

# The Design of Regional Cultural Service of the Maritime Silk Road Based on Symbolic Semantics

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**Abstract:** Objective to solve the puzzle of the lack of guiding theory of regional culture public goods service design in the field of service design, and to explore the psychological and emotional representation and association connotation of public goods service under specific regional culture. Methods By symbolic semantics, the cultural semantics, folk semantics and regional environment semantics of regional cultural public goods service design were characterized and analyzed from three levels: personal emotion, group affiliation and historical folklore. Combining symbolic semantic analysis with user behavior model, the historical intention of regional culture is abstracted and decomposed into multidimensional design factors layer by layer, and the framework of service design factors is further established. Results Taking the product service system of "Maritime Silk Road in western Guangdong" as an example, with the help of image scale map and semantic style analysis of symbolic semantics, the common feelings on the cultural level of "Maritime Silk Road Culture" were analyzed, and the folk journey scenarios and service blueprints were constructed, which were presented in the form of the design of regional cultural service system in western Guangdong. Conclusion It promotes the emotional resonance and cultural identity experience of users in the design of public goods and services by regional culture, and provides theoretical guidance for the design of regional culture products and services.

**Keywords:** Service Design; Semantics; Symbolic Semantics; Regional Culture.

## 1. Introduction

With the rapid development of experience economy in recent years, public goods and services have become an important part of social public domain construction. Public goods and services are no longer simply satisfied with the daily life of local people and the experience needs of foreign tourists. The marriage between internet plus and local traditional regional culture is becoming a new trend of public goods and services experience. The vigorous development of regional public service experience and the rapid growth of service design market mean that public services are upgraded from simple price and category competition to cultural competition. The basic support for the new trend of public goods service experience is mostly based on the regional service system design and the interactive experience design of the corresponding public service carrier products. Therefore, how to lead the product service design to gather the local people's convergent memories and emotional closeness, and how to restore and present the historical folk customs are the core issues of the regional cultural service and experience design of western Guangdong on the Maritime Silk Road. In related fields, Professor Cao Guozhong and others in China have made in-depth research on the theory of emotional semantic hierarchy, analyzed regional culture from three levels of instinct, behavior and reflection, and optimized the specific process of regional cultural experience service elements [1]. Sun Lixin demonstrated and analyzed the semantic design with the methods of user's journey map and service blueprint, and used the service design theory to brand innovative design for the inheritance and products of Liaoning intangible skills and cultural content [2]. Taking semantic design as the starting point and combining with practical cases, Wang Tao and others started from four aspects: intangible product system, VI image design, non-visual design and scenic spot service design, which provided effective supporting means for the application strategy of intangible service design [3]. Ji Tie and others analyzed the three levels of happiness in eating behavior based on the theory of subjective well-being, and combined with the theory of product service system design (PSSD), put forward the method of product service system design of Dong nationality camellia oleifera characteristic food cultural resources [4]. However, there are few researches on the combination of cultural creativity and local public goods and services in academic circles from the perspective of semantic semiotics, especially symbolic semantics. This paper takes symbolic semantics in hierarchical semantics as the research method to develop and construct the design of regional cultural public goods

and services.

## 2. Theory of Regional Culture Public Product Service Design

### 2.1. Concept of Service Design

Service design is essentially a kind of system design, which is characterized by the design concept of user-centered, product experience as the design object, and designer's emotional empathy as the driving force. It balances the comprehensive factors among user experience, benefit, society and environment in the service system, and takes the sustainability of the system as the long-term goal [5]. How to conduct theoretical research and design for regional public goods and services is the key point of this paper. In the past creative design research or cases of regional public goods service culture, the design objects and carriers mainly focused on public goods hardware products or public service buildings and facilities, and the design guidance methods mostly used visual planning and simple aesthetic composition [6]. The local historical folk customs and regional culture were hard to be understood and accepted by the public or tourists through this design guidance method, resulting in the homogenization of regional public goods service design [7]. On the other hand, using the symbolic semantic analysis theory in hierarchical semantics, combined with the design theory of service elements in service design, the design process of regional cultural experience service elements can be put forward pertinently, which not only enriches the methods of regional cultural experience service design, but also enables users to fully feel the charm of regional characteristic culture from three levels of personal feelings, group affiliation and historical folklore [8], thus enhancing the deep experience of people, enhancing the feasibility of service experience system strategy, and continuously transmitting the deep value of regional culture.

