

Design of Tourist Wayfinding System in Zhaoqing from the Perspective of Cultural Ecology

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Abstract: In order to enhance the overall image and service level of Xinghu Lake scenic area, this project aims to design a comprehensive, practical, and aesthetically pleasing tourist wayfinding system design product to improve the tourist experience and boost the brand influence of Xinghu Lake scenic area. Methods: Based on research, questionnaire surveys and interviews specific to the Xinghu Lake scenic area in Zhaoqing were conducted. Targeted questionnaires were designed and distributed through online social media, professional survey platforms, and offline on-site interviews, covering respondents of different age groups, occupational backgrounds, and consumption habits. Online official consultations with tourism enterprises were also conducted to obtain industry information. The collected questionnaire data related to Zhaoqing tourist attractions were coded, entered, cleaned, and organized, and statistical software was used for data analysis. Interview records were sorted out, refined, and key information and viewpoints related to Zhaoqing tourist attractions were extracted to form an interview report. The current study shows that tourists recognize and praise the experience functions of Zhaoqing's tourist attractions. The research team has designed "Xinghu Sharp Body," "Logo Design," "Xinghu IP Image Design," and "Xinghu Matching Keychain," which will be applied to the wayfinding system in harmony with the environment and cultural characteristics of Xinghu Lake scenic area, enhancing the tourist experience and convenience. Guided by cultural ecology, the design of the tourist wayfinding system in Zhaoqing should focus on individuality, culturality, ecology, and artistry to enhance the tourist experience and promote the inheritance and protection of local culture.

Keywords: Cultural Ecology; Tourist Attraction; Wayfinding System; Design.

1. Introduction

In the context of globalization, the protection and inheritance of cultural diversity have received unprecedented attention. Cultural ecology, as a comprehensive research perspective, emphasizes the interdependence and interactive relationship between culture and the ecological environment. The widespread application of the concept of cultural ecology can be understood as maintaining the vitality of cultural concepts in contemporary society with a stronger materiality, locality, and practicality. Zhaoqing, an important city in Guangdong Province, China, not only boasts abundant natural resources but also carries profound historical and cultural heritages. The tourism resources and cultural ecology of Zhaoqing encompass Danxia landforms, Xinghu Wetland Park, and numerous historic sites and relics.

However, with the rapid development of the tourism industry, how to effectively protect and utilize these cultural and ecological resources has become a crucial issue for local governments and tourism management departments. Through data analysis, it has been found that the market size in this field has shown a steady growth trend in recent years, and it is expected to continue growing in the coming years. As an essential carrier of tourism information services, the tourist wayfinding system is not only related to the quality of tourists' experience but also one of the important ways to display and disseminate local culture.

From the perspective of cultural ecology, this study aims to design a tourist wayfinding system that not only conforms to the cultural characteristics of Zhaoqing but also meets the needs of tourists, integrating various types of information

within the scenic area to achieve real-time information updating and sharing. This is of great significance for promoting the sustainable development of the tourism industry in Zhaoqing.

2. Literature Review

Cultural ecology theory originated from the study of the interaction between different cultures and natural environments, emphasizing that culture does not exist in isolation but is closely intertwined with the ecological environment. This theory posits that cultural practices, belief systems, and social structures are inseparable from the local natural environment and ecosystem [1]. In exploring the integration of tourist wayfinding system design with cultural ecology theory, the design expression under the behavioral psychology of the audience in tourist attractions is crucial, striving to reasonably plan and design the scenic area's wayfinding system based on the behavioral orientation of the primary audience groups [2]. As society continuously evolves, urban expansion, urban construction, and vehicle traffic increase, leading to a more diversified tourist audience. The outdated font design of urban wayfinding systems can no longer meet the needs of urban development and the public, necessitating urgent design improvements [3].

