

Research on the Revitalization and Dissemination of Jinan Spring Culture in Tourism Animation

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ABSTRACT

Jinan Spring Culture has a long history and profound culture. The spirit of spring water has a positive impact on people's ideology and national spirit. This paper explores and disseminates the practice of building animation culture resources in a comprehensive and multi-curricular manner based on the boutique course group of "Multi-dimensional Film and Animation Product Development." By means of image processing technology, three-dimensional animation technology, virtual engine technology, etc., the Baotu Spring is reconstructed in three dimensions. Interactive traveling deeply explores the connotation of Jinan Spring Culture and develops immersive, interactive, and experiential virtual reality travel animation digital products. By combining the new media platform with the Internet+ discipline skills competition and the new media platform, we create a new cultural communication channel, promote the practical exploration of Jinan Spring Culture under the new technology, realize the new experience of "smart tourism" by combining Spring Culture and travel animation, and enrich the image IP of Jinan Spring Culture.

Keywords: Spring Culture, travel animation, cultural communication

1. CONTENT INTRODUCTION

Jinan Spring Culture utilizes the new VR/AR immersive animation technology to reproduce the travel animation with Baotu Spring as the main landscape in a comprehensive and three-dimensional way, forming a new form of expression of Jinan Spring Culture and promoting the exploration of Jinan Spring Culture in practice under the new technology. The future of VR/AR technology tension is infinitely extended. With the increasing demand for immersive, interactive, and experiential digital products in the cultural tourism market, more and more original designed cultural travel animations will appear in the public eye. The potential for shaping new and popular cultural image IPs that can be effectively disseminated will blossom in the new technological communication channels provided by VR/AR and MR technologies that have never been perceived before.

According to the literature and field survey, this paper analyzes the animation expression of Jinan Spring Culture communication combined with tourist attractions. It proposes the implementation plan of Jinan Spring Culture integrated with VR/AR travel animation. Using Chaoxing online teaching platform combined with

offline guidance, digital media art class of 2020 and digital media technology class of 2019 students as of spring travel animation design and 3D modeling main force, after learning the "multi-dimensional film and television animation product development" boutique course group, based on digital media technology professional graduation design as the main practice, to explore Jinan Spring Culture and travel animation product development path. The 3ds Max 3D animation technology, Unity 3D engine technology, Unreal Engine 4 virtual engine technology, based on Jinan Baotu Spring as a prototype, applied to VR travel animation product development, revitalization of Jinan Spring Culture travel animation expression, the development of Spring Culture digital travel animation products. Through the Internet + discipline skills competition and new media platform, the construction of Jinan Spring Culture animation resources and cultural communication. Practice and explore VR/AR immersive travel animation technology to lead the initial vision and innovative features of Jinan Spring Culture presentation and heritage.

2. LITERATURE REVIEW

In June 2021, the Ministry of Culture and Tourism's "Fourteenth Five-Year Plan" for the development of the cultural industry pointed out that science and technology should be used to promote innovation in the form, content, and presentation of culture and art. It is necessary to strengthen the protection of cultural resources and the use of heritage and to use technological research to promote the "living" of traditional culture. Enhance the capacity of cultural production and content construction with technological innovation, and improve the level of digitalization, networking, and intelligent development of the cultural industry. Focus on the key technology of intelligent tourism development to enhance the digital level of tourism with technological innovation, deepen the "Internet + tourism" integration and innovation, and promote "on the cloud with digital intelligence." Develop digital creativity, digital art display, immersive experience, and other new industries,

enrich the supply of personalized and quality digital cultural products, cultivate cloud tourism and develop online digital experience products. Accelerate the development of intelligent tourism characterized by digitalization, networking, and intelligence^[1]. In this paper, we use "culture + tourism", "culture + animation", "VR/AR + tourism", "VR/AR + tourism + culture "and so on as keywords, review the relevant literature, the summary results are shown in Table 1 below.

As can be seen from the statistics in Table 1, culture and tourism have been the needs of people's material culture and spiritual civilization for the past three years, and the animated expressions of culture have received wide attention. With the development of technology in the new era, VR/AR technology is gradually applied to the tourism industry. Tourism and cultural communication through VR/AR technology are beginning to be researched.

