

Research on Image Design of Historical and Cultural Blocks from the Perspective of User Experience

Rong Han^(✉), Yang Hu^(✉), and Rui Li^(✉)

Jiangsu University, Zhenjiang, China
33315935@qq.com

Abstract. In this research, users' values of perception and experience of historical and cultural blocks are measured and evaluated; case study of Xijin Ferry in Zhenjiang is made, and general comments of various users on the image of the street are collected, which is developed into a part of block information visualization research mode by giving certain values. Meanwhile, through the research, the optimization ideas and innovation measures for new interactive form of image design of historical and cultural blocks are put forward, and it is proposed to accurately grasp the forward-looking appeal points of user experience, actively develop information channels and interactive content, and address users' needs of virtual experience and situational communication with the help of various information expression ways.

Keywords: User experience · Historical and cultural blocks · Image design

1 Research Background

1.1 The Necessity of Methodology and Demonstration

With the advent of the era of experience economy, people's voice and requirements in the tourism experience are more and more prominent, the previous scholars always began to study historical and cultural districts from the perspectives of geography, informatics, tourism and so on. In this paper, the image design of Xijin ferry, Zhenjiang City historical and cultural blocks was measured of bidirectional perception. At the same time, the interdisciplinary integration of design disciplines will also give the tourism discipline a unique experience. The most important feature of user experience is to highlight the needs of the user experience as the center, so this article measured the user perception of such image design by field survey, and then come up with optimization strategies, condensate out a suitable standards and programs for the image design. This requires to center on the audience, to create a specific environment and atmosphere, to create a series of personalized, participatory activities, so that the audience to get an unforgettable experience.

1.2 The Necessity of Warping and Improved Properties

As the regional context of the carrier, historical and cultural blocks emphasizes the user behavior in the street space and cognitive state. In order to achieve the cultural value of historical and cultural blocks, on of cultural tourism, and the optimization of the image design of the block is one of the recessive demand factors to stimulate the vitality of the historical and cultural blocks, the purpose is to carry out effective information transmission. From the consumer's point of view, the sense of experience, layered image design will play a driving role, but the lack of design may inspire the user's negative emotions; from the district managers point of view, scientific and effective image design can bring economic benefits and reduce operating costs.

2 The Core Structure of the System

2.1 Defining Analysis

The user experience is an individualized feeling of individual stimulation, which consists of five modules: sense, feel, think, act and relate (Fig. 1). Historical and cultural blocks is a city (town) area, which has a certain space limit, because of the social and cultural factors. It reflects the historical and cultural value of the whole environment, showing the typical features of the city in a historical period, reflecting the historical development of the city. The word "image" is defined as an abstract concept in the study of tourism in the West. It contains the impressions of the past, the reputation and the evaluation among colleagues. In the unabridged dictionary, the definition of "image" is defined as: literary art is a special means of reflecting reality, That is, according to real-life phenomenon to choose, Thus to create a synthesis of the ideological content and aesthetic significance of a specific vivid picture. People's perception of the image is a bottom-up information processing. The tourism image factor drives the user and will have a key incentive effect. The image design of the historical and cultural blocks around the block tour space and the inherent cultural information. It has many functions such as orientation, cultural communication, visual

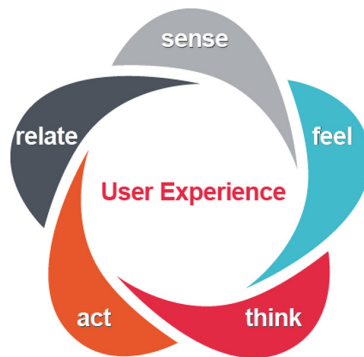


Fig. 1. Five modules of user experience

communication and so on, It is not only to meet the physiological needs of users and security needs exist, it is to achieve people's sense of belonging and identity and other emotional needs of the inevitable way.

2.2 System Processing

Contemporary cognitive psychology regards man as an information processor, it believed that the essence of human cognitive process is the process of information processing. Contemporary cognitive psychology as the information processor, that the human cognitive process is the nature of information processing. According to the information processing model of cognitive psychology, the image of historical and cultural blocks is a kind of mental model produced by the public through the process of receiving, selecting, sensing and memorizing the destination information. The occurrence of perception needs to rely on the user's own knowledge and experience and cognitive model, and subject to the constraints of individual characteristics. Therefore, the user's values, personality and motivation and other psychological factors and by age, gender, education, occupation, income and other demographic factors constitute the historical and cultural blocks of the image of the endogenous variables. Gunn (1972) describes the process of the formation of a tourist destination image in the human brain as Original Image and an Induced Image. Fakeye and Crompton (1991) further summarized the formation of tourists and potential tourists image as Original Image, Induced Image and Composite image (Fig. 2). The original image is the image formed before the potential tourist arrives at the destination, which is obtained through television, network, newspapers and magazines, radio, books and word of mouth. The induced image is that the potential tourists have a certain motive of travel, and the subject spontaneously search for information to process, compare and select the acquired knowledge. Potential tourists, through the cognition of native image and image, produce tourism desire and transform into tourists. After arriving at destination, potential tourists can make a composite image through personal experience and past cognition. The original image of historical and cultural blocks and the promotion of the image has a certain foundation, but the composite image feedback and re-design of the interaction is slightly scarce.

