Research on the Application of Computer Technology in the Field of Art under Big Data

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Abstract. With the continuous expansion of the field of computer application technology in today's era, all aspects of life are closely related to the application of computer technology, and people's work and daily living do not leave the help of computer technology. Therefore, the widespread use of big data has prompted a large number of industries to innovate the methods of computer technology. Computer technology also has an indispensable position in the field of art. The convenience of computer technology operating system greatly improves the efficiency of production and design of works of art. In the process of processing graphics, computer technology makes the work more perfect through the later processing of works of art. This paper summarizes the advantages and concepts of computer technology, and introduces the application of computer technology in different fields of art under big data in detail.

1. Introduction
With the continuous development of social economy today, the function of computer technology is improved, and the application of computer technology in various fields also shows its own unique advantages, and its application fields are also more diverse. It is also widely used in the field of art, such as clothing design, advertising design, animation production and so on. The technology can greatly improve the quality and efficiency of art design, because of its strong ability to process video clips and make pictures. For the development of art to provide a strong and powerful support.

2. Overview of big data and computer technology

2.1. Big Data Overview
In the process of rapid development of science and technology and social economy, a new computer technology, big data, has been produced. The main working principle of big data is to collect, analyze and extract a large amount of basic information, find out the probability and law of a certain behavior, and make accurate judgment and prediction in it. Nowadays, under its background, the enterprise can effectively carry out the work and strengthen the pertinence for the customer population, understand the demand direction of the user, and grasp it accurately. Taking the field of art as an example, the continuous development of art and aesthetics can analyze the hobbies of most users through big data, and can design products for users. It can also improve the audience aesthetic and aesthetic knowledge in the process. This new technical means has a very positive and beneficial impact on the design of works of art. At the same time, big data has a good development prospect, and can provide a good development direction and development ideas for the staff in the field of art. Art works can show the author's own ideas and personal ideas, but also to have the recognition of the masses. Through big data,
the application can accurately analyze the hobby direction of a large number of audience groups, find
their own good development direction, and deepen the level of research and development in it. With
the continuous development of economy and science and technology in today's society, the
development of this technology will also become a very important trend and direction. Designers must
seize this opportunity to complete the transformation in order to better face the test of the new era[1].

2.2. Overview of computer technology
In recent years, computer technology is essential in our work and life, and its basic technical means
have remarkable advantages and excellent development space. This technology refers to the use of
computer existing functional software and program settings to complete the work requirements. With
the continuous development and improvement of the technology, many fields have also developed and
changed. This technology also has very good effect on the design and perfection of works of art, even
a large number of applications in it, its technology can perfect many details in the design, and can
improve the accuracy and efficiency of the design. In the process of continuous application, a variety
of convenient technical software has been developed for staff in its industry.

With the rapid development of modern science and technology, the working mode of computer
technology has been changed. Through this technology, the work efficiency can be improved
significantly and the daily work can be carried out quickly. In the face of complex and complicated
process, computer technology can also improve work efficiency and make the completion of work
more convenient. In today's society, human cost has always been a major expenditure of enterprise
capital. If the efficiency of human work is not improved, the investment of human resources in
enterprises will be too large, and the income will also be reduced. It may even lead to losses. With the
help of computer technology, abstract problems can be simplified, solved quickly and work efficiency
can be improved. There may be some technical deviations or errors in the process of human work. If
computer technology is used to work, computer technology can not only complete the work efficiently,
It can also test the accuracy of calculation results by checking the function. At the same time, the use
of computer systems is also very easy, through this technology is also very convenient to carry out the
work, the means and modes of work are very modern. Nowadays, the use and operation of simple
computer systems are also compulsory courses in university courses. No matter what kind of major,
we also need to master the basic use of computers. Whether in people's lives or work in the process of
this technology is very dependent on. The operation method of computer system is simple and unified,
and the various software operation methods are similar, which is very convenient for the staff to
complete the work through the system operation of computer technology. Furthermore, in the work
carried out through computer technology systems, such as the above mentioned simplification of
complex problems into simple and convenient digital processing, in the face of some more abstract
and incomprehensible works of art, Such an operating system will be more widely used[2].

