Research on 3D Architectural Performance and Urban Landscape Design

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Abstract. The abstract should summarize the contents of the paper and should contain at least 70 and at most 200 words. It should be set in 9-point font size, justified and should have a hanging indent of 2-centimeter. There should be a space before of 12-point and after of 30-point.

1. Introduction
With the rapid development of computer technology, architectural renderings have been difficult to meet customer needs, architectural animation gradually replaced the architectural renderings, into the architectural performance to come. Three-dimensional architectural performance technology to today, in the production of new things at the same time, but also for the social transformation made a prominent contribution to the three-dimensional architectural performance art is particularly important\cite{1}. In recent years the rapid development of the construction industry, led to the progress of three-dimensional architectural performance art\cite{2}. In recent years, with the development of computer hardware and software technology, three-dimensional animation this emerging technology came into being, followed by a building animation. The so-called architectural animation, is the use of digital technology means combined with the film's performance techniques, the architectural appearance, interior design, and outdoor landscape for all-round, multi-angle display and interpretation\cite{3}. It is a combination of real estate, interior, garden and other planning and design drawings, the interior structure, real estate appearance, community environment, life support, property management and other future life scenes completed in advance interpretation and display, So that people can easily and clearly understand the quality of life in the future home. Architectural animation of the lens free unlimited, can not show the real shot of the lens deduction out of the real estate as a whole to show the overall image of the real estate designer's thinking, accurate and perfect expression, so that people feel like immersive The future of home is true and beautiful.

2. Landscape Design Content Classification
A comfortable city living environment is inseparable from the city planning, that is, a city land plan and road arrangements, that is, the city's landscape design\cite{4}. So, in a city in the city planning, we must first consider the urban landscape related issues. Urban landscape planning is a comprehensive reference to the landuse plan, and according to the relationship between the overall and local planning. First of all, to investigate the city's landscape resources, through the collection of access to information.
and photographs and field visits to determine the city's social value, human values, economic value and a variety of potential factors, and ultimately its planning and design. Most of the city can be divided into living area, traditional characteristics area, business district, industrial area, natural scenic area, etc., for different landscape areas, to develop consistent with the improvement plan, such as the city skyline and the city outline Control, spatial visual induction and the overall visual induction control, architectural form and architectural form and building height control, building volume ratio and building coverage control, the use of landscape materials and landscape color ratio, etc. are convenient to reflect The details of the landscape design. A good urban design is based on the overall urban season as a guide to make the masses as the main body with a variety of material elements of the integrated environment design, making it a link between architectural design and urban planning and design of the bridge. The speed of urban construction development is complementary with its urban planning, they exist both differences and interdependence, the difference between the urban architecture design mainly to function, space design, and focus on urban construction research methods. While the urban landscape planning and design not only focus on the artificial environment, but also focus on the natural environment, the most important thing is to pay attention to people's life landscape design. The two are the same is for the development of the city made a great contribution. With the wide application of computer 3D technology, people through different views, with a dynamic way to observe the city's space shape design, so that designers do design entities before the design of the finished product and a good grasp, so Both grasp the overall relationship and achieve their own design purposes. Urban landscape planning and design of its space and its body design has a higher demand, both from the landscape color, landscape form, location address on the potential impact of the landscape environment have done a detailed and careful consideration. Urban landscape planning and design should consider the relationship between the whole and the division, taking into account people's feelings and environmental factors, and thus began to design the overall planning and design of urban landscape, in order to speed up the formation of the city's overall landscape design. Building signs, flower beds, city road signs, city streets, center parks, artwork, bustling shops, Street corner, historical relics, lighting, avenue, advertising and other topics are the elements of landscape architecture design. The overall urban landscape is composed of unique single building, single building architectural form, color, scale and texture of the city's overall landscape plays an important role can not be ignored. The overall architectural landscape can not be separated from the single architectural landscape, single architectural landscape must consider the overall requirements, in general, the single architectural landscape must adapt to its surrounding environmental factors and people in different perspectives, and then the overall design, the final Become able to integrate into the overall urban landscape of the single landscape architecture. Landscape architecture design is the combination of all the factors related to urban construction and design, in the urban landscape design plays a vital role, will largely affect the development and formation of environmental architecture landscape. The formation of a successful urban landscape requires not only a good geographical and natural environment, but also a good artificial environment, that is, strict management system. In China, there are many successful urban construction, but the coastal city in the country's urban landscape construction in the lead. Here we take the city of Dalian as an example, the city of Dalian, according to its own unique geographical environment, waters, climate factors, choose a different regional planning, develop a strict planning and design, different geographical areas are shared with different urban landscape construction Dalian, the business district, also play a part of the construction of urban landscape, the commercial area of the landscape architecture in terms of color, the color of the landscape, Texture, content has a strong business atmosphere. Second, the management system is also very strict, for each building has strict design requirements, such as the height of the building, shape, color and so have strict checks, and its design style also has certain standards. Therefore, it is precisely because the management of the entire city of every building details of the strict rules, making the city of Dalian city landscape planning and construction of the true meaning of people to bring the soul and life of comfort, to achieve a higher level of urban landscape quality. In this, also hope that other cities can follow the strict management of Dalian city system, to create people in the eyes of the beautiful home.
3. Landscape Design Application

