

# Thoughts on the Design and Application of the Service Interaction Platform for Jingdezhen Cultural and Creative Product

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**Abstract:** *In the context of virtual reality technology, this paper discusses the design and development process of the service interaction platform for Jingdezhen cultural and creative products, and studied the way of combining the platform with Jingdezhen cultural and creative products, as well as how to use the platform with virtual reality technology to build a bridge for information exchange among designers, enterprises and consumers.*

**Keywords:** *virtual reality technology; cultural and creative products; service interaction platform*

## 1. Introduction

The service interaction platform for Jingdezhen cultural and creative products is designed and developed under the background of virtual reality technology. Virtual reality technology has the following characteristics. First of all, it is a new type of interactive digital technology with computer and human-computer interaction technology as the core. A highly immersive sensory body is provided in the presence of the experimenter. Generally speaking, it means that hearing, vision and touch are virtualized into a relatively realistic real environment, and users can obtain a relatively natural and real experience with the help of certain viewing devices. The real feeling and visual experience are generated by interacting with the scenery in the virtual environment. At the same time, virtual reality technology has strong interactivity. The handle, voice, eye movement and other methods are provided so that users can interact with the virtual environment and get real-time feedback.

With the help of virtual reality technology, the Jingdezhen cultural and creative product service interaction platform can not only display various forms of cultural and creative products, but also assist designers, production and sales enterprises to achieve interaction with consumers, and realize the expansion of the exhibition form of Jingdezhen cultural products and the way of cultural transmission. While the cultural content of Jingdezhen is expressed in digital form, it is also integrated into exhibition planning, digital animation and other forms. The cultural history of Jingdezhen is introduced in such a way, and animation is used to show the types and styles of various cultural and creative products in Jingdezhen, as well as their design and production process, technological characteristics, etc. The cultural landscapes and styles corresponding to various cultural and creative products have also been promoted through digital forms. This way of integrating cultural products with virtual reality technology has opened up a new way for the integration of culture and tourism[1].

## 2. The significance of the integration of service interaction platform for Jingdezhen cultural and creative product and virtual reality technology

Due to the application of virtual reality technology, Jingdezhen cultural and creative products have gained new possibilities and opportunities.

### 2.1 Break the limits of time and space

Virtual reality technology can break the time and space constraints and present Jingdezhen's cultural and creative products in the virtual world. By eliminating the restrictions of time and space, people in different regions and periods can feel the charm of Jingdezhen culture and Jingdezhen ceramic culture.

## ***2.2 Virtual reality technology can enhance the sense of immersion through immersive methods***

Allowing users to gain a deeper understanding of Jingdezhen's ceramic culture, and improving their sense of identity and emotional engagement with Jingdezhen's cultural and creative products.

## ***2.3 Through innovative creative design***

Virtual reality technology can help designers break the traditional design restrictions and achieve more freedom in creative design. More forward-looking and artistic cultural and creative products have been created by integrating Jingdezhen culture with modern technology.

## **3. Basic function design of service interaction platform for Jingdezhen cultural and creative product**

In the form of APP, the service interaction platform for Jingdezhen cultural and creative products provides services to designers, cultural and creative product manufacturers, and consumers. The name of the app is "The Journey of Porcelain". As can be seen from it, this is a platform that provides intelligent services for Jingdezhen porcelain source culture, tourism culture, and cultural creative products. This design service platform is divided into three major sections. The first section is designed for cultural and creative product manufacturers and designers in Jingdezhen. The purpose is to enable enterprises and designers to obtain more information through this platform, such as new materials and new technologies. At the same time, through this platform, its products and advantages can be further displayed and promoted, helping to better carry out marketing and promotion activities; At the same time, designers can obtain data based and intelligent design information through this platform to quickly explore the creative points of Jingdezhen culture, and design products that meet the public's taste and personalized demands; Moreover, the platform enables designers to conduct simulation design and testing in a virtual environment, reducing the cost of physical model production and testing, and improving design efficiency; Designers can quickly generate a variety of different design schemes through the platform, and immersively understand the design details and performance characteristics of the product, which can reduce the time and cost of mock-up production and testing. The second section is designed with the function of introducing the regional cultural characteristics of Jingdezhen and the natural scenery of various surrounding scenic spots, and also covers the introduction of tourism cultural and creative products of various scenic spots. The functions of the third section are designed for consumers. Generally, consumers who purchase cultural and creative products in Jingdezhen are mostly tourists who come to this famous tourist and cultural city, and hope to purchase tourism cultural and creative products with local characteristics in tourist destinations. In this APP module, with the help of virtual reality technology, consumers can freely switch scenes in Jingdezhen tourist attractions and search for cultural and creative products in the virtual scene. The core of Jingdezhen cultural and creative products is their cultural connotation and artistic value, and these core elements can be more vividly presented to users through virtual reality technology. Through scene simulation, interactive design, and other means, users can freely explore and feel in the virtual Jingdezhen cultural environment, thereby enhancing their understanding and cognition of Jingdezhen culture. In addition, virtual reality technology can achieve multi-person online interaction, allowing users to better share and communicate, and enhancing social attributes. The following is a detailed functional design and analysis of each module.

