

Research on Display Design of Red Culture in Fragrance Hill Based on Visualization Perspective

Cheng Zong^{1*}, Huiyan Liu², Shuhua Xue³, Yapeng Cheng⁴

{casesofcity@qq.com¹, 1142392385@qq.com², Xueshuhua0124@163.com³, yp1615@sina.com⁴}

Beijing Forestry University, Beijing, China

Abstract: Fragrant Hill is a red revolutionary holy land, Fragrance Hill Museum of the Revolution as a carrier of red culture bears the important responsibility of carrying forward the glorious history and inheriting the revolutionary spirit. The article provides an in-depth analysis of the cultural context of Shannon, outlining the theoretical and methodological foundations of visualization. The article will deeply analyze the use of visualization design in Fragrant Hill's cultural exhibition, and explore the practice of visualization and display design of red culture.

Keywords: Red Culture, Visualization, Display Design, Fragrance Hill Culture

1 Introduction

Red culture carries important historical, cultural and contemporary values in the new era. It is a cultural pattern formed by the people under the leadership of the Communist Party of China (CPC) during the long-term revolutionary struggle, which plays an essential role in the journey of comprehensively building a strong socialist modernized country. It will also help to promote the prosperity of cultural undertakings and enhance the country's soft power as well as competitiveness in culture. Fragrant Hill, as an important stop for the CPC to “catch the examination” in Beijing, is rich in red cultural resources. Therefore, especially attention should be paid to digging into the historical origin of Fragrant Hill Revolutionary Sacred Ground, exploring the spirit of red culture contained therein, showing the red history, heroes and revolutionary spirit of Fragrant Hill vividly through visual means, so that the audience can feel the charm of red culture in an immersive environment.

2 Overview of the red culture of Fragrant Hill

2.1 Conceptual classification of red culture

For an example see **Fig 1**, Red culture has always been a heated topic, combing the concept of red culture needs to start from the category of culture. Culture is the superordinate concept of red culture, and the two are interrelated and different. Culture refers to the sum of all material and spiritual civilization achievements created and inherited by human beings in a specific social environment, which have an impact on the way of life, way of thinking, values, forms of social organization, etc., a more general concept that covers but goes beyond, the scope of philosophy, politics, economy, military, diplomacy, law, religion, art, literature, etc.

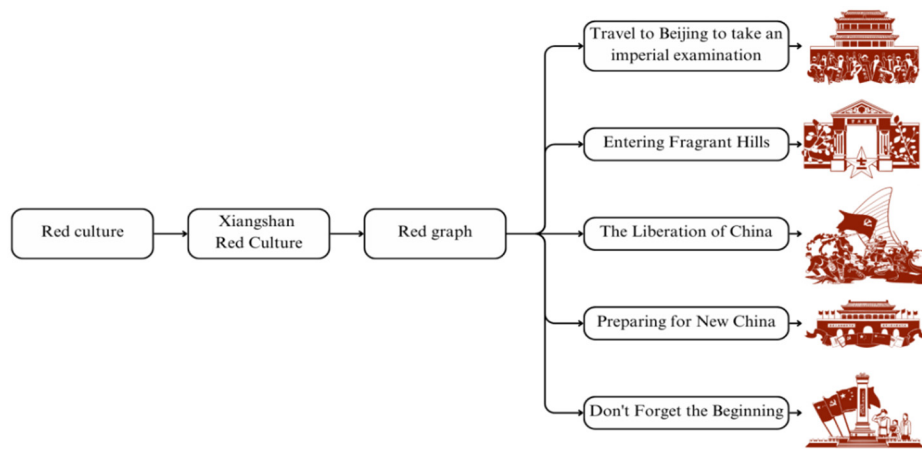


Fig. 1 Red culture and red graph

2.2 History and Characteristics of Fragrant Hill Red Culture

The Fragrant Hill, located in the western suburbs of Beijing, is a hillock with a long history and beautiful scenery, as well as a famous tourist attraction and summer resort. Meanwhile, the history of Fragrant Hill is also a red history. The history of the red culture of Fragrant Hill can be traced back to the period of the Chinese Revolutionary War, especially the revolutionary pioneers during the revolutionary struggle led by the Communist Party of China had left significant footprints in Fragrant Hill, which endows Fragrant Hill with the historical connotation of red culture.

On March 25, 1949, the organs of the CPC Central Committee and the Central Military Commission were stationed in Fragrant Hills, which made it an important stop for the CPC to “catch the examination” in Beijing. Subsequently, for an example see Fig 2 , Mao Zedong directed the work of the CPC from Fragrant Hill at the time of the founding of New China, and the decisions and actions taken during this time had a profound impact on the victory of the Chinese Revolution.[1] As the short-lived residence of Mao Zedong and other revolutionary leaders, Fragrant Hill bears a special period in the history of the Chinese Revolution.