The tourist wayfinding system is a vital component of tourism destinations, providing direction and information to tourists while influencing their experience and satisfaction. In urban tourist attractions, the wayfinding system guides tourists through scenic routes, indicates the locations of scenic spots, serves as a safety warning, and conveys the

development concept of scenic areas [5]. These principles and methods emphasize a deep understanding of user needs and sensitivity to the usage environment. In the research on tourist wayfinding system design, scholars have also focused on enhancing tourists' cognition and appreciation of local culture through design. The wayfinding system integrates information transmission, recognition, and image functions, playing a significant guiding role in the urban scenic area environment and being an essential part of its layout [6]. For instance, some studies have explored how to enrich the educational and entertainment functions of wayfinding systems using storytelling and interactive technologies. Digital technology, as a fundamental element and revolutionary force, is profoundly changing the mode, structure, and ecology of knowledge dissemination [7]. Additionally, with the development of digital technology, the design of smart wayfinding systems has emerged as a new research field, providing personalized information services and integrating with mobile devices and social media platforms.

Zhaoqing, as one of China's famous historical and cultural cities, boasts rich cultural heritages and unique natural landscapes. Its cultural heritages, including ancient architecture, historical relics, and traditional handicrafts, are integral parts of Zhaoqing's cultural identity. The Seven Star Rock Cliff Inscriptions are national key cultural relics protection units, while Dinghushan Mountain, known as the "Emerald on the Tropic of Cancer," possesses exceptional natural ecological advantages [8]. In the context of tourist wayfinding system design, Zhaoqing's cultural and ecological resources provide abundant materials and inspiration for design. By integrating these resources, the wayfinding system design can better reflect local characteristics, enhance tourists' cultural experience, and promote the protection and respect for these valuable resources.

While there has been extensive research on tourist wayfinding system design and cultural ecology theory, combining the two, especially in specific cultural and ecological contexts like Zhaoqing, for systematic design research is still relatively scarce. The existing literature lacks sufficient exploration of specific methods and strategies for incorporating the principles and ideas of cultural ecology into tourist wayfinding system design. Additionally, research on how Zhaoqing's unique cultural and ecological resources can be embodied and disseminated in the wayfinding system is also limited. This study aims to fill this research gap by proposing an innovative tourist wayfinding system design scheme through in-depth analysis of Zhaoqing's cultural and ecological characteristics.

3. Design Practice

Firstly, through an in-depth analysis of the cultural and ecological characteristics of Zhaoqing, a set of locally distinctive tourism wayfinding system design schemes are proposed to enhance visitors' cultural experience and improve the quality of tourism services. Based on the geomorphology and geographical culture of Xinghu Lake, this study integrates local cultural elements to design an "Xinghu Sharp Style" IP font. One of the core original images of Xinghu Lake scenic area is the "mountain" imagery. For many tourists, one of the main reasons to visit Xinghu Lake is to enjoy the scenery along the mountains and the pleasure of gazing into the distance from the mountaintops, immersing themselves in the vast landscape. Therefore, the scenery of Xinghu Lake

brings visitors a sense of romance and comfort. From the perspective of landscape aesthetics, the beauty of mountain-lake landscapes primarily lies in their natural charm. What distinguishes the scenery of Xinghu Lake from that of southern seashores is the added element of cozy beauty. Unlike the grandeur of the sublime and the tenderness of the elegant, cozy beauty, allowing for relaxation. The flocks of flamingos and red-crowned cranes in Xinghu Lake also add a touch of vivacity and energy to this landscape. Facing such a mountain-lake scenery, people feel delighted, relaxed, and enchanted. Consequently, the overall design of the "Xinghu Sharp Style" IP font needs to embody a sense of strength while incorporating a touch of elegance and grace. Furthermore, the traditional cultural fonts of Xinghu Lake are analyzed to update the wayfinding system's typographic style. Similarly, not only the text but also other aspects of the wayfinding design of Xinghu Lake should encompass these characteristics. The strokes of this design's font are derived from Xinghu Lake's historical culture, unique architecture, plants, and animal elements, with precious cultural relics such as cliff inscriptions preserved as elements of the "Xinghu Sharp Style."

The Xinghu Sharp Style of Zhaoqing is a distinctive calligraphic font whose strokes can be traced back to the rich historical culture of the Zhaoqing region. As an ancient city with a long history, Zhaoqing was once one of the centers of Lingnan culture, attracting numerous scholars, artists, and literati for exchanges and creations. The sharp strokes originate from the inscriptions left by ancient scholars and poets on the cliffs of Qixingyan, which exhibit varying degrees of vigor and elegance, reflecting the calligraphic styles and aesthetic pursuits of different eras. Xinghu National Wetland Park boasts 360 species of wild plants and approximately 200 species of cultivated plants, including representative elements such as bald cypress, fine-leaved banyan, and ficus virens, which have profoundly influenced the sharp calligraphic style. Many calligraphers draw inspiration from nature when creating the sharp style, incorporating plant and animal forms into their works, showcasing unique aesthetics and creativity. Drawing on the cultural heritage of our predecessors, the team has also inherited and innovated the strokes of the sharp style, achieving an unprecedented new design. The "Xinghu Sharp Style" is illustrated in Figure 1 below.