### ***3.1 Contents and functions involved in the enterprise and designer segment***

The entry method of this segment will be presented on the loading page after the launch of the "Porcelain Journey" app. After entering by clicking the selected method, the user will arrive at the main interface of the enterprise and designer section, which includes materials, processes, types, sales methods, and other content.

**Materials:** There are many types of materials used to produce cultural and creative products, such as metal, plastic, wood, textiles, glass, ceramics, and so on. Cultural and creative products have regional characteristics. Jingdezhen is a world-renowned porcelain capital, and ceramics are the main material for its cultural and creative products. During the entire process from design to production, the selection of primary and secondary materials directly determines the shape, structure, function, and other aspects of cultural and creative products. Therefore, the selection of materials is crucial for enterprises and designers, as different materials should be applied to different cultural and creative products. Therefore, this material section aims to collect a variety of raw materials, as well as their corresponding physical and

chemical parameters, prices, and suppliers, which enable enterprises to quickly find materials suitable for their own products and contact corresponding suppliers.

**Process:** The production process of a product refers to the process of converting raw materials into final products through a series of process steps. Designers can simulate the process flow of various cultural and creative products in the background of the service interaction platform for cultural and creative products in Jingdezhen with virtual reality technology. Exploring the feasibility of the production of this cultural and creative product in this way is conducive to optimizing the production process of the cultural and creative product, which can reduce unnecessary waste and save design and manufacturing costs.

**Type:** Cultural and creative products refer to goods or services that are processed and manufactured based on culture and centered on creativity, including various artworks, handicrafts, design products, etc. Common types of cultural and creative products include commemorative stamps, cultural shirts, cultural notebooks, cultural gloves, ceramics, wood carvings, lacquerware, fabrics, dolls, T-shirts, etc. With the continuous development of the cultural and creative industries, there will also emerge more other types of cultural and creative products.

In the service interaction platform, designers can use the virtual environment in the background to select different materials and types of cultural and creative products, and design and think about the shape, size, and texture of cultural and creative products. This process reduces the experimental cost of physical model production, improves the efficiency of design, and can quickly generate a variety of different design schemes. The immersive design mode allows designers to better understand the design details and performance characteristics of products.

**Sales method:** With the help of the service interaction platform of Jingdezhen cultural and creative products, the display and sales of cultural and creative products are integrated into the virtual environment. Therefore, enterprises can display the appearance, function, and performance characteristics of products on the platform, which enables users to better understand the characteristics and advantages of the product, thereby improving the marketing effectiveness of the product. In addition, marketing and promotional activities can also be better conducted through service interaction platforms. The immersive experience in the platform allows users to better understand the characteristics and use effects of the product, thereby improving the competitiveness and market share of the product[2].

### ***3.2 The functional sections of various scenic spots***

This section is accessed on the loading page after the launch of the "Porcelain Journey" app. After entering by clicking and selecting, the main interface of Jingdezhen's regional and cultural characteristics will appear, including "Jingdezhen Ceramic Tracing", "Classic Route of Red Tourism", "Sites of Ancient Architecture", "Scenic Spots", and other content.

"Jingdezhen Ceramic Tracing" involves scenic spots such as Taoxichuan, Ancient Kiln Folk Custom Expo Area, Royal Kiln Factory National Archaeological Site Park, China Ceramic Museum, and Royal Kiln Ceramic Culture Tourist Area.

The scenic spots involved in the "Classic Route of Red Tourism" include the Former Site of the Adaptation in Yaoli, the Former Site of the Special Committee for Northeast Jiangxi Province, the Former Site of the Revolutionary Committee for Northeast Jiangxi Province, the Revolutionary Martyrs Memorial Tower in Leping, the Former Site of the Founding of the 10th Red Army, the Former Residence of Fang Zhimin in Huangwu, the Former Residence of Chen Yi in Yaoli, and the Cemetery of Martyrs in Jiashan.

The scenic spots involved in the "Sites of Ancient Architecture" include Ancient County Office in Fuliang, Ancient Theater in Leping, Cheng's Ancestral Temple, Guanyin Pavilion in Jingdezhen, Ancient Architecture Group in Qingyuan, Red Tower in Fuliang, Ancient Street near Sanlu Temple, Ancient Architecture Group in Yantai Village, Ming Garden in Panlong Mountain, etc.

