

Applications of Interactive Installations in Public Spaces

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ABSTRACT

As an indispensable part of the process of urban construction, urban public space is the main place for people to carry out information and material exchanges. The interactive installation coincides with the design purpose. The application of interactive installations in public spaces has brought about a huge change in public space art creation, not only making public space expressions more active and diversified, but also bringing an excellent display platform to interactive installation art. This has achieved a good goal of doing multiple things in one fell swoop.

Keywords

Public Space; Application Analysis; Interactive Installations;

Introduction

For public space, it is an important way and place to connect various cultural groups and citizens to communicate. It has a very close connection with people's daily life, and it is also a good space form to take into account both openness and publicity. In recent years, with the emergence, development and wide application of interactive installations, urban public spaces have begun to develop in a humane and diversified direction. With the help of interactive installation art, it can use some advanced technologies to realize the effects that the original traditional art is difficult to achieve, so as to provide people with a new artistic experience and feelings. Although interactive installation art is not yet fully mature at this stage, and continuous research is still being carried out at home and abroad, its own development space is still extremely broad. If interactive installations can be used in public spaces, people's various needs in life can be greatly satisfied. This is in line with the specific trends of society and the future development of cities, and there is a strong inevitability.

What is "interaction", if see only from its literal meaning, interaction is mutual influence. The most basic meaning of the word "mutual" is to refer to each other, so that the subject emphasized by "mutual" can be fully embodied. There must be two aspects or even multiple aspects to be able to call it "mutual". "Interaction" usually emphasizes a dynamic interaction between two or more

subjects. In a word, "interaction" can be understood as a process of interaction and mutual influence between people and between people and things, including the feelings brought to people's psychology or sense organs in this process, it emphasizes the process, not the result.

"Interactive installation" originated from the English word. It means a special art form to process computer software and hardware as the basis and platform to create a human-computer or human-to-human relationship, and use the computer hardware to develop interaction. In the above process, the computer hardware device plays the role of the media, and the viewer can just use the media to achieve the purpose of interacting with the artwork.

In the context of the current information age, the content of "new media art" has gradually become diversified, and its outstanding technological advancement happens to be one of its more prominent advantages. For example, it can make use of the Internet and computer technology to make virtualization art and multimedia interactive installations, etc. The definition of "interactive installation" in this article refers to a type of interactive installation art at current stage that still needs to be further optimized and perfected. Although interactive installation art has begun to appear frequently in China and abroad in recent years, but in fact, it is not yet fully mature, and a clear conceptual definition has not yet been formed.

Topic

1 The characteristics and significance of interactive installations

For all art forms, they have their own unique characteristics that can be distinguished from other types of art forms. Generally speaking, the characteristics of interactive installation art mainly include the following aspects.

1.1 The interactivity

Compared with other types of art forms, interactivity is the most essential and prominent feature of this type of installation art. Its particularity lies in the fact that people can interact with them without actual contact, and realize appreciation and participation in the completion of works and other purposes. The vast majority of other works of art are often displayed with the help of two-dimensional space or appropriate factors, such as time.

Ensuring the participation of visitors is one of the most important points of interactive installation art. And it is also based on this to create as much as possible a special artistic atmosphere that allows visitors to truly integrate into it, and at the same time, it is based on this, then bring visitors specific conditions for interaction. For visitors to participate, it is not only the most essential feature of this type of installation, but also a core component that cannot be divided.

In the actual exhibition process, the interactive installation art works are not like traditional art works which are hung on the wall for viewers to appreciate from a distance. They are often placed in various exhibition spaces to allow visitors to participate closely. Such contact forms are extremely diverse, visitors can also integrate into it when they appreciate the work, and even more can become a part of the work, which is also an important link in the completion of the work.

The feature of interactivity allows interactive installation art to get rid of the shackles of inherent modes, and transform from the form of passively pleasing visitors to active attraction visitors. The above-mentioned interactive forms promote the development of art works in the direction of humanization, and their sense of coordination and inclusiveness have also been enhanced, becoming a further look at people's

daily experience, bringing deeper meaning and connotation to the work.