### 2.2. Definition of Regional Cultural Public Goods and Services

The regional cultural heritage of a region is the spiritual and cultural heritage of the local people's life and labor achievements handed down from generation to generation, which reflects the local humanities and historical geography features in many aspects. The public goods service with regional culture as the core is a new strategic concept for the industrial structure transformation and upgrading of local public goods service. The core is the multi-industry, all-factor, multi-process, element extraction, summarization and design research with local public goods service as the main factor.

Sandun Port, Xuwen, Zhanjiang City, Guangdong Province is considered as the origin of the "Western Guangdong Maritime Silk Road", which has a long history, unique cultural ecology and landscape, and still retains a large number of material and intangible cultural heritages. Archaeologists excavated a large number of cultural relics in the 1960s. These auspicious words and inscription bricks, as shown in Figure 1, left over from the Maritime Silk Road, such as "Long live tile dang", "copper turtle button", "Chen Gu private seal" and "Emperor's hundred stones", provide a large number of native materials for us to extract the corresponding patterns and symbols from them and carry out follow-up service design.



Figure 1: Cultural relics unearthed from Xuwen Maritime Silk Road

## 3. The Application of Symbolic Semantics in Service Design

### 3.1. Classification and Hierarchy of Design Semantics

Semantic analysis is an important methodology in the field of design semiotics. It refers to analyzing and guiding the design and planning the use and function of the product through the design language composed of visual modeling and product symbols, which makes the functional structure and cultural connotation extension of the product more easily accepted by users, thus improving the user experience of the product [9]. Product semantics can be divided into icon semantic analysis, indicator semantic

analysis and symbolic semantic analysis according to hierarchy theory and its characteristic expression. Icon semantic analysis method is mainly used to materialize the visual expression of product design parts and product modeling; Indicative semantic analysis is mainly used for interactive experience users' operation, perception, cognition and product logic design. Symbolic semantic analysis principle is mainly used in the research of user's emotion and empathy in products and interactive experiences involving society, culture, history and folklore [10]. Based on this, this paper proposes a design method of applying symbolic semantic analysis to the design of regional cultural public goods and services. From the three levels of symbolic semantics, such as personal emotion, group affiliation and historical folk custom, this method is characterized and analyzed through the three dimensions of text semantic acquisition, semantic expression and semantic synthesis, and then it can guide the design of regional cultural public goods and services.

### 3.2. The Analysis Method of Symbolic Semantic

The symbolic analysis method has a special design idea and process under the category of traditional cultural products. Because the extension intention and connotation intention of regional cultural products are based on rational spirit, their thinking patterns, design ideas and values are basically the same. However, because the product semantic symbolic intention includes the semantic communication of regional, historical, national, cultural and other factors, the cultural products and services of different regions and nationalities have their specific semantic connotation intention characteristics. This paper focuses on the factor characteristics of product semantic symbolic connotation. Firstly, the symbolic characteristics of different attributes of regionalized products and services are extracted, and the cultural characteristics contained in them are summarized by feature classification. In the past, creative design methods in service design mostly used subjective methods to extract the representation of research objects, emphasizing content rather than emotional experience, so symbolic semantic analysis is needed to make up for design [11]. The difficulty lies in how to deeply analyze the regional emotion, folk environment and social history through symbolic semantic analysis, and fully tap the intentional elements to design and develop a public service experience that can stimulate people and tourists' emotional resonance.

The overall research idea of this paper is to combine symbolic semantic analysis with user behavior model, and analyze the local cultural relics, folk customs, regional environmental features and so on layer by layer, so as to abstract and solve the historical intention of regional culture from the real objects to form multi-dimensional design factors; Then, through the most commonly used semantic acquisition, semantic expression and semantic comprehensive classification in semantics, the design factors are summarized, and the dimension is reduced and refined to construct the image scale service design model.

### 3.3. "Maritime Silk Road" Folk Symbolic Elements Extraction

The historical relics unearthed from the "Maritime Silk Road" in western Guangdong firstly express the local cosmology, ethics and simple values for the laws of things through shapes, symbols and volumes. On the other hand, these life products follow the people-oriented principle in using function, emphasizing function and technology as the core, which embodies simple functionalism.

As early as the Qin and Han Dynasties, Xuwen became an important port for maritime trade in western Guangdong. In recent years, Xuwen Ancient Port was selected as the "Top Ten Starting Stations of Maritime Silk Road in Guangdong Province" for its outstanding contribution to maritime trade. In this design study, the most representative inscription bricks of auspicious words in historical sites such as "Long live tile dang", "Guiniu copper", "Chen Gu Private Seal" and "Emperor's Hundred Stones" excavated around Xuwen Port in modern times are selected to extract folk symbols, and the symbolic semantics are summarized to carry out design analysis, as shown in Figure 2.