The scenic spots involved in the "Scenic Spots" include China Village in Gaoling, Wonderland in Hongyan, Agricultural Ecological Park in Shuanglong Bay, Scenic Area in Yaoli, Scenic Area in Wuyuan, Wetland Park in Poyang Lake, etc.

In this section, the scenery of various tourist attractions is digitized and presented to users of the service interaction platform. Headworn smart devices enable app users to immerse themselves in real scenes and learn more about Jingdezhen with the assistance of a virtual tour guide, for example, the origin,

style, and development history of the scenic spot. During the tour, the types and styles of cultural and creative products in the scenic spot are understood. At the same time, the design and production process of Chinese creative products in the scenic area are displayed in the form of animation, and can be tried out in virtual scenes to optimize the user's experience.

### **3.3 User function area section**

This section is accessed from the loading page after the launch of the "Porcelain Journey" app. After entering by clicking and selecting, it will reach the main user interface.

In this section, users can experience immersive experiences, that is, feel the real scene and atmosphere of tourist attractions without leaving the home. The system will automatically produce a travel plan based on the scenic spot and travel days selected by the user.

After entering the corresponding interface, users can select the function button of "Virtual Tour", and then immersively experience the history, culture, and other related knowledge of tourist attractions through wearing smart devices. In virtual scenic spots, tourists can also use the "virtual interaction" function to interact with various elements in the scenic spot, such as ceramic artifacts, architecture, array items, plants and animals. The history of this scenic spot is understood through sensory forms such as hearing and touch. The cultural and creative products of this scenic spot can be presented to users in a virtual manner for virtual shopping, which will be convenient and fast. In recommending cultural and creative products for scenic spots, digital means can be used to introduce the design process of the cultural and creative product to tourists, allowing users to more intuitively experience the details of the product through digital forms, such as the original intention of the designer's design, the source of morphological elements, the embodiment of cultural elements in the product, the use of materials, the function, structure, and use of the product.

In the section of user function area, the "simulation experience" function is also provided, which simulates certain scenes in various tourist spots in Jingdezhen through virtual reality technology, such as the karst caves in Wonderland in Hongyan and the Nanshan Waterfall in Yaoli. With wearable intelligent devices, users can obtain an immersive experience through multiple sensory stimuli such as visual, tactile, and auditory stimuli.

In the section of user function area, there are also functions for customizing cultural and creative products. Users can choose their favorite cultural elements from the scenic spots in Jingdezhen that they are interested in. Based on this choice, the background of the service interaction platform will summarize the user's favorite cultural and creative product styles based on the user's browsing content on the platform, or independently generate the types and forms of cultural and creative products based on the keywords provided by the user. Users can also freely draw cultural and creative products of different types, shapes, colors, materials, usage scenarios, and other through intelligent wearable devices such as VR helmets, glasses, and handheld controllers. Due to this personalized customization method based on their own needs and preferences, designers can more intuitively understand the needs and preferences of consumers, and re-optimize and re-upgrade cultural and creative products based on feedback information.

In the section of user function area, interactive game features have also been added, such as the development of a VR interactive game called "Porcelain Battle". In the game, the player plays the role of a pottery craftsman, who needs to wear a VR helmet and handle, and use the tools and materials in their hands to create various ceramic artifacts for confrontation. Through immersive experience and interactivity, the game has become more interesting and challenging, thereby stimulating players' interest and curiosity in Jingdezhen ceramic culture[3].

## **4. Summary**

On the service interaction platform for Jingdezhen cultural and creative products - "Porcelain Journey", users can visit various ceramic scenic spots and historical sites in Jingdezhen through VR devices in a virtual world, thereby deeply understanding the history, development, and inheritance of various cultures in Jingdezhen. Users enjoy an immersive experience that enhances their knowledge and understanding of Jingdezhen ceramic culture through education and entertainment. With the help of the service interaction platform, even users who have never been to Jingdezhen can understand the cultural context, customs, and customs of Jingdezhen, while travelers who have been to Jingdezhen will recall the good times during their travels. Therefore, in this process, cultural and creative products from various scenic spots in Jingdezhen are sold and promoted in the context of virtual reality technology, achieving

better research and development and sales results. The use of the Jingdezhen cultural and creative service interaction platform not only provides tourists with a more convenient, safe, and comprehensive tourism experience, but also enhances the attractiveness and competitiveness of various scenic spots in Jingdezhen. The development and use of the service interaction platform is bound to open up a new for the integration of culture and tourism in Jingdezhen.

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