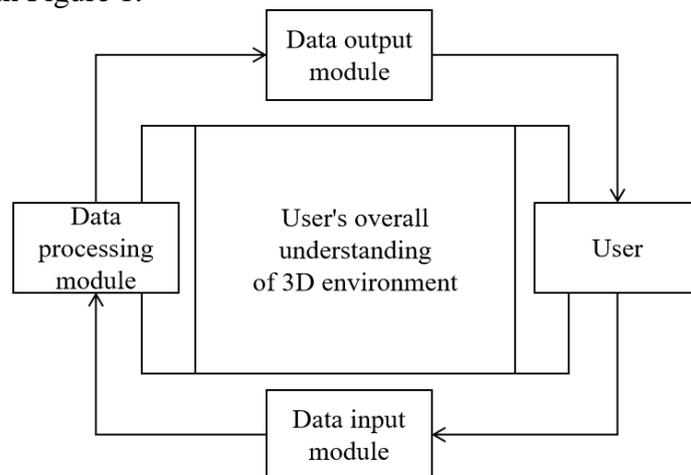


Fig.1 Collaborative Interactive Structure of Computer Graphics and Image Design

Interactive technology creates a real sense of environment for visitors in exhibition design and makes them feel artistic charm. A good-looking TV series should have the cause, conflict, climax and result of the event, and large museums should also have a certain story when designing exhibitions. When planning an exhibition, designers should have a clear concept of stories, show stories through a large quantity of words and pictures, and then interact with tourists through interactive games. As a rapidly developing art discipline, digital media has brought great changes to human social life. Therefore, in the application of digital media interactive technology, people-oriented is adhered to, and the needs of users are considered and met.

### 3.2 Interactivity between Arts

Artists can use computer modeling, broaden their artistic thinking through a large quantity of color materials, and create their artistic works at will. In addition, artificial intelligence also uses deep learning graphic design and color matching to achieve the purpose of intelligent design, and the designed works have many similarities with the works of professional designers. The interactive technology of digital media promotes the interaction between arts. Interactive technology can achieve effective interaction in many aspects, such as not only visual and auditory interaction, but also tactile and olfactory interaction, thus bringing people a pleasant experience. The reason why the computer has the cognition of aesthetic feeling is because it can refer to many existing materials. The computer has neither human reason nor people's passion. In the view of some scholars, cognitive beauty is the wisdom that belongs to people alone, and it is almost impossible for computers to have a sense of beauty and not to think about works of art. The fruit of wisdom beauty is not only scientific and philosophical, but also artistic. Wisdom beauty is closely related to modern society. For art creators, they need to take the initiative to receive the latest knowledge and technology, think rationally about the industry changes caused by artificial intelligence, and use smart thinking to explore the latest forms of digital media. The composition of digital media art

design is shown in Figure 2.

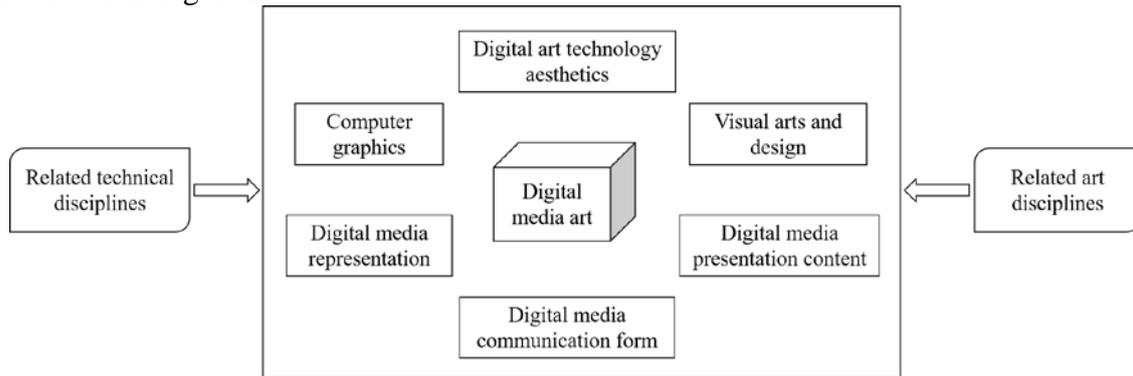


Fig.2 Composition of Digital Media Art Design

In the period of sustainable development and technological progress, digital media art will show more new forms of art, which will develop the diversity of digital media in China. The diversification of digital media art development will also bring different consumption experiences to the audience, and gain new experiences and artistic perception experiences visually. For digital media, when creating artistic works, it not only includes the relationship between wisdom and beauty, but also thinks about the logical relationship between technology and beauty. However, because there is no boundary between beauty, people's understanding of beauty is far from enough. Culture is an eternal topic. Seeking some elements of digital media art from culture can promote the growth of digital media art in a meaningful direction. It is believed that digital media art and technology will perfectly combine traditional excellent culture, so that traditional culture with profound connotation and strong national characteristics and digital media art complement each other.

#### 4. Conclusions

Interactive technology in digital media relies on a large quantity of pictures, words, sounds, video images and animations generated by digital media, as well as a database platform provided by computers or other devices for people and networks, which promotes network communication between people, makes people's lives more convenient and makes the human world more colorful. AI technology is beneficial to the growth of digital art, and can even push the growth of digital art to its peak in the future. Because society is developing and technology is constantly updated, artists are no longer confined to the use of art media, breaking the boundary of media, and combining with the latest sci & tech is a brand-new proposition for contemporary artists. In the field of digital media, artificial intelligence has a wide range of applications. Artificial intelligence can simulate people's thinking and then carry out creative activities, which can be applied not only to self-media, but also to game programs, scene design and content review, so that digital media can be better developed. With the continuous growth of the world economy and the increasingly fierce economic competition, interactive commodity experience is becoming more and more popular. The growth of human-computer interaction in various fields not only promotes the growth of digital media, but also promotes the development and progress of other industries.

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