1.2 Temporal and spatial feature

Unlike the works in the traditional two-dimensional space, visitors can enter the three-dimensional space with the help of interactive devices. Most of these works of art are an art form designed and created by artists by analyzing and researching the actual characteristics of the space environment. Under this art form, the work itself is "being installed", and at the same time, the work will also undergo certain changes due to the "placement" of the environment and changes in time, thereby showing various forms of art.

1.3 The synthesis

A variety of artistic methods are often used in interactive installations, such as photography, art, film, sculpture, and music, etc.. It may also involve a large number of subject knowledges, such as psychology, mathematics, biology, and physics, etc.. The interactive installations are highly technical new art, so the application of computer technology, Internet technology, and artificial intelligence is also indispensable. It is no exaggeration to say that interactive installation art should be the art form with the largest number of design and integration professional fields at this stage.

As modern art creators have paid more attention to interactive installation art in recent years, a large number of new knowledge of disciplines have begun to be incorporated. Then a large number of new form of art works have appeared at home and abroad, such as virtual interaction, transmission interaction of Internet information, biological genes and mechanical installations. It is precisely because of this characteristics of interactive installation art that it becomes more and more critical to conduct comprehensive research on multiple disciplines and cooperate with multidisciplinary professionals. It is possible to achieve a perfect combination of technology and art only in this way, and finally appear more eye-catching and classic art works.

2 Specific application and significance of interactive installations in public spaces

2.1 Application of interactive installations in transportation hubs

The media function of interactive installation art is particularly outstanding. Visitors can easily experience the social consensus embodied in the

works because of their feelings, and the continuous improvement of public participation also show the essence of art to serve the people. The application of interactive installation art in public spaces, such as transportation hubs, can help the dissemination of popular culture and can also enhance the charm of urban culture.

Based on the potential behavior habits of most passengers and the specific characteristics of the space, designers usually regard the exhibition hall as the best setting area for interactive installation art. However, because the public exhibition space does not require passengers to pass through the exhibition hall, they are with strong autonomy in actions, based on his own situation and combined with the allowable conditions of the space, they can decide to stop to visit or directly experience and interact with the works.

At the same time, the forms of works that can be placed in the exhibition hall are extremely diverse. Using induction devices, the appearance of the work will change due to the changes in the density of people in the space, the speed of people's movement, and many other factors. Through the accurate capture of the camera and the image output, it can effectively interact with passengers in the space in real time. The various behaviors and operations displayed by different passengers will also cause the work to show specific changes corresponding to it.

At this stage, the most common form of interactive installation display in China is to place a QR code on the interactive installation art work. Passengers can communicate with them or understand the stories and videos behind the objects by simply scanning the code with their mobile phones. The most significant advantages of this type of method are low maintenance difficulty, low investment cost and easy operation, and it can also shorten the distance between the interactive device and the passengers, which is a more ideal way of application of space interactive installations.

2.2 Application of interactive installations in urban squares

There are many different interpretations of what is called a city square in academia. Generally speaking, the city square actually refers to the special public scene that originates from the inside of city, takes buildings with different functions or styles as the core foundation and organic

combination. Under normal circumstances, the city square will be located in the most core or most critical area of the city, and is equipped with a full set of public infrastructure, so it can attract people to stop to watch and participate in some entertainment activities.

The city square is the most open activity place in public spaces of the city, it has always been dubbed the title of "meeting room of city" for this reason. Therefore, we must fully consider its various characteristics to ensure that the various functions of the plaza project can be fully utilized. According to the nature of the environment, the square can be subdivided into the following five parts, which are namely transportation, culture, memorial, and commercial and administrative squares.