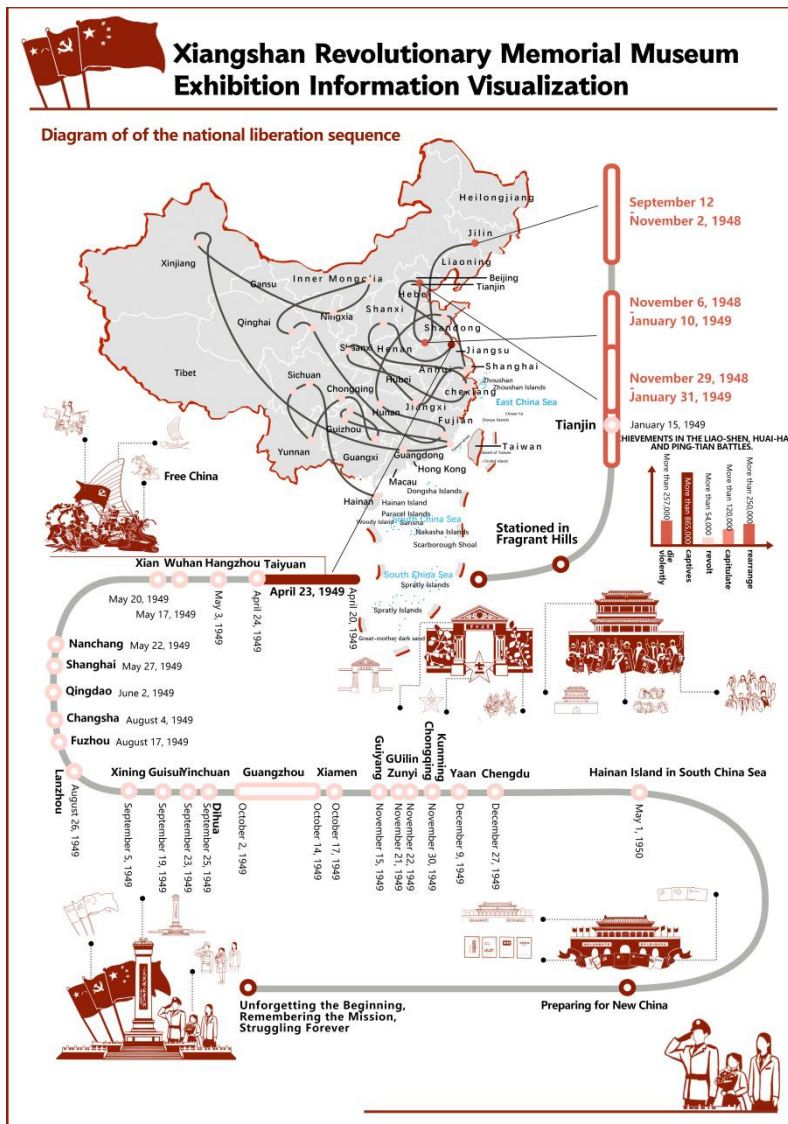


Fig. 2 Fragrant Hills history poster

3 Theoretical foundations and methods of visualization design

Visualization is the scientific study of the representation of data, encompassing all developments and advances in information visualization, information graphics, knowledge visualization, scientific visualization, and visual design.[1] The purpose of visualizations is to create a meaningful, effective, and actionable dialogue with data and insights.[2] Visualization design is a method of presenting data, information or concepts using visual elements such as graphics and images to make access to information more intuitive and simple to understand. It is

not just a simple conversion of data into a graphical presentation, but a way of designing data in such a way as to make the presentation more aesthetically pleasing, understandable and effective.

Visualization design involves a number of subject areas, such as computer graphics, visual art, cognitive psychology, and so on. Researchers continue to explore the theoretical basis and methodology of visualization design. For example, visual coding theory and perceptual-cognitive theory are widely used in visualization design. With the continuous development of computer technology, the techniques and tools of visualization design are also constantly updated and evolved. From the earliest static charts to the present interactive

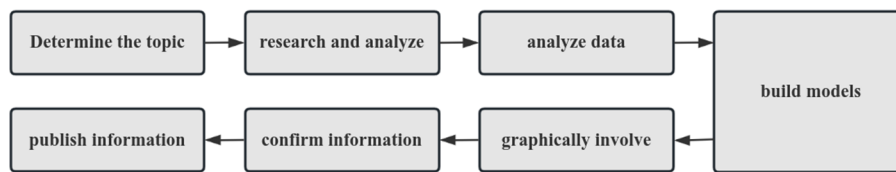


Fig. 3. Visualization design process

In the visualization design process, for an example see **Fig 3** , it is necessary to first determine the design theme, interpret the theme content while conducting in-depth research and analysis, summarize and analyze the data obtained from the research and construct the relevant model, carry out graphic design on the above content and form the preliminary design results, and finally proofread and complete the design. In the visualization design, it is crucial to ensure the credibility and clarity of the data, and the design needs to choose the appropriate type of chart and data presentation to ensure that the information is accurately conveyed. At the same time, pay attention to the clarity of data labels, legends and other elements that can accurately convey the meaning of the data.