Society in the development of the times in progress, urban landscape construction is also vigorously promoted by the government under the mushroomed development. In recent years, the city's renovation project and the construction of new technology park development, a large number of new house construction, but also accelerated the pace of development of urban landscape. But the speed of urban development, but greatly overlooked the city's landscape design, urban landscape design must be based on the culture of the city and residents of the understanding, due to the understanding of the various urban culture and folk, unique to the city and Did not appear with the increase in the building, did not completely study the reasons, making the overall urban architectural landscape style is no substantial differences, and ultimately caused the landscape between the various cities in the same style, no features. The formation of the city landscape no characteristic phenomenon. The meaning of the city is not just for people to provide survival of the place, the greater significance is to focus on the spirit of the people to bring the feelings. The physical environment of a city and the external manifestation of social life is the city style, a city-specific landscape here in the performance of the most incisive, depicting the city's temperament and character, the public's mental outlook in this also show Especially prominent. The city to provide people with living space environment at the same time, but also affect the spirit of each person. When people are satisfied with the material life, people's requirements for the quality of space environment has become increasingly strict, many cities have begun to attach importance to urban landscape problems, urban landscape has also been a qualitative change. From the city's environmental planning, from the strict management of the city, from the choice of the city's vegetation, from the city square and the establishment of the business district, the urban landscape is facing a new challenge with a new look. Urban landscape is not a simple programming, but a vast project, it not only requires the designer's creative ideas, but also the government's strict planning and management. The rapid development of urban development today, we bear the brunt of the city in recent years to sum up the experience and lessons learned, and learn from foreign advanced technology and advanced ideas to promote the development of China's urban planning and design.

4. 3D Architecture And Landscape Design

In recent years, computer hardware and software technology, especially worth mentioning is the three-dimensional technology and high-tech difficult virtual technology, because of the rapid development of these technologies, so that the visual development of the landscape with a more solid scientific and technological strength. In particular, the 1999 "Our Visual Landscape" international symposium held in Switzerland once again, it is set off a landscape of the visual development of a new wave of research. Many foreign researchers focus on technical research in computer technology and video mapping, such as the output strength of landscape images based on GIS spatial data, and the vegetation landscape modeling aspects of visualization. Compared with the first phase, the rapid development of software technology, microcomputer computing speed of more than one billion times, the computer graphics graphics card technology greatly accelerated the speed of computing and processing of landscape data, landscape visualization of the development of the system to achieve
rapid interaction The new level. Specialized visualization of the equipment has also been a lot of
development, a lot of production is also slowly. Software development has also sprung up, developed
a series of three-dimensional landscape visualization software.