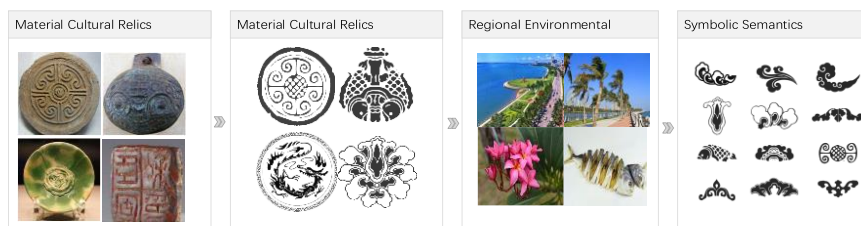


Figure 2: Extraction of folk symbolic elements of Maritime Silk Road

### 3.4. "Maritime Silk Road" Symbolic Semantic Analysis Process

The symbolic semantic analysis process of "Maritime Silk Road" is as follows: comprehensive analysis of regional material and intangible cultural heritage layer by layer. The first level of semantic acquisition refers to analyzing the typical regional cultural connotations involved through three aspects: personal feelings, group affiliation and historical folklore; The second layer extracts and analyzes folk symbols through semantic expression; Finally, the semantic representations mentioned above are unified by semantic synthesis to guide scheme design, as shown in Figure 3.

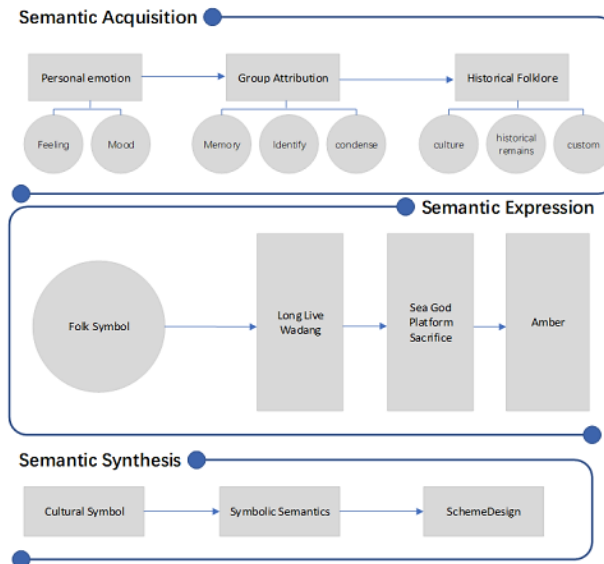


Figure 3: Symbolic semantic analysis process of Maritime Silk Road

## 4. Service Design of "Maritime Silk Road" Regional Cultural

This paper takes the beach public goods service system of Jinshawan Scenic Spot in Zhanjiang, where tourists are concentrated at the starting point of "Western Guangdong Maritime Silk Road", as an example, and expounds how symbolic semantics can guide the design of regional cultural public goods service. Leizhou Peninsula in western Guangdong is known as "the hometown of Chinese folk art", while Leizhou Peninsula now belongs to Zhanjiang City, Guangdong Province. Its vast sea area and winding coastline have formed a unique marine culture of the integration of mainland and peninsula, and bred a unique folk regional culture. Since ancient times, Zhanjiang has been an important foreign trade port at the southernmost tip of the mainland of China, and it is also the starting point of the "Western Guangdong Maritime Silk Road". Therefore, Zhanjiang's regional culture has integrated rich and diverse overseas cultural characteristics. The most representative ones are Leizhou stone dog carving art, ancient East Island traditional dragon dance, pottery drum and clay sculpture, western Guangdong Nuo dance, Nanyang arcade street and other regional cultures with western Guangdong style. However, the design and development of local regional cultural services and the expansion of market resources are extremely scarce, and there is almost no related product service system design. In order to strengthen the promotion and publicity of local excellent culture in western Guangdong, the problems of weak cultural connotation and lack of regional characteristics of existing tourism products are changed. The core goal of product service system design based on regional culture in this paper is to spread the excellent local culture of western Guangdong (Xuwen Maritime Silk Road culture in Zhanjiang) to make up for the lack of public facilities in scenic spots. This product service system can not only enhance the cultural confidence of local residents brought about by cultural inheritance, but also make tourists more convenient and comfortable in the foreign reception and tourism, and also fully contact and understand the local culture, so it has a positive role in promoting the spread of local culture in western Guangdong and the development of local public goods service industry.