3 Sample and Data

3.1 Model Building

This paper selects Xijin ferry historical and cultural blocks (Figs. 3, 4, 5, 6, 7 and 8) in Zhenjiang as the sample, which is located in the west of Zhenjiang City Pan foothills, in the history of the long-term as the only ferry to the north of the Yangtze river, bear the naval port, passenger ferry, ferry wharf righteousness and other functions, has an important strategic position. Since the Six Dynasties, the Yangtze River shipping owners and merchants in to this, gradually formed xijindu ancient title area. The internal block shops, economic prosperity, has important historical value and the value of tourism, Xijin ferry image elements are divided into tourism resources, tourism facilities, tourism services, industry management, community participation, tourism

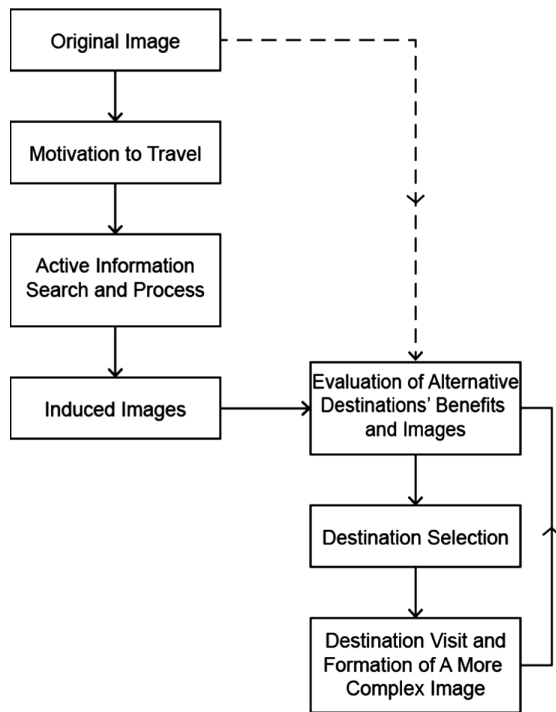


Fig. 2. A model of a tourist's image formation process



Fig. 3. The zhaoguan stone tower

environment, tourism and culture etc. The design scale of this paper will consider the above factors into consideration, referring of the whole image and the uniqueness of the purpose of image in Echtner and Ritchie (1993), in Xijin ferry within a specific marker location and specific factors, according to the different attributes of the object to be designed.

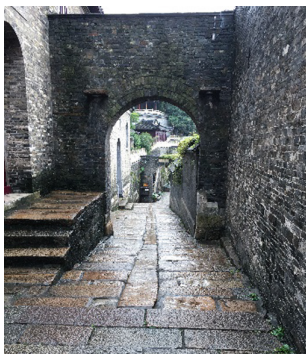


Fig. 4. The ancient street



Fig. 5. A millennium at a glance



Fig. 6. The daidu pavilion



Fig. 7. The guanyin cave



Fig. 8. The general map of xijin ferry historical and cultural blocks

Firstly, the author has conducted several research to provide a guide for the following design of volume survey. In order to ensure the information source of comprehensive and objective, investigation object selection using multi azimuth sampling method, the object will be divided by age into 18–30, 31–50, 51–70 three age groups, then they will confirm his category and according to the situation by the investigators and respondents on issues related to the answer to fill in the questionnaire. Through the reliability test data of the questionnaire, the Cronbach coefficient is 0.76, which show that the reliability of it is good, and the further statistical analysis will be conduct. The questionnaire includes 4 parts: the first part is about the sociology characteristics; the second part and the third part adopts 5 point scale method of Likert, respectively evaluate the user oriented information system for visual image perception and image perception degree of the historic district consists of parts. 1–5 point value assessment indicates the perception of the user from negative to positive; the forth part assessment the user access to the information. In this investigation, 100 questionnaires were issued for each age group, with a total of 300 copies. The effective recovery 298 and the recovery rate was 96%. After the screening of the original questionnaire, we have got 271 effective questionnaires, the effective rate was 94%.

3.2 Statistical Verification and Results Discussion

Sociological Structure of Sample. Form the point of view of the effective sample composition, overall sex ratio female (Table 1); the overall structure in high educational background, college degree or above accounted for 51.3% (Table 2), from the tourist market or potential market point of view, relatively reasonable structure. Among them, 49.4% of users said they had a tour of other historical and cultural blocks.