The main development of the stage is characterized by: by the two-dimensional landscape entity show
that the three-dimensional landscape entity show forward, to the three-dimensional landscape of its
own unique physical display model to show the landscape model, landscape connotation and the
meaning of its performance, the establishment of three-dimensional landscape model. Use the
technical software VRGISTool to draw the regional landscape map. In short, the visual development of
this period from the two-dimensional plan to the three-dimensional entity display, from the static
display method to the simulation of the display method, from the landscape two-dimensional
performance to the landscape three-dimensional simulation and other advanced level. Although the
visualization of China's landscape development research later, but still still made a lot of achievements,
such as 3D technology urban landscape visual research and development, three-dimensional scene
model interactive operation, three-dimensional dynamic interactive visualization model, visualization
technology and its geological The application of exploration and so on.

Artificial modification as a means of making the traditional renderings, there are factors that mislead
others. But the real estate to three-dimensional animation in the form of show to the developers, which
can be through the personal experience of the program to give the characteristics and quality of the
correct evaluation, so as to choose the best strategy to make the land utilization and construction
project development rate To maximize the size of the increase in the cost of greatly increased, through
the vivid three-dimensional technology to show larger projects, you can build lifelike three-
dimensional model, multi-angle, multi-level, multi-directional to meet the requirements of the masses,
the building itself for the various points and channels for a reasonable allocation, and People's design
ideas resonate, which also makes the relationship between designers and people more harmonious.
The development of computer digital technology is not only the designer to get rid of the heavy work
such as hand-painted, but also for the architectural design provides a new rich information age
characteristics of the performance techniques. To three-dimensional production software (mainly 3ds
max) and other multimedia development software, for example, the computer can be a variety of
three-dimensional building model according to the requirements of the planning program layout,
according to the actual terrain contours generated analog terrain, and In the three-dimensional
animation software with the help of creating an animation tour path, and eventually complete a three-
dimensional software with the realization of the building roaming three-dimensional animation files.

Building roaming animation can be multi-angle, comprehensive will be able to show the reality of the
city scene to convey to the people, and can achieve the real sand table model can not reach the
simulation of the architectural space effect, in addition, the original sand table model is not conducive
to modification, And now a variety of virtual models is very easy to modify it. Finally, after the
completion of the production here, the latter through the software to achieve its text description, music
background, graphic information, etc., some simple query function can be achieved. In summary, the
three-dimensional building performance has been far more than the original traditional method.
The traditional design is accomplished by means of pen and paper and designer's ideas, and the
emergence of 3D building performance technology undoubtedly reduces the traditional work of large
workload mode. For example, if we now need to build a building, according to the original traditional
practice, we first need to do a lot of renderings, but know and can understand the construction
drawings and renderings are not many people, but if we exercise three-dimensional performance
Technology, you can show in detail the outside and inside the building, including the surrounding
environment, can be like an immersive feel, so through the three-dimensional technology to do out of
the building, first in the workload has been reduced, followed by Is that people can more easily feel
the information people need, and finally, due to the upgrading of three-dimensional technology, people
living in a virtual environment, any place where they are not satisfied with any place to modify,
greatly improving the time and quality. people on the concept of sales more and more clear, a good
product packaging sales, will bring endless benefits for this commodity, in the moment, the sale of
long land projects is highlighted the superiority of three-dimensional technology, first of all, The
traditional sand table model does not disappear, but the buildings in the sand table because of the
proportion of the problem, so that people are not very satisfied, people can not feel through their own perspective of its ratio. But the emergence of three-dimensional building table technology, people only need to feel through the big screen can be the real scene, completely immersed in a virtual environment, three-dimensional building performance technology to our perspective, to lead people in a virtual environment, Increased people's awareness of the goods, which undoubtedly accelerated the proportion of sales of goods.