There are also obvious differences in the main functions of squares with different natures. For example, a plaza used for leisure and entertainment, its core function is to provide the masses with basic leisure and entertainment venues. Inductive music fountains and other similar interactive installations can be introduced into this type of light production, using the sound medium as a key form of expression, and making the fountain water column respond to the changes in people's behavior and make sounds at the same time. The interactive installation art form will no longer suffer from defects, such as the simplification of the original space environment, which greatly enhances the entertainment of the space and brings people a new interactive experience.

Therefore, as the main place for mass activities and communications, the application of interactive installations in urban squares plays a very important role in placing creative and innovative works in crowded squares. This will not only enhance the attractiveness of the square and also adds a new connotation to the integrated city, so that people can feel the fun and creativity provided by interactive installations in a busy and boring life.

2.3 Application of interactive installations in indoor spaces

Connecting and communicating with people through interactive installations can shorten the distance between modern art and citizens, and it contributes to a good interaction between technology and emotion. As for the museum, it is

an important service place of cultural knowledge, there is a very close connection with the artistic aesthetic level of the masses, and the continuous development of digital technology allows the museum to gradually change the form of displaying exhibits, from a single art work to a multi-kinds of interactive parallelism art works.

At present, visitors are no longer satisfied with simply appreciating the exhibits. They hope to have an in-depth understanding of the culture behind them, and even personally participate and integrate into the scenes of the corresponding era. One of the most significant advantages of digital technology is intelligent interaction and the diversified development of information. They have the characteristics of extremely fast transmission speed, broad interactive coverage, and extremely large information storage contents. At this stage, interactive installations have gradually become the primary choice for cultural communication of digital museums and knowledge transfer.

Virtual reality, an information technology, has been widely used in digital museums since its inception. This technology covers sensors, digital image optimization, graphics and many other information technologies. The application of virtual reality technology enables the digital museum to be stored in the computer network in a true and complete manner, so as to achieve a comprehensive three-dimensional digital preservation. It not only can realize basic functions, such as basic restoration, protection, repair work, but also bring visitors to watch in a new way. With the help of virtual reality technology, visitors can take a comprehensive tour of the museum in the network environment, and deeply experience the virtual world that exists in the three-dimensional modeling.

2.4 Significance of the application of interactive installations

For interactive installation art, one of its most important emergence and application significance is to get rid of the traditional creation in terms of experience and innovation. Its rapid development makes artistic expression gradually change from the original art to the new method of combination of technology and art. This has a very important and epoch-making practical significance.

2.4.1 At the level of art development

At present, the ruling class is not the only service goal of art. Instead, it is the ordinary people. The development direction and goals of interactive installations are exactly in line with the development trend of art. At this stage, art is no longer something that ordinary people dare not expect. Even the most ordinary people can still watch, touch and interact with art works. In addition, the artist's creative inspiration is also inspired by the diversified display form of the interactive installation.

2.4.2 At the level of people masses.

The formation of interactive installation art is in line with people's current aesthetic needs and psychological needs, such as the desire to communicate and show themselves. Because of the rapid development of economy, science and technology, there are more and more ways for people to obtain the information that they need, and diversified new things have begun to appear in all aspects of life. At the same time, because of the thinking is no longer constrained, people's thinking has begun to become diversified, and they try to actively seek new ways to express themselves. However, when experiencing a high-quality and convenient life in the context of the information age, the ever-accelerating pace of life also creates great pressure for people.

The interactive installation art can meet the above-mentioned needs of people. It reverses and transforms the form of experiencing art works, from in past art on shelf to art that enters people's daily life. In this process, people no longer passively receive relevant information, but with the help of active interaction, they have become actual participants in such art works. With the continuous development of interactive installation art, its creative forms will inevitably become more diversified in the future, which not only greatly changes the visual experience of the participants, but also effectively drives the participants' hearts. When interacting with art works, participants can fully demonstrate themselves, and this also promotes communication between different participants from another aspect, which has a very broad and good development prospect.

