Research on the Image Design of Digital City by UI Design Under Ubiquitous Network Environment

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Abstract

Based on the development status of ubiquitous network at home and abroad, this paper analyzes the characteristics of UI design in ubiquitous network environment from the aspects of visual association, user experience and interactive experience, taking the user experience as the center, combining with the interaction characteristics of user interface and research the feasibility of UI design to shape digital city image.

Keywords. Ubiquitous network; The UI design; Digital city; Image creation

1. INTRODUCTION

With the computer, network communication equipment interrelated, in the network applications and services in many areas of urban life, an integral part of urban economic construction, information and communication in a degree to the degree of change to a certain degree of information transmission and user operating habits, ubiquitous information services can promote the development of multiple industries in the city that reshape the digital city image.

2. Current Development of Ubiquitous Networks

At the end of the 20th century, many countries and regions actively developed the strategy of electronic revitalization, and that committed to the "E (Electronic) era" U (Ubiquitous) era "changes, such as Japan's U-Japan, South Korea's U-Korea and Taiwan U-Taiwan's development strategy. Communication network, sensor network, radio and television networks, Internet and other functions of the network and terminal equipment can be seamlessly anytime, anywhere, work together, in people, machines, the surrounding environment between the ubiquitous network coverage and information services. The concept of ubiquitous networks aims to build a ubiquitous information society, and to establish their respective leadership positions in the field of information technology by applying genericized micro-computing, user interface design and ubiquitous network communication services in the areas of national and urban management. "Information society based on pervasive network" has become a reality in some countries, driving the overall development of information industry as well as promoting the deep integration of

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information technology and economic and social development, service applied to government management, financial services, the environmental protection and other fields.

The UI is an important medium for human-computer interaction and communication, which carries rich and complex cultural information and is widely used in network construction. It is the most intuitive part of digital information presented to the user, and it is the interface between the user and the digital information. With the expansion of screen technology, the human-computer interaction is no longer limited to the desktop and the user can through the handheld devices, wearable devices or other conventional and unconventional barrier-free access to resources and information, the UI design has been integrated into all areas of people's daily life. Integrating practical and easy to use, beautiful UI design that can effectively overcome the user operation time and place of obstacle, to optimize means and information communication interface and the communication process, effectively ensures unimpeded man-machine communication that meet the needs of users.

3. The Generalization of UI Design

The user interface is the product of the information age. It is goal-oriented, focusing on the integrity of the design, the interdisciplinary and scientific nature of the study, the ability to influence people's lifestyles, support the sharing of resources and information, and can predict and redefine user behavior and its understanding of the user interface. The wide application of mobile, broadband and Internet catalyzes the development of multi-domain integration in the network. UI design is more obvious than the traditional information communication. It meets the needs of user information and changes the way people live, and present obvious generalizations.

3.1 The Correlation of Visual Elements

Vision is the most rapid user access to information, the most direct, the most extensive way, UI design is a kind of visual space motion, as the typical man-machine interactive, through to the various visual elements from two-dimensional to three-dimensional, scheduled from real to virtual integration, combined with the user's interaction experience for information transmission and transformation, in order to strengthen the link between the user and the interface interaction. Interface "object" is not only the contact interface, barriers, and is the "objects" of the media contact, communication, and he is contradictory, and fusion. When communication between interfaces is blocked, we need to design the interface design in reverse, and the interface design reflects the relationship between the person and the object. The development of the ubiquitous network has changed the main body of the information dissemination, which is extended by the communication between the people and the people, the communication between things and things, from the permitted network to the unlicensed network, from a single network to Integration of the network, in order to achieve information access, transmission, storage, awareness, decision-making and use and the purpose is to better serve the user.

The UI design can display the visual essential factor fully the connection function, studies factors and so on human's cognition, sensation and mood, the guidance user's line of sight from the host to the time, from strong to weak, is mobile from the writing to the image, the
user through the visual receive information, uses its experience, the knowledge and the skill characteristic carries on the recognition, processing and the essential feedback to the information, may solve the man-machine nature exchange problem, reduces the mis-operation behavior. The UI use behavior, the dissemination form and the content are suitable the principle to be able generally to instruct the design behavior, and according to user's different demand realization information dynamic reorganization, provides the guidance interactive behavior process the advantage, the construction personalization information and the resources network, safeguard contact surface intuitive and the integrity that lets the user hold conveniently controls the contact surface. The information diverse application urged between the design and user's relations is closer which has realized the human and the machinery room information interactive high energy.