Table 1. Gender structure of respondents

	Frequency	Percent	Valid percent	Cumulative percent
Valid female	160	55.36	55.72	55.72
Male	129	44.65	44.28	100
Total	289	100	100	

Table 2. Education structure of respondents

	Frequency	Percent	Valid percent	Cumulative percent
Valid primary school and below	29	10.03	7.75	7.75
Junior middle school to senior high school	117	40.48	40.96	40.96
University or above	143	49.48	51.29	100
Total	289	100	100	

The Analysis and Discussion of the User Oriented System Identification. This part from the logo design, system facilities planning in two aspects, after the investigation of the age of the user to do the research found that the data presented with a certain difference (Table 3), indicating that the different ages of the user oriented system multiple demands.

Statistics show that the three age of the user perception of the design of the guidance system overall positive bias, but from the individual influence factors show the numerical point of view, there are still some differences. The standard deviation among 3-a-M, 3-b-M, 3-g-M, 3-f-M is bigger, it can to a certain extent on the label carrier design and system planning guidance are to be improved. According to the general survey, about 33.5% of users said they are “looking for a position” through “access to information according to the sign guidelines”; more than 54.8% of users said that they visit by map and casual way, “according to the sign one by one to watch” users only 12.1%; about “do you think Xijin ferry is oriented system to guide the of your help?”, the mean in statistics was 1.959, the SD value is smaller, which show that the user has a lag of Xijin ferry oriented system design of perception and attitude. For the above problems, when use the information as the first dressing to adjust the layout, we should ensure that users in the space “at the brand orientation, distribution of all clues can be effective to play the expected role”. First of all, to ensure clear system design, namely the dominant indicators to create a clear composite image, the participants have system the perception of the specific cultural transition of the specific cultural transition zone, consciously grasp the whole scenic tourist information context, will guide the information context according to the level classification, corresponding to different nodes arrangement of different types of indicators, it is visual information channel between the blocks, the culture landscape connecting channel. Secondly, pay attention to the course of system design the length of time when “from feel to reaction and then to memory”, to ensure that all elements are found in time, the user can understand immediately take cation. Context is a comprehensive, nature geographical basis of regional history and culture. The three-dimensional combination of tradition and social psychology, from the design of layout should be refined to the image information, available elements selected and cultural block space-time resonance, which is the Xijin ferry Cultural District architectural style, cultural history, culture connotation and culture combined with the strategy of mining, combined with the culture of the street signs image elements phase beauty to create to achieve as ideographic, or give the subtraction of image design is figurative, high values of common elements in assisted extraction optimization design.

Table 3. The perception of audience’s influence on the composition of historical and cultural blocks

Influence factor	Design of guiding sign				Guidance system facility planning				Experience factors				Scenic factors					s.		
	a. Size	b. Graphs	c. color	d. Style	e. Continuity	f. Richness	g. Accuracy of location targeting	h. The amount of information	i. Catering	j. Entertainment	k. Shopping	l. Accommodation	m. Ancient Street	n. Zhao guan Stone Tower	o. Dai du Pavilion	p. Guanyin Cave	q. A millennium at a glance		r. Fifty-three slope	
The First age level	M	3.63	3.61	2.81	2.85	3.05	2.55	3.21	2.58	3.82	3.64	3.53	3.31	4.25	4.11	3.25	3.03	4.04	2.32	2.02
	SD	0.80	0.65	1.17	0.61	1.14	0.82	1.08	0.88	0.83	0.94	0.69	0.83	0.74	0.66	0.91	0.73	0.74	1.15	0.94
The Second age level	M	3.83	2.97	3.08	3.42	2.75	2.97	3.87	3.02	4.01	3.22	3.67	2.71	3.96	4.08	3.61	3.18	3.82	2.71	2.02
	SD	0.71	1.04	1.37	0.68	1.09	1.02	1.22	0.94	0.53	0.64	0.95	0.85	0.68	0.45	1.21	0.94	0.65	0.91	1.46
The third age level	M	3.66	3.11	2.54	3.56	2.89	3.54	3.02	2.44	4.13	3.68	4.09	2.38	4.07	4.15	3.45	3.52	3.49	2.02	2.74
	SD	0.70	1.43	1.27	0.94	1.26	0.63	1.37	0.60	0.78	0.95	0.52	1.26	0.62	1.02	0.88	1.65	0.82	0.67	0.96

Statistics shows that three ages of user oriented system design the overall perception of positive bias, but from the individual factors influence the numerical point of view, there are still some differences. The difference of 3-a-m, 3-b-m, 3-g-m, 3-f-m numerical is large, This can be explained to a certain extent, the design of the identification system and the system planning of the guidance system need to be improved.