4 The Use of Visualization Design in Fragrant Hill Theme Exhibition

Fragrance Hill Museum of the Revolution is not only a place to show the history of the revolution, but also a new era of civilization practice base has the inheritance of revolutionary history, carries forward the spirit of the revolution, education and enlightenment, promotes the development of tourism, promote national unity and other multiple significance for the promotion of socialist core values, promote the construction of culture and promote the development of society has an important role. However, according to the survey data, the reasons for visiting the same red pavilion many times mainly include the demand for learning, the continuous attention and in-depth experience of the content of the pavilion, and the appreciation of particularly attractive exhibits, but any part of it will not be a second visit, so the Fragrant Hill thematic exhibitions need to satisfy the needs and expectations of different visitors and enhance the visiting experience.

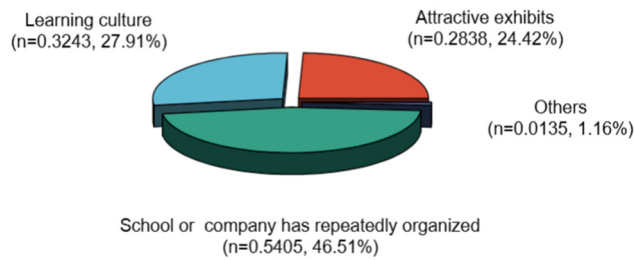


Fig. 4 The reason you would visit the Red Pavilion

We conducted a questionnaire survey on the reasons for visiting red venues and the degree of influence. Through the survey, we learned that people choose to visit the red venues mainly because the exhibition content is attractive, for learning history to feel the culture and learning or unit organization, for an example see **Fig 4**, while the survey also involves the degree of influence of these three factors on the choice of visitors. The degree of influence of the factors in accordance with the proportion of choice and people's ultimate willingness to visit the establishment of a function, see equation (1) for an example to reflect the impact of different factors on people's final choice.

$$R=0.279x+0.244y+0.540z \quad (1)$$

The correlation coefficients of each factor were calculated according to the data obtained, for example see **Table 1** .

Table 1. correlation

	r
x	0.66927
y	0.51826
z	0.70119

The analysis of the calculation shows that the exhibits in the venue and the spiritual culture it convey have a strong correlation with people's choice to visit, therefore, beyond objective needs improving the attractiveness of the exhibits and the way of exhibition in the pavilion, and then improving the degree of conveying the culture and spirit of the venue is an important method to improve the level of visiting the venue. This will also improve favorable conditions for the display and dissemination of red culture.

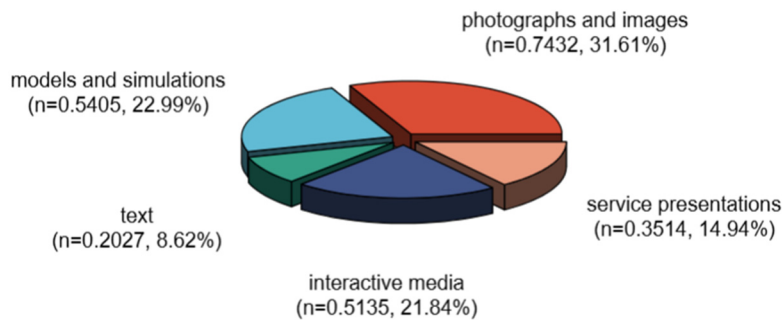


Fig. 5 Preferred

According to the questionnaire set up in the preliminary stage on the display preferences of the venue, the display methods of Fragrance Hill Museum of the Revolution are roughly divided into five categories: text (x), pictures and images (y), models and simulators (z), interactive media (v), and explanation services (w). For an example see **Fig 5**, the resulting data were analyzed and screened to establish a visitor preference model, see equation (2) for an example.

$$P=ax+by+cz+dv+ew . \quad (2)$$

Assign values to the corresponding parameters as a percentage of, see equation (3) for an example

$$P=0.08x+0.316y+0.230z+0.218v+0.149w . \quad (3)$$

Combined with the specific situation of Fragrance Hill Museum of the Revolution, two sets of data are set for comparison, for example see **Table 2** . It can be clearly seen that an appropriate increase in the visualization and display methods such as photo images and interactive media can effectively improve the preference of visitors, and thus improve the efficiency and acceptance of cultural dissemination