3. Value Analysis of Computer Technology in the Art Field under Big Data

3.1. Intelligent system will improve work efficiency
The application system of computer is huge, its intelligence degree is high, can liberate manpower
work effectively to replace its design work demand. The content of art design is mostly complex, such
as animation picture design, architectural chart design not only requires the beauty of the picture, but
also pays attention to the accuracy of data. Computer technology can be used to analyze, calculate and
count its data, so as to improve the quality and efficiency of work products. In the process of art
design, there are more complex problems. The intelligent system software in computer technology can
be used to establish the model of simulation application, to simplify the complex problems, and to test
the accuracy of the results. In the process of art design, the design product is faced with two aspects,
one is to meet the user's use requirements and design requirements, the other is to reflect the author's
own creative intention and design concept, Design content too much, and ensure the coordination and
systematization of works.
3.2. Promoting artistic reform and innovation
The design work of works of art is to integrate and gather a large number of creative work. It is to add new creative ideas and integrate different creative ideas under the background of the past work mode and the present work content. Reflect innovation and functionality. In the process of design and creation of works of art, the use of computer technology shows the display of new works of art and the form of creation of works of art, so that the creator's consciousness and imagination are truly displayed, and the works are arranged. Embody the feasibility of joint design with computer technology. When the works of art are designed, the designer will combine his own experience with reality, imagine and create a new work content, but whether the content scheme is feasible or controllable, can use the design model in the computer system to show. Understand whether the cycle is too long and the design effect is ideal. Through computer technology, we can better display the innovation of art works[3].

3.3. Improving design accuracy
In the process of design, art products often have some characteristics, such as long design period and tedious tasks. If the computer technology is properly integrated, the phenomenon of manual operation in the inherent mode will be changed. And can make the design process full of rigor. In the process of manual operation, it has always been impossible to avoid the interference of human factors. If the influence factors too defecate will lead to the poor quality of the design product, the use of appropriate computer technology, There is no need to consider the impact of human factors on the design of products. For example, when the data error leads to the design result error, we can use the integration of data resources, use 3D animation to show the design result of the final product, and improve the design accuracy.

3.4. Promoting the combination of traditional and modern art
The continuous deep research and development of computer technology makes the application technology software of art design type increase continuously, and its function is constantly upgraded, which makes the application technology of this design more modern and simplified. Also make its use scope is expanding ceaselessly. The design method of traditional art and the design method of modern art have created broad space because of the appearance of applied technology. The traditional art design mode is inclined to the enjoyment of vision and the softness of color. In the use of design software much. In the traditional design, the board design and ideas of the design will be compared many times, and it is thought that the scientific and accurate nature of the art design can be improved. The design software can give designers a large platform to complete their own ideas[4]. In order to improve the usability and maneuverability of art design.

4. Application of Computer Technology in Art Field under Big Data
The application of computer technology in the field of art under big data is shown below:

![Diagram](image_url)

Figure 1. The application of computer technology in the field of art under big data.
4.1. Image processing
The key part of art design is image processing, which is directly related to the presentation effect of works. The use of computer technology and applied data processing can improve the fine processing of works of art images and promote the better expression of works of art images. In the traditional image processing process, analog programs are generally used. If some parameters in the image are adjusted, the expression effect of other contents in the image can be changed simply, which leads to the change of the image. Using this technology, the details of the image can be processed according to different needs, which can promote the image to be more high-definition and clear so as to meet the requirements of users. If we need to highlight some details in the image, we can make the image more clear and natural after processing by stratification. Nowadays PS technology has been widely used in the field of art, and image processing is more efficient and convenient, which is impossible to achieve[5].

4.2. Digital applications
In the process of processing and designing works of art by using computer data processing technology, it is necessary to strengthen the application of digitization, which can not only make the design more convenient but also make the design works more in line with the requirements. The amount of content designed in the process of design is not only large and complex, but also easy to make mistakes if only rely on labor to complete the work. Input the data needed in the design into the computer, can use the system to quickly realize the drawing of works of art. The computer grasps the detail and integrity of the work. If the content in the design works conflicts, the computer will give a prompt reminder, and the designer can correct the content that does not meet the requirements in time. The operation of computer system is very convenient. It can complete the modification work efficiently when modifying some details in the design works, and can compare the advantages and disadvantages of different designs. Promote the positioning of the design idea more optimized. The computer contrast mode can not only improve the effectiveness of the work, but also make the details in the design work more match and perfect, and avoid the contradiction in the later processing of the work.