Analysis and Discussion on the Way of User's Perception of Historical and Cultural Blocks Image. For the consideration of user's information pathways, with "impressive degree" and "degree of representativeness of tourist attractions" for the measurement basis (Table 3), relatively high degree of recognition of the block spots visible to users, with the overall style attractions coordination. According to the value in 3-f-M and interpretation system on users, access information blocks way of research results, the three age layers of the user demand for information media are significantly different. The young users said that access to information blocks in the way is limited, design and configuration of modern interactive equipment urgently overall planning. The first age users use the network and media advertising to obtain image caused by the proportion of 67%. Compared with ages of third about 47% users said to Xijin ferry information about channel mouth, then through travel agencies and other professional bodies to tour blocks. Composite technology allows the transfer of information. Type of historical and cultural landscape changing, information technique increasing emphasized beyond time and space. To ensure the information conveyed clearly, with the development of new media when the trend of application. The Ministry of industry and information technology data show that the number of 2015–2016, 3G/4G network users is growing rapidly, as of September 2016, mobile phone penetration rate has reached 95.8/100; 3G/4G network users increased to 885 million, accounting for the proportion of mobile phone users reached 67.3%. The popularity of smart mobile phone and based on network technology, nowadays people have been used to obtain information on the APP in the phone platform. Based on this, the message may not be materialized form of restrictions. The users can be realized when the Ferries not block caused by image through the implantation of mobile phone APP, the elements will represent a higher degree of the virtual exhibition the development and change of historical and cultural blocks. APP provides real-time downloadable short video, the participants practice lead to self display and slow the internal driving force, users can access their own location and orientation information, the use of mobile terminal blocks overview in a more complex environment in the district.

4 Conclusion

To sum up, this study is based on interdisciplinary research and collaborative innovation, Based on the historical and cultural blocks of Xijin ferry, Zhenjiang City, this paper measures the perceived value of the three types of users from the quantitative and qualitative aspects, and concretely ranks the merits and demerits of the cultural elements, It makes the later maintenance and improvement, the development of the design through the statistical analysis of the atlas for academic support, to achieve a more complete, systematic, scientific image design. First of all, to establish information display mode by user categories. There are differences in the demand of different age

groups, Young users are the main users of information technology equipment, whose needs of the block information are stronger than the older users, relatively speaking, older users need to be more intuitive visual display of information; secondly, a sound guide system should be planned. The improvement of the design of the guidance system, in the neighborhoods, from the information cue points to the contents of the hierarchical classification and block-oriented design style improvement, is urgent. The integrated design of the system can not be ensured at present, but the sites with high perceived value in this survey can be set as the key node of the image sensing system, which can be highlighted in the system. It is suggested that the hierarchical relationship of the guidance system should be fully considered to ensure the continuity and perfection of user-oriented process. Finally, a human-computer interaction system should be established. Designers should accurately grasp the forward-looking demands of user, and actively carry out the development of information channels and content, to meet with the needs of the users' virtual experience, communication and other needs with a variety of information presentation, enhance the interactive experience from the physical space to virtual space of users, to ensure Users to get more experience and satisfaction the process of viewing.

Acknowledgments. Jiangsu Province ordinary university graduate student training innovation project (Grant No. SJZZ15-0135).

References

- Xie, Y.: Research on Tourism Experience: for Positivist Science, China Tourism Press, Beijing (2010). (in Chinese)
- Song, Y.: The characteristics and designing principles of experience tourism, Special Zone Economy, Shumchun (2007). (in Chinese)
- Schmitt, B.H.: Experiential Marketing: How to Get Customers to Sense, Feel, Think, Act, and Relate to Your Company and Brands, The Free Press, New York (1999)
- The concept of historical and cultural blocks which is a legal term since July 1, 2008, to which the implementation of "historical and cultural city towns and villages Protection Ordinance (Decree No. twenty-fourth of the State Council) has a clear definition
- Huang, Z., Li, X.: On the Image Perception and Promotion Pattern of Tourist Destination, Tourism Tribune, Beijing (2002). (in Chinese)
- Gitelson, R.J., Crompton, J.L.: The planning horizons and sources of information used by pleasure vacationers. *J. Travel Res.*, Denver (1983)
- Fakeye, P.C., Crompton, J.L.: Image differences between prospective, first-time, and repeat visitors to the lower Rio Grande Valley. *J. Travel Res.*, Denver (1991)
- Xie, C., Huang, Y.: A Research on the Organizational Model of Planning Destination Image Based on Social Participation, Tourism Tribune, Beijing (2002). (in Chinese)
- Gao, L.: Discussion and Practice of the Navigation Design for Tourist Area, Zhuang shi, Beijing (2009). (in Chinese)
- Li, L.: Discussion on the design of urban tourism image, Tourism Tribune, Beijing (1998). (in Chinese)
- Qiu, Q.: 2016 China Mobile consumer analysis, China Business and Market, Beijing (2017). (in Chinese)