Table 1. Literature search results

Search terms Search platform	Culture+ Tourism	Culture+ Animation	VR/AR+ Tourism	VR/AR+ Tourism+ Culture	Total
Chinese Journal Full Text Database	41900	2781	270	36	44987
China Outstanding Master's Thesis Full-text Database	5105	495	19	4	5623
Domestic and international conference journals	2226	50	3	1	2280
Full-text Database of Chinese Doctoral Dissertations	111	13	1	0	125

3. RESEARCH METHOD

This paper uses various methods such as literature research, questionnaires/interviews, and practical methods to analyze the audience's perception of Jinan Spring Culture, construct a rich and vivid Jinan Spring Culture travel animation system and practice innovative ways to express Jinan Spring Culture travel animation.

3.1 Literature review method

Through the search engine, we conducted a lot of literature reading with the keywords of "culture + tourism" and "culture + animation." Through comprehensive analysis and summarization, we have extracted actionable ideas. We further analyzed the elements of Jinan Spring Culture and explored the tourism value and spiritual heritage value of Jinan Spring Culture.

3.2 Questionnaire/case interview method

Through interviews and questionnaires with the audience, we further understood the audience's identification with the cultural values of the "World's First Spring" and their preferences for travel animation creation. We then studied the scenes and characteristics of the 72 famous springs such as Baotu Spring. Construct a rich and vivid picture of Jinan's Spring Culture and dig out the Spring Culture animation elements.

3.3 Practical method

By integrating image processing technology, 3D modeling technology, and virtual engine technology, we developed a digital travel animation product based on Jinan Baotu Spring as a prototype and innovative Jinan

Spring Culture's VR/AR immersive travel animation activation expression.

3.4 Shared promotion method

We apply new technologies, share creation methods, disseminate and promote practical experience, show Spring Culture, and spread the spirit of spring water. Thus, we can improve the quality of travel animation, revitalize the expression form and promote Spring Culture.

4. STUDY RESULTS

VR/AR technology can realize virtual scenes and their integration with the real world and can take on the important task of innovating the expression of Jinan Spring Culture. Based on the current VR/AR animation, it will gradually transform into a more realistic MR animation. Its combination with the cultural field will also have both theoretical and practical significance and will further expand the influence and development potential of Jinan Spring Culture.

4.1 Create a 3D model of the Baotu Spring landscape in terms of architecture and geomorphology

The stylistic features of Baotu Spring architecture were collected by reviewing relevant literature and field surveys, analyzing the surrounding environment and architectural details of the Baotu Spring landscape, and determining the stylistic features of Baotu Spring landscape architecture. The changes in its surrounding environment in different seasons were studied and organized. The corresponding topographic features were set, and the corresponding vegetation was added according to the topographic and environmental influences to realize the overall design of the scene. In the process of scene building, an organic combination of building class, terrain class, vegetation class, and character class, using 3ds Max software technology for modeling, to achieve scene reproduction and build a high degree of realism of the 3D model.

4.2 Implementing material mapping for the Baotu Spring landscape

Through the study of the real scene of the Baotu Spring landscape, the material mapping was carefully processed using Photoshop software. By changing the color, position, and size of the images, as well as UV splitting and stitching of the collected materials, we transformed them into material mapping suitable for the application of this scene, making the mapping more suitable for the model and showing the real texture and

feel of the scene. The same kind of material will be processed and made into a texture that can be applied to multiple objects, thus saving production time.

4.3 Digital reproduction of Baotu Spring travel animation

Analyze Baotu Spring in terms of the overall design, scene design, and functional design. On the basis of 3D modeling and material mapping, we adopt Unity 3D engine technology and Unreal Engine 4 virtual engine technology for the design and production of scene traveling, functional interaction, and environmental lighting to achieve the effect of traveling animation. It mainly has first-person and third-person camera traveling, through the control of the mouse and keyboard buttons such as W, A, S, and D, to be able to travel freely, landscape interpretation interaction, the surrounding environment lighting adjustment, etc., combined with music to render the atmosphere, to give people a sense of immersion. The integration of virtual reality technology and travel animation enhances the realism of the user experience and has a positive effect on spreading Spring Culture.