3 Strategies for the design and application of interactive installations in public spaces

3.1 The interactive installation and the environment of the public space are harmonized and unified

When designing or applying interactive installations, it should be ensured that they are coordinated and unified with the corresponding environment of public space. Because different environments of public space often have certain differences, their spatial characteristics may also show large differences. Therefore, when applying interactive installations to public spaces, specific environmental factors must be fully considered, with emphasis on the characteristics and functions of the space environment, in turn, realize the benign interaction between the two parts.

3.2 Fully consider the trajectory of people's activities in public spaces

In all urban activities, people are the absolute dominant and participant. Any urban activity should follow the people-oriented principle, and the application of interactive installations in public spaces should be the same. Therefore, when designing interactive installations that need to be applied to public spaces, it is necessary to fully consider the trajectory of people's activities in the space. Under the premise of ensuring that people can interact with the work more conveniently and more deeply, give full play to The various artistic functions of the work.

Methods

Through various channels, using various methods and methods, there are plans and purposeful understanding of the real situation of things. Processing, and gradually understand the nature and laws of objective things.

1st Level Headings

Interview form is one of the important information collection tools. Based on the research questions formulated in advance, they will be submitted to the interviewees in written form. The interviewees will have a clearer understanding of the research content and make targeted explanations. Researchers can also develop new questions based on the answers given by the interviewees, or consider deeper interviews. At the same time, the question-and-answer form need to make the participants to communicate flexibly and give the interviewees enough time to consider problems. However, during the interview, the interviewer is required to explain the content on the questionnaire form to help the interviewee understand. After the interview, we can consider

whether we need to organize more in-depth interviews according to the process and results of the interview. Interviews can be conducted with different people or multiple times with the same person.

The observer is the main test or main test assistant who observes the research object in the observation method.

2nd Level Headings

The Documentary studies method mainly refers to the methods of collecting, identifying, collating the literature, and forming a scientific understanding of the facts through the research of the literature. Bibliographic method is an ancient and vital scientific research method.

Results

All in all, if you want to scientifically apply interactive installations in public spaces, you must ensure that the space environment and interactive installations are coordinated with each other, and adhere to the human-oriented principle. Regardless of whether it is a public space or an interactive installation, both of them have the common attribute of "publicity". The organic integration of the two is compatible with the trend of diversified artistic development and can meet the needs of the current humanized development of public space.

However, the application of interactive installations in public spaces is not yet fully mature, so there are often a lot of problems in actual design and application. However, with the continuous development of science and technology, relevant design concepts will inevitably be effectively improved. It can be foreseen that the role and value of interactive installations in public spaces in future will inevitably continue to increase.

Limitations and Future Studies

1 The acceptance and participation of people masses is further improved

With the development of society, the practical application of interactive installations in public spaces will be further popularized and will gradually develop in the direction of life, thereby deepening people's original awareness. First of all, with the improvement of relevant systems, art

projects in public space will be more transparent and open in the implementation process, the public participation methods will be further improved, and the degree of participation will also be deeper. Secondly, because of the increase in public awareness of people masses, their acceptance of interactive installations will also be further improved, which will impose higher and stricter interaction requirements on future works in public spaces.

5.2 The application of interactive installations will be scientifically improved

New technology is the soul of interactive installations. Under the current background of rapid changes in science and technology and equipment, various deficiencies in current technologies will be solved one by one, thus injecting new vitality into the new art form of interactive installations.

On the one hand, the tolerance of interactive installations will be strengthened. Because of the development of science and technology, materials will also be innovated, so that the ability of all kinds of art works in public spaces to resist the erosion of bad weather can be effectively strengthened, and then meet the requirements of various types of public spaces. At the same time, the participation of the masses will inevitably affect the art works and cause loss, the application of new technologies can effectively strengthen their ability to resist loss. On the other hand, the operability of interactive installations will be significantly improved. The continuous development of science and technology will make the installation's own technical means more complicated, but its operability will be simplified, and this happens to be a mainstream direction of current software technology development. In view of the above situation, in the future, people will be able to contact and interact with interactive installations more easily and conveniently, communicate more smoothly and easily.

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