5. Three-Dimensional Construction of the Technical Means
With the development of science and technology, technology improvement, virtual reality environment projects have repeatedly seen. Roaming technology 360-degree all-dimensional three-dimensional real can be achieved at home on the network to see housing units, real estate architectural appearance three-dimensional animation video. Convenient and efficient electronic building books, various industries to show, studio, performance stage, space scene, office interior design, business hall environment construction, commercial space exhibition hall, hotel interior decoration and many other projects are used in life. More realistic immersive experience to interact, change the past passive viewing mode, the user can interact with the virtual environment for human-computer interaction is one of the most convenient features. Life in the clothes, food, live, are inseparable from this technology, such as shopping malls, luxury hotels, leisure hotels, luxury apartments, leisure and entertainment exhibitions, landscape display, office buildings, tourism, Display, exhibition hall, subway, station, airport, terminal, and other industry projects are widely used.

Three-dimensional virtual demonstration, also known as three-dimensional animation, through the three-dimensional animation software in the computer to establish a simulation model or scene, according to the requirements of the model, the camera movement and animation parameters, and finally render the material on the model, and give its light, the output three-dimensional animation file. It is also widely used in many areas such as housing construction, military, medical, educational, industrial, leisure, entertainment and so on because of its precise real and infinite maneuverability to simulate the real scenes of the unit building performance animation technology is a particularly fast Favorable tool. 3D virtual presentations fall into two categories: virtual reality (real-time interactive 3D animation) and conventional 3D animation (fixed mode playback). Virtual reality referred to as VR, the English name Virtual Realit. The viewer can take the initiative to watch, watch the time is not restricted, and can be observed for a long time; observation angle is more free from the restraint, you can replace multiple viewpoints, you can also like the conventional three-dimensional animation to develop the same route tour. Has a strong interaction and strong expression. Its main application areas for the virtual real estate, industrial simulation, urban planning, digital teaching, game entertainment. Image editing software, which is relatively powerful application of a wide range of Photo Shop software, the software has many kinds of special filter function, improve and modify the artistic effect until the desired effect, Print the perspective effect graph by color printer. The scope of the landscape is great, not just in sightseeing. The construction of the premises, as well as the role of improving the climate of cities and towns, fine-tuning the surrounding areas of environmental humidity and airflow, and reduce sand, environmental protection can use these clever green design to protect, reduce air pollution, reduce noise , Greening the environment, controlling water pollution and soil pollution, white pollution, thus completing the highest level of design. Design drawings are determined by the designer to determine the effect of the map at the same time, with reference to the design requirements, and then with the computer data and hardware facilities, landscape projects in addition to the ornamental art value, as well as beautify the value of the environment.

6. Three-Dimensional Digital City Landscape Materialization
The technical means of carrying out the three-dimensional landscape of the commercial landscape around us, so that people use this means to enjoy the way in which they feel the mystery and the pursuit of their own needs. Urban commercial landscape animation is an important part of the performance of the three-dimensional building, showing the relationship between the city and the business; urban commercial landscape, the landscape atmosphere is particularly important, that is, the artistic atmosphere of the commercial landscape and technical means to be vividly, through three-
dimensional software Of the intervention, to reflect the image on the commercial landscape animation and emotional beauty. So that it has a unique creative artistic feeling. It is not just business, from the cultural level of analysis, it is a unique cultural products; from the design level, it is a design aesthetic and gives the artist's art of art; from the economic level To analyze the words, it is the real estate developers on the landscape building products sales promotion of a means. So, the city commercial landscape animation is the city landscape commercial activity space image carrier.