Table 2. Results of data substitution

P	0.17	0.20
x	0.43	0.30
y	0.15	0.20
z	0.35	0.35
v	0.02	0.10
w	0.05	0.05

Visualization design can present complex information concisely and clearly and help the audience understand the content and meaning expressed by the exhibits more intuitively. Through charts, images, multimedia and other forms of visualization design, it can make the exhibition information more vivid and vivid, and enhance the effect of information transmission. The application of visualization design in the exhibition has important significance, can enhance the attractiveness of the exhibition, attract more audience to visit through vivid and image design way, convey the information and meaning of the exhibits concisely and clearly, enhance the effect of information transmission.

In addition,The development of times in the context of digital technology has been applied in many fields, increasing the possibility of the development of digital-based museum exhibition activities. This development enables relevant personnel to interact with the design, production, and manufacture of digital museum products, thereby providing users with an enhanced experience.[3] Excellent visualization design can enhance the visitor's experience. the museum offers a communication channel between the objects and the visitor, and interactive exhibitions play a role in stimulating the public. It is an exciting and active environment that eases the relationship with science, engaging attention, and concentration[4]. It creates a pleasant atmosphere for viewing the exhibition, improves the effect and influence of the exhibition, and makes it have a wider social impact. According to the research data, visitors' preference for visual, physical, and interactive displays demonstrates their preference for displays that enable intuitive perception and active participation. At the same time, visitors showed high interest in

installation displays that provide immersive experiences and virtual interaction. Therefore, when designing the content and layout of the exhibition, more use of pictures, models, interactive media, and other means can be considered to meet the preferences and expectations of the audience and enhance the attractiveness and effectiveness of the exhibition. Visualization design helps to promote cultural exchange and dissemination, makes the exhibition content easier to understand and accept, and attracts more audiences to participate in cultural exchange and dissemination activities.

Art and science share a common source, Art and science should each be evaluated on their own merit. Allowing room for both in the quest to understand our world will lead to an enriched experience. It is interesting to contemplate the hand and mind of an artist who can synthesize the available visual information into a detailed drawing. Visualization design plays an important role in the Fragrant Hill Red Exhibition. By such means as data display, visual appeal, emotional atmosphere creation, interactive experience, storytelling, and guided navigation, the exhibition can vividly present the red history and cultural connotation of Fragrant Hill. Through multimedia display, virtual reality technology, and interactive display, the audience can feel the red spirit and historical heritage of Fragrant Hill closely and enhance their knowledge and experience of red culture.[5]

5 Red Culture Display Visualization Design Strategy

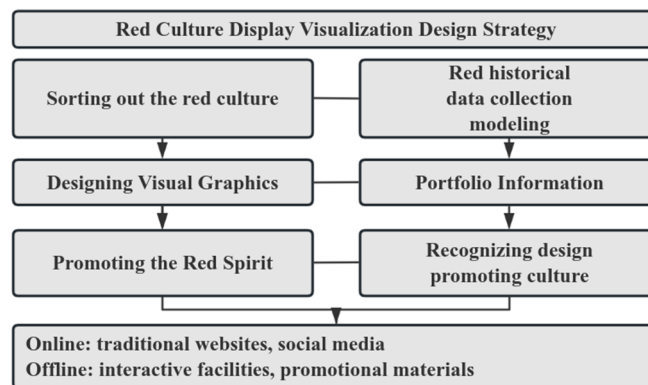


Fig. 6. Red Culture Display Visualization Design Strategy

The process of red culture display visualization design can be unified into a similar process, for an example see Fig 6 . The first step is to sort out the red culture, clarify the red history, collect relevant data, and establish a unified model. The following step is to combine the information, design visual graphics, supplemented by appropriate colors, combine visual elements, and provide reasonable visual guidance. Finally, confirm the information and promote the red culture. In the meantime, according to the research data, the ways to understand the history of Fragrant

Through the above visualization design methods, the Fragrant Hill Red Exhibition can present a colorful, vivid and interesting display effect, attracting the visitors' attention and enhancing their knowledge and experience of the red culture as well as the history of Fragrant Hill.

6 Conclusion

The advent of information and interactivity has brought new media into people's lives and has led to a huge shift in the way people think. This approach breaks with the traditional way of presenting museums and allows cultural communication to be presented to visitors in new and interesting ways.[6] Visualization design has been of great practical significance and promotion value in the display of Fragrant Hill red culture. By continuous exploration and practice, visualization design means and methods can be constantly improved and innovated to provide richer and more diversified ways to disseminate and display the red culture of Fragrant Hills, promoting the inheritance and development of the red culture.

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