The development of the cultural and creative industries has provided more inspiration and resources for the design of scenic area wayfinding systems. The deep and organic integration of the cultural and creative industries with the tourism industry can satisfy people's individualized and diversified demands for related cultural tourism products [9]. In designing cultural and creative products related to Xinghu Lake scenic area, the cultural elements of the two scenic spots in Zhaoqing Xinghu and creative designs tailored to tourist needs are incorporated to enhance the cultural connotation and characteristics of the wayfinding system of Zhaoqing Xinghu scenic area, making it more attractive and unique.

By integrating the regional historical and cultural elements of Zhaoqing into the wayfinding system design, it can not only increase the characteristics and attractiveness of Zhaoqing's tourist attractions but also inherit and promote Zhaoqing's cultural heritage [10]. For instance, incorporating local traditional architectural elements, color schemes, and pattern designs into the wayfinding system can highlight the regional characteristics and cultural depth of the scenic area.

Based on these elements, we have also derived a series of cultural and creative products. For example, inspired by the architectural landmarks with historical characteristics in Zhaoqing, we have designed a "Yearly-Monthly Calendar" suitable for tourists to bring home after enjoying the magnificent scenery of Zhaoqing, as shown in Figure 2.



Figure 1. Xinghu Sharp Style

Inspired by the products sold on the official website and local stores, the cultural and creative products designed by our research team have undergone modifications. Drawing on the natural landscape features of Zhaoqing Xinghu scenic area and the city's abundant ecological resources and rich historical culture, this study has extracted its characteristics to design a cultural and creative product that aligns with the cultural customs of Zhaoqing. During the field investigation, we found that the significance of cultural and creative products lies in their portability and aesthetics, which cater to

tourists' needs. Therefore, our research team has designed a "Keychain Inspired by Xinghu Lake" suitable for tourists to bring home after admiring the scenery, as shown in Figure 3.

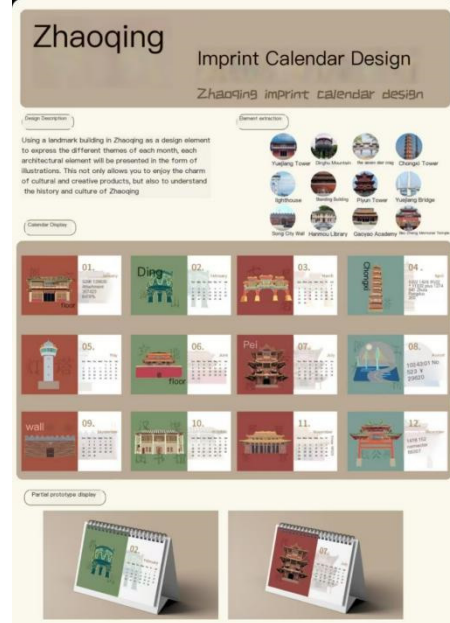


Figure 2. "Yearly-Monthly Calendar" Design



Figure 3. Keychain Design Inspired by Xinghu Lake

Furthermore, this study will explore the protection and inheritance of Zhaoqing's cultural and ecological resources through the design of Zhaoqing's tourism wayfinding system, thereby promoting the local cultural heritage and socio-economic development.

Taking into account the needs and psychology of tourists, the study aims to provide accurate, clear, and useful information while harmonizing with the cultural characteristics and natural environment of the scenic area. The color palette of the poster design draws inspiration from Zhaoqing's natural landscapes, selecting hues that coordinate with the local scenery. For instance, in mountainous areas, greens and browns reminiscent of the mountain forests are adopted; whereas, in waterfront regions, blues and cyan hues echoing the waterscape are utilized, ensuring that the poster seamlessly blends into its surroundings rather than standing out awkwardly. Through the inspection of Zhaoqing's tourism wayfinding system, our research team has designed a series of posters and postcards promoting Xinghu Lake, as shown in Figures 4 and 5 below.