Real estate business three-dimensional performance is a new experience, the main form of expression is three-dimensional dynamic image browsing, through the three-dimensional animation technology, from all angles to show the real estate real estate effect. Three-dimensional dynamic images are artistic, aesthetic, creative and emotional works of art, and for architects it is the architectural exhibits of the form of performance and packaging, for real estate developers for the real estate Sales promotion and promotion played a very unquestionable very important role. It is mainly through the virtual interactive way to show the real estate real estate space, with a very good interactive entertainment. Usually this image has the auditory and visual art recognition effect, while the particles into the special effects of the expression of the season and the weather under the real estate, the use of light effects difference between day and night performance of different effects. The use of audio-visual technology can be better performance of the real estate image of the perfect and authenticity, the perfect picture, smooth lens movement, as well as the perfect sound highlights the real atmosphere of the environment, to real estate customers immersive feeling. Compared with the traditional monochrome boring show, real estate three-dimensional dynamic browsing more attractive to customers, enabling users to understand the full range of real estate information to help users make positive decisions. This real estate dynamic images can even be published through the Internet to facilitate customers to view real estate information, so that customers can fully understand the various real estate information.

The development of a city, inseparable from the cultural heritage of the city itself, vertical analysis of Chinese culture up and down five thousand years of history, have to mention is China's Yuanmingyuan landscape architecture, the location of the Yuanmingyuan in the western suburbs of Beijing, the eastern part of Haidian District The Early for the Qing Dynasty Royal Garden, Yuanmingyuan is divided into Yuanming, Changchun, Qichun three parks, with a total area of 350 hectares. Known as the "Garden of the Garden" of the Yuanmingyuan is a very precious landscape, which has jewelry. Calligraphy, treasure and other precious cultural relics, the ground area and the size of the existing Palace, the lake area is equivalent to the current area of the Summer Palace, Yuanmingyuan garden landscape brings together the ancient garden technology, learn the essence of ancient garden art, Take the art of the garden for the garden. Unfortunately, the 1860 Yuanmingyuan was looted by the British and French forces, the buildings in the park were burned, a large number of cultural relics were looted, and the fabulous Yuanmingyuan became a ruin, and only a few remaining buildings could be seen. April 2010, Yuanmingyuan Management Office and the Tsinghua University Planning and Design Institute decided to computer panoramic three-dimensional virtual technology "reconstruction" Yuanmingyuan, co-sponsored the "Digital Yuanmingyuan" research projects, again through the Yuanmingyuan research data of digital finishing, complete The establishment of the Yuanmingyuan historical data database. Has completed the Yuanmingyuan 22 scenic restoration design works.

Figure 2. Yuanmingyuan recovery figure
7. Conclusion
People through the virtual three-dimensional building performance technology, exposure to a near real space, breaking the original single design pattern, personal experience a more real and more vivid and realistic level. In the rapid development of computer today, people need fast-paced lifestyle, but not only the need for fast speed, people also need a full sense of art to wrap our own eye. Through the elaborate design of the designers, both from the color, sound, visual experience will give people slowly bring a non-general artistic experience, but in view of the virtual reality technology in China's development time is shorter, in technology and application is not mature, There is an urgent need to solve the problem. Such as high demand for hardware and software equipment, hardware and software equipment, expensive and architectural design technology and virtual reality technology integration issues. However, I believe that as long as the architectural designers do not rigidly adhere to the traditional design and design concepts, virtual reality technology (VR) in the architectural design practice will be popular, and ultimately one day, we can through the use of Digital technology, to create the ideal of the immortal city.
China's three-dimensional landscape architecture performance of the development of mixed. Happiness is that people are slowly aware of the advantages of landscape architecture visualization, and slowly accept, due to the shortage of talent, the university three-dimensional landscape design professional also slowly more up, cultivate professionals to contribute to China's economic and cultural construction. It is worry that the professional level of the thousands of graduates is mostly unsatisfactory. The reason is because our three-dimensional landscape has just started, still try to explore the forward, people also need a lot of time to digest it. Since several large real estate landscape companies began to intervene in the industry, and achieved better results than expected. We have greatly improved in the exploration of our own quality, and find our own unique production style, speed up the development of three-dimensional landscape architecture, especially to take the Chinese characteristics of three-dimensional landscape performance path, has been the common voice of people from all walks of life.

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