### 4.1. Scenario Analysis of Folk Journey

Service scenario simulation analysis is the first step in the design of public product service system. At this stage, the user's journey map is mainly used to combine the user's role model and user's journey,

which can not only effectively avoid the shortage of user's demand analysis and more intuitively understand the characteristics of crowd segmentation, but also intuitively reflect the user's thinking and behavior characteristics based on the time axis through experience map method as shown in Figure 4, which is of great significance to the construction of user models based on service scenarios.

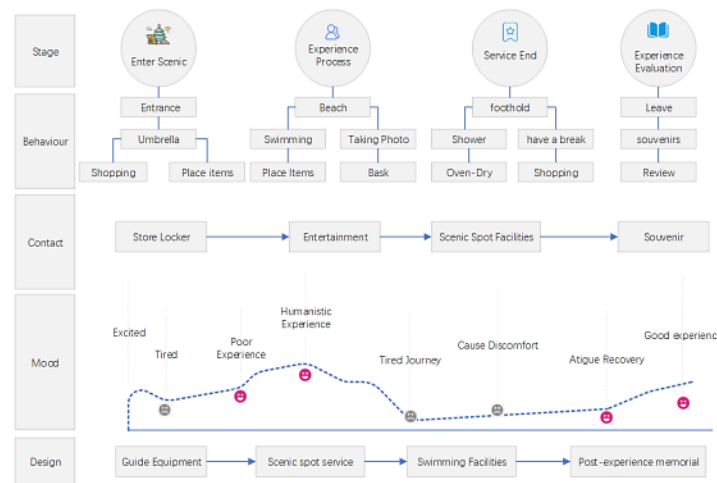


Figure 4: Simulation scenario analysis diagram

#### 4.2. Scheme Display of Service System

The overall facility design scheme of the public product service system mainly selects the dew-bearing xianrentai on Sandun Island of Xuwen Ancient Port, the maritime silk road, which means that the fairy's posture is abstracted, extracted and summarized to evolve into four curvy supporting columns, and the platform becomes a sunshade device. The hall is endowed with the Han Dynasty tile pattern unearthed by Xuwen, and the bottom of the device is stepped by layers, which means waves. The seat material is made of local volcanic basalt material, as shown in Figure 5.



Figure 5: Service system scheme design

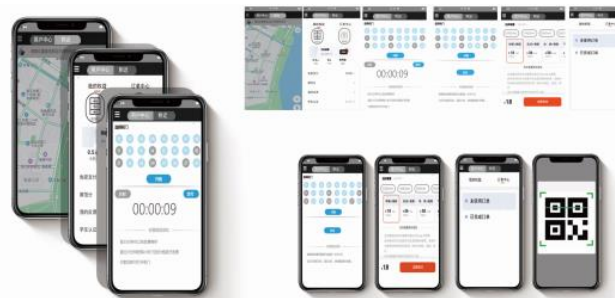


Figure 6: Interactive screen interface design

The software design of public product service system constructs its service system from the aspects of ordinary users, background maintenance personnel, WeChat applet, database and its managers, machines and so on. (As shown in Figure 6) Through this system, ordinary users pay attention to or register small programs by themselves when they come to the location of the machine, thus entering the information interaction interface of the service system. After selecting relevant services or service

packages, the data administrator sorts out and transmits the information to the system, and the machine will perform corresponding operations. In addition, the mobile lightweight service system can improve the service information platform, realize the functions of positioning, browsing and evaluating cultural information, etc.

## 5. Conclusions

Through the symbolic semantic method in the hierarchical semantic analysis method, the cultural semantics, folk semantics and regional environment semantics of the regional cultural public goods service design are characterized and analyzed respectively from three levels of personal emotion, group affiliation and historical folklore, and the traditional patterns such as folk Yun Leiwen in western Guangdong are extracted to guide the product semantic style design of rest facilities, service area storage system and navigation system in tourist destinations. Then standardize and promote the connotation of service design according to the cognitive characteristics of symbolic semantics of regional culture in western Guangdong; Realize personalized service and active recommendation, and finally complete the design of the "Maritime Silk Road" service system that online and offline products echo each other. Using symbolic semantics to guide regional public service design projects can not only strengthen the cultural attraction of western Guangdong, increase users' emotion and cultural cognition, but also stimulate ordinary users' emotional identity with regional culture to the greatest extent, and provide theoretical exploration for the sustainable promotion of regional characteristic culture in local economic and social services.

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