3.2 User Experience Emotions

In the process of human-computer interaction, user experience is the key to the natural and harmonious interaction between users and information. It can establish the emotional communication between information and users that reflect the user's aesthetic awareness, arouse the user's aesthetic taste, reflect the user's psychological activities, and improve the user's understanding, thoughts and emotions. It contains a wide range of factors, a clear and clear interface that allows users to feel psychological stability and identity. UI design as the man-machine communication media can be a combination of science and art, technology and human nature, human culture features, aesthetic taste and personal preference and interactive activities, the realization of emotional exchange between the user and the information to improve the user's cognition, thought and emotion, it combines text, images, color and space configuration to solve the elements of graphic symbol recognition interface design and communication, the information to be conveyed in the art of the transfer to the target object, to help users achieve specific information demands. It will pass the information to the target audiences, the dissemination of information to achieve basic functionality, access to the user's emotional resonance, established between the design and the user's emotional connection which meet the needs of the user's physiological and psychological needs with material and spiritual.

3.3 The Virtual Nature of the Interaction Experience

Interaction experience is based on the information interaction between user and the computer code, it directly with the relevant people's thinking, communication, understanding and action, people living in the building by the digital information technology in virtual social space. Ubiquitous Internet application of multimedia elements, message box, tag information such as symbols, help users to find, to distinguish, identify and memory information, establish extensive applicable rules of communication, to facilitate the people's daily lives. Multidisciplinary cross application greatly enrich the diversified forms of UI design, design under the information age is from tangible to intangible design, design of "materialization" to "materialized" design, product design to service design.

Through the interactive experience to achieve the interface information and user interaction, targeted to meet the information needs of the target user, allowing users to easily interact with the interface information, thus ignoring the machine this information exchange object.
The information interaction experience has the strong user relevance. In order to be able to effectively meet the information needs of target users, should be their age, gender, motivation and personality have a comprehensive and in-depth understanding, and accurate positioning, can reduce the interaction barriers to improve the interaction of fluency. With the development of pandemic network, interactive design theory is widely used in UI design practice, which, to a certain extent, transcends the traditional definition category, and serves as a carrier to reconstruct the contemporary city information exchange.

4. Design of Digital City Image by UI Design

"Digital city" is the main characteristics of the development of informationization in the developed countries today, it uses modern information technology, accelerate the process of city modernization, the full development and utilization of resources. From the digital city construction level to understand the interaction design, is can satisfy the urban environment, digital terminal and information between and among users communicate, interactive experience and feeling, make the related equipment that give full play to its function in order to better serve the general public.

4.1 Improve the Function of Urban Information

Users as an important part of digital city construction, it is both information users, but also information developers. UI design through the visual operability, can shorten the distance of human-computer interaction, instinct to reduce the user's resistance to information psychology, through the visual design and emotional interaction with the interaction, so that the concept of social information into people's lives. In the network environment, the city information resources service is everywhere, a public-centered, rich in the intelligent environment and public perception of the UI design, can provide the public with fast, easy to learn and efficient information support and business services, To meet the user's functional needs and aesthetic needs. Through the visual and operability, enhance the user's own sense of participation and satisfaction, its form is not subject to time and space constraints, people can enjoy anytime and anywhere the digital city platform to provide information resources services. With the improvement of government and social service levels, more and more public platforms are facing users. To UI design for the media to carry out digital construction of the city to the active participation of users to promote the digital construction of the city, to provide users with more information and services to better meet the needs of digital city development, urban information to achieve functional interaction.

4.2 Shaping the Artistic Image of the City

The UI design takes “the user experience as the center”, is clear about the design goal and the user demand, enhances the populace to the information utilization ratio, designs its frame, the interactive way and the vision manifestation, can develop and use the city resources fully, the city life provides the convenience to the resident. Popularizes digitized in the populace scope the application, may satisfy between the urban environment, the digitized terminal and the user the information transmission, experiences and the visual feeling alternately, applies it during the numeral urban construction, can have the direct social practical value, speeds up the city digitization advancement. As exudes under the
network environment the new media mainstream design form, UI is widely applied in city life many domains, becomes the digital city image mold the important medium, is advantageous between the realization information network participant the information transmission, sharing, the creation and the use, makes the good digital culture creativity industry environment that carries out the city digitization construction take the UI design as the medium, the perfect government's electronic government affairs construct, raise citizen's digital quality; Participation positively by the user promotes the city digitized construction which can set up the good city image, draws the urban economy development, improves people's quality of life.

5. Conclusion

It is foreseeable that the UI as an interactive medium, the scientific practice of shaping the city image of the design practice, to solve the practical problems of urban digital development path, so that the UI design to produce direct social practical value, to provide the best personalized experience for the public in the city that will be the future of digital city construction and development direction. It is of great significance to optimize the user's experience, successfully shape the digital city image, enhance the city's core competitiveness and added value, and stimulate the urban economic development.

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Reference