Figure 4. Xinghu Series Poster Design

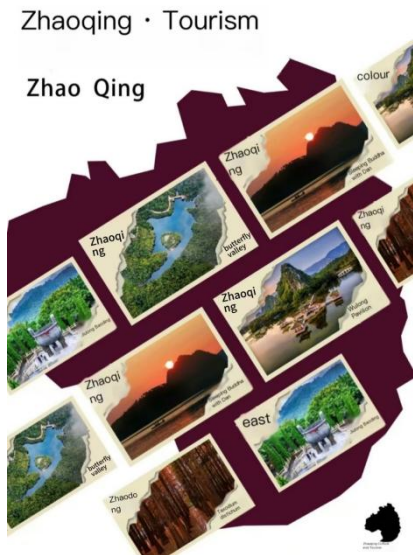


Figure 5. Xinghu Postcard Design

A well-designed scenic area wayfinding system can enhance the brand image of the scenic spot, generate a positive impression among tourists, and increase its popularity. With the upgrade of consumption levels, advancements in research and technology, and the intensification of globalization trends in the tourism industry, there remains tremendous potential for development within the tourism sector. In particular, digital transformation, cross-industry collaboration, and sustainable development have brought new growth opportunities to the tourism industry. Designing interactive experience projects that integrate with the natural environment of Zhaoqing's tourist attractions, such as setting up birdwatching platforms and ecological trails, and clearly guiding tourists through the wayfinding system can encourage them to delve deeper into nature and personally experience its charm. Additionally, incorporating online WeChat interactions with Zhaoqing's tourist attractions can facilitate tourists' engagement with these interactive experiences in their daily lives.

The image of tourism can be crafted not only by nature but also through IP (Intellectual Property) characters to attract tourists, particularly those who are into anime or have young children. The introduction of IP characters can not only

enhance tourists' enjoyment of the scenic landscapes but also bring additional traffic to the attractions. Our research team will also launch IP characters and corresponding emoji sets, as shown in Figures 6 and 7 below.



Figure 6. IP Character Design



Figure 7. Emoji Design

4. Conclusion

This study not only provides theoretical guidance and practical reference for the design of Zhaoqing's tourism wayfinding system but also offers design insights and models for other tourist cities with similar cultural and ecological backgrounds. It promotes the application and development of cultural ecology theory in tourism wayfinding system design, fostering both theoretical innovation and practical application. One of the most distinctive differences among scenic areas lies in their unique natural environments and ecological characteristics, which serve as crucial factors in attracting tourists and promoting ecological conservation. Taking Sichuan's tourist attractions as an example, from the "crystal waters and green mountains" of Jiuzhaigou, the "snow-capped mountains and meadows" of Daocheng Yading, the "sea of clouds and Buddha's light" of Mount Emei, to the "glacial relics" of Siguniang Mountain, each natural landscape showcases the wonders of nature and ecological diversity. The design of each tourism wayfinding system embodies profound natural beauty and unique artistic charm.

In designing the wayfinding system for scenic areas, it is vital to effectively excavate and convey these natural landscapes and cultural connotations. This study primarily focuses on the design of the tourism wayfinding system for Xinghu Lake Scenic Area in Zhaoqing City, with no designs for other county-level cities. Future work will require adjusting the wayfinding system design according to different geographical features and social environments. The team prioritizes the use of materials compatible with Zhaoqing's local natural landscapes, such as wood and stone, which

embody ecological and environmental protection principles while blending seamlessly with the surrounding natural environment. This is a unanimous goal for the team to achieve.

At the core of this research team's efforts is the design of a unique font inspired by Xinghu Lake Scenic Area in Zhaoqing, along with a series of cultural and creative products. In the wayfinding system design, natural elements within the scenic area are directly used as design inspirations, and online promotions, such as posters and videos on online platforms, are created to evoke anticipation among tourists before they arrive at specific attractions, enhancing their excitement and satisfaction during the tour. The font, "Xinghu Sharp Style," incorporates cultural features of ancient calligraphers. Furthermore, the research process involves the development of cultural and creative products that integrate with the scenery of Xinghu Lake Scenic Area in Zhaoqing.

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