5. RESEARCH AND DISCUSSION

5.1 Enrich the theoretical content of Spring Culture in Jinan

By the design and implementation of tourism animation, we enrich the theoretical connotation of Jinan Spring Culture, demonstrate the unique beauty of "spring city", and uncover the unique elements of spring culture in Jinan, a national historical and cultural city. We promote the spring cultural heritage of "A drop of water in need, shall be returned with a spring in deed.", "The greatest truths are the simplest, The highest goodness is like water" and "The knowledgeable love waters, the benevolent love mountains." . It showcases the connotation of spring water culture from all aspects, remembers the past kindness, does not forget the people-oriented, reveals the humanistic heritage and historical connotation of Shandong.

5.2 Revitalization of travel animation expressions and dissemination methods

We can realize VR travel animation cultural and creative products of Jinan Spring Culture through image processing technology, 3D animation technology, and virtual engine technology. Develop a Spring Culture animation resource package, produce Jinan Spring Culture promotional film, and build a cultural travel animation resource library for Jinan Baotu Spring, Daming Lake, Black Tiger Springs, etc. By means of advanced image processing technology and display equipment to generate a visual environment with the

characteristics of the integration of reality and reality, the AR travel animation realizes the embedding of the real world and virtual space-time scenes. Combined with the Internet+ competition and new media platform, the travel animation showcases Jinan Spring Culture and inherits and spreads Spring Culture.

6. CONCLUSION

On the basis of reviewing relevant literature and field surveys, this paper integrates image processing technology, 3D modeling technology, virtual engine, and other technologies, explores Jinan Spring Culture elements, realizes Baotu Spring travel animation, and enriches Jinan Spring Culture travel animation resources. At the same time, it opens up communication channels for leading Jinan Spring Culture. It widely disseminates it with the help of the Internet + disciplinary skills competition, and new media platforms. However, the depth and breadth of the research are limited, and the focus of future research is on how VR and AR interactive experiences that can better emanate new vitality and take the experience economy to a new level. When they collide with the travel animation with Jinan Spring Culture as the core. In the era of intelligent media and meta-universe background, we should keep promoting the deep integration of VR/AR technology and travel animation. Developing diversified tourism while better inheriting Chinese culture and enhancing cultural confidence.

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REFERENCES

- [1] Nie Xiaoshang, Wei Shuhao. "The development and application of "AR+APP" cultural monuments light tourism model--Temple and Cemetery of Confucius and the Kong Family Mansion in Qufu" as a pilot project[J]. *Tourism Overview* (Second half of the month),2020(04):117-118.
- [2] Yang Deping. Research and analysis of VR technology applied to red culture tourism in Guilin[J]. *Public Relations World*,2021(17):81-82.
- [3] Zhao Zhiwu, Li Xiaoyu. Research and application of VR technology in the development of religious and cultural tourism in Datong[J]. *China Ethnic Expo*,2021(17):89-91.
- [4] Du Jun. Development of Shanxi historical and cultural art tourism industry with VR high technology [J]. *Science and Technology Information*,2021,19(06):196-198.DOI:10.16661/j.cnki.1672-3791.2010-5042-1080.
- [5] Cha Xiaofei. Practice and research of national culture in the creation of college animation under the threshold of socialist core values [J]. *Modern Vocational Education*,2021(07):167-169.
- [6] Ma Lina, Ma Xin. Application of VR in the development of the cultural tourism industry in Liupan Mountain[J]. *China-Arab Science and Technology Forum* (in English and Chinese)
- [7]Deng Xinying. Research on the promotion of VR technology in tourism and cultural industry under the Internet platform[J]. *Digital Technology and Applications*,2020,38(02):224-225.DOI:10.19695/j.cnki.cn12-1369.2020.02.121.
- [8] Wang Weiliang, Wei Ziliang. Research on the path of integration development of red culture tourism and VR technology[J]. *Smart City*,2021,7(22):48-49.DOI:10.19301/j.cnki.znscs.2021.22.021.
- [9] Deng Fei. Research on the new mode of Jiangxi Zhuma culture AR tourism integrated into "the Belt and Road"[J]. *Rural Economy and Technology*,2019,30(24):169-170.