4.3. Post processing
With the continuous development of society, the form of works of art will not be limited to pictures, and some video and animation post-processing also needs computer technology to deal with. In the past, most of the video pictures people see are more monotonous, no cool special effects. Nowadays, the animation special effects of movies and TV dramas are made by designers in post-production. In the process of production, the technology of image fusion and extraction is adopted, and images and sounds are added on different tracks to make them better combined. Present to the audience a more diverse and wonderful way of expression. In some shooting processes, the desired picture will be constrained by the reality, so that it can not directly shoot the scene or the best presentation of the best picture. Therefore, we can use post-processing to improve the picture and even make the picture[6]. Every staff member in the art field must master the means of computer technology post-processing.

4.4. Optimization of Creative Thinking
The design of works of art is a combination of creative ideas, want to better present their ideas, you can use the help of computer data processing technology. For example, computer modeling, the design content of different styles is composed of simple graphic superposition, and the operation of its use method varies according to the way different staff use computer technology. For example PS there is no special effect of corrugated paper in computer software, but the brightness change of corrugated paper can be achieved by combining flat and long parallelogram to enhance each other. Many thought-filled design methods, if only solved by manual, often require a lot of time and manpower, and the effect can not be compared with the effect of computer technology. In the context of the continuous development of science and technology, if you want to quickly learn the skills of art design, you must learn how to use the technology.
4.5. Multimedia integration
When processing works of art through computer technology, it can make comprehensive use of multimedia mode and add appeal to the works by combining the expression forms of image and audio and other tracks. The multi-dimensional feeling is composed of the aesthetic ability of the audience group and the combination of many aspects of stimulation. Various levels of expression methods can comprehensively show works of art, which is a visual form of expression in the universal abstract aesthetic concept. Compared with the general audience, its most understood form of work display is the comprehensive use of multimedia. When people watch film and television programs, the picture and sound are stimulated at the same time, but only audio broadcast will bring greater restrictions, there is no way to bring a comprehensive experience to the audience. Through the comprehensive expression of computer technology, it can make the audience more acceptable, and it also has a good development prospect[7].

4.6. Aesthetics
The audience group of the works of art is relatively limited, and most of the products designed can not interact well with the audience group, so that the aesthetics in the works of art can not be felt by the audience group. The use of computer technology can effectively remove such restrictions, and the work to be fully displayed. Art works are often designed with aesthetic ideas related to mathematics. For example, the golden section line, if the lack of algorithm logic, this aesthetic sense of beauty is difficult to be intuitively felt by the ordinary people. By using computer technology to calculate the data, the aesthetics in its works can be displayed to the audience group in the most direct way, and the audience group can deepen the viewing level of its works, so it can effectively increase the influence of its works. If the design idea of the work can not be displayed directly to the audience because of the limitation of science and technology, it will make the audience unable to understand the beauty of the work. Therefore, using the data operation technology of computer technology, the works can be better displayed or analyzed in detail, so that the distance between the two can be shortened.

5. Impact of computer technology on its field
The application of this technology in the field of art is a great change in the art class. Nowadays, in the latest online games, animation creation and the production of digital media websites have relatively high use value. Today is the era of digital media art. Application data exchange design interaction is a unique art in the development of digital art. The new way of experience is that the information design of art design itself communicates with each other and makes the Internet interesting. This kind of sustainable development will certainly cause the audience to pay attention to a big bright spot. The most used technology in the field of art is digital art, using multimedia technology to combine abstract literature, animation, pictures and so on, to maximize the richness of artistic pronunciation, reflect the great appeal of the form of expression, so that the combination of computer technology and art design shows a strong appeal. The continuous application of computer technology in its field has made some major breakthroughs in the field of art. VR that is, virtual reality, the emergence of virtual reality is a major breakthrough in the field of computer technology. Virtual reality is a high-stage man-machine interface, which can simulate the sensory ability of human hearing, touch and vision, and make people enter the digital virtual world which can be seen, heard and touched by computer technology. The United States military is the first in the world to study virtual reality products and produce, but with the continuous exchange of information between various fields, it slowly evolved into the current virtual game. People can use the operation of computer systems to simulate the real situation, to reshape the past, or to build a fantasy world. Let people in the virtual world to pursue what they think or feel their own heart, to achieve the reality of their own experience.

6. Conclusion
Computer technology is produced by the continuous development of the times, the computer system is extremely large, it also embodies the characteristics of intelligence, can better replace manpower,
improve the standardization of art design process. Whether in the animation design or the chart design of the construction industry, the reasonable use of computer technology can fully reflect the aesthetic sense of the design works, and can make it have a high standard of accuracy. In order to improve the efficiency of art design, reasonable data analysis and statistics can be carried out with the help of computer system, and the accuracy of saving operation process can be improved.

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