"The Eyes Have No Sight, the Ears Have No Hearing"—On the Research of User Experience Based on Vision and Hearing

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Abstract: The research on visual and auditory design has been mentioned in the ancient Chinese Book "Huainanzi". This book discusses its influence on user experience and hopes to provide reference for product design. Due to give users a better experience, the following research methods are often used in product design: analyzing the embodiment of visual and auditory design in life to explore its application; consulting relevant literature, analyzing the connection with visual and auditory to explore effective design methods.

Keywords: "Huainanzi", user experience, industrial design, hearing; visual

"Huainanzi" is a collection of essays compiled by the "thousands" guests organized by Liu An, the king of Huainan. Although the thoughts are complex, the discourse on beauty and aesthetics has a great influence in the history of aesthetics. In the "Thai Clan Training", the sense perception of beauty is described by "the eye cannot see, the ear cannot hear". It extends from aesthetic senses to experience research, that is, user experience research. Integrating ages, education levels, income, etc of users and combined with user experience, is an effective method of product design. Most of the early industrial design goals focused on functionality and practicability. Nevertheless, with the development of design, user experience has been paid more and more attention in product design and even the entire design community. This article will focus on the visual and auditory senses and discuss the issues related to user experience.

1. Introduction

1.1. Research status of "Huainanzi"

1.1.1. Research significance of "Huainanzi"

"Huainanzi" was written at the turning point of the two eras of "Pre-Qin Zixue" and "Han Confucianism", and was regarded as the most representative work of thinkers in the Han Dynasty by scholars of the past dynasties. The thoughts of Taoism, Confucianism, Legalism and Yin Yang school are all reflected in this book. The book involves military strategies, the five elements of yin and yang, the relationship between nature and humans, the health preservation, and the research and medication of diseases, which have an impact on many fields.

1.1.2. Current research directions and blank points of "Huainanzi"

In the early days, readers mainly focused on the school of thought, philosophical thought, and the connection with the society at that time. Although it has been studied in depth, there are cases where the perspective is single and the problem is one-sided. For example, in the twenty-first volume of "Huainanzi", there have been more studies on "Thai Training", "Main Technical Training" and "Original Taoist Training", but no one has asked about the "Thai Training". Consequently, it is necessary to expand the research scope and field of "Huainanzi".

1.2. Current research status of user experience

User experience has become significant in modern design, which integrates ergonomics,

anthropology, visual psychology, audiology and many other disciplines to develop into a new design category. The design results through user experience are applicable to all aspects of life and can be perceived by us.

International research on user experience started earlier, and there are already more systematic theories compared to China. Donald Norman first proposed the term user experience in the mid-1990s and has since become well-known. From the perspective of emotional design, Norman extends the user experience to all aspects of the interaction process between users and products, information or services. Furthermore, he also put forward some emotional factors, such as enjoyment, aesthetics and entertainment, which are of great significance to design. Norman's cognitive model includes three basic levels: physical level, cognitive level, and emotional level and proposed three levels of design: instinct level, behavior level, and reflection level.

Chinese scholar Zhang Chen mentioned the application of the five major elements of user experience in mobile apps in the article "Research on Mobile Banking APP Interface Design Based on User Experience"; from the analysis of the basic needs of users, to grasp the overall design direction, to present users with reasonable information content in these three directions, and combined with the environment and regional culture to achieve a more adaptable user experience between users and interfaces; based on user experience, in-depth analysis of the design principles and design process of mobile banking APP interface and finally implement interface design practice based on user experience. Chen Xin mentioned in the "Study on the Design of Government Service Websites for the Purpose of Enhance User Experience" to study the visual design of government service websites for the purpose of improving user experience; this paper proposed to pay attention to the design psychology and user experience as the basis Emotional design focuses on special users of the website and enhances the emotional experience of users; provides designers of government service websites with visual design ideas and design methods that can enhance user experience. Lan Yuqi and Liu Pai elaborated on the relationship between user experience and interaction design in "Research on the Emotionalization of Interactive Products Based on User Experience"; user experience focuses on the implicit needs of user emotion; the richness of emotional expression of interactive products; emotional design method of interactive products based on user experience.

There are numerous research institutions, scholars, and teams related to user experience in China. The research content is reflected in web pages, apps, interactive design, and industrial design, but there are few studies on user experience analysis based on traditional Chinese culture.

1.3. Research on visual and auditory design

People receive information from the outside world through their ears and eyes, and bring various experiences to people's daily lives, which plays an important role in design.

In "Study on the "Five Senses" in Design", Zhu Lin pointed out the two most basic characteristics of vision, as well as the perception of color, dynamics, space, shape and form; two types of sounds and their influencing factors. In "Research on Modern Art Design Based on the Experience of "Five Senses"", Qian Liang and Ye Cong pointed out the application of vision and hearing in advertising design and book binding design.

Although the research on vision and hearing does not constitute a complete system, it has begun to develop a scale, and compared with other fields, the research in the direction of visual communication is more in-depth. The above-mentioned research has made great progress in advertising and book binding, however, there is less research on products. This paper further studies the user's experience of the product by analyzing the specific products.

2. "The Eyes Cannot See, the Ears Hear Nothing"-the Embodiment of Vision and Hearing Design in Life

2.1. The embodiment of visual design in life

Vision is the most direct and important sense of the five senses, with the ability to perceive color, shape and form, dynamics, and space. Colors appear in all aspects of life, such as: sanitation workers' orange work clothes; white street lamp poles; doctors wear white camouflage uniforms; office papers, wedding invitations, official documents, etc. are different in color; stage lighting design; The different colors of the tablet are suitable for people of different genders and personalities.

Shape and form are also of great significance in design: the bionic design of different products; the air conditioner's outer machine is flat and square, the floor-standing inner machine is from a unified cuboid to a cylindrical shape, from a rotating fan to a lifting baffle; the wall-mounted air conditioner is shaped by a right angle, and is becoming more and more organic, giving people a sense of intimacy, as if they are closer to nature in a noisy city; it is undoubtedly that technology can drive the transition from flip phones to smart phones, but the design of the shape makes them easy to distinguish; the design of the mouse is aimed at different groups of people, with exquisite size, arc, height, and an understanding of ergonomics.

The design of dynamic video advertising also exists in all aspects of life: the design from paper posters to video posters in elevators can also relieves users' visual fatigue to a certain extent when advertising. Music adds a piece of fun to passengers.

About space: We are in a three-dimensional space, but what our eyes see is a two-dimensional image, which is finally understood as three-dimensional by the brain's thinking.

2.2. The reflection of auditory design in life

Hearing is an innate ability of human beings. When babies are born, they will laugh when they hear a good sound, enjoy the sound of two face drums, and they dying to various toys related to sound. In addition, the design of sound has a vital influence in human life, such as: the wake-up bell of the boarding school will choose more exciting music, the ringtone of the class will have a tone, and the length will change slightly; the smart voice assistant Siri of the Apple mobile phone can complete related operations through dialogue; when you swipe your room card, there will be a sound to tell you that the door is open; when the air conditioner is turned on, there will be a beeping sound, and the noise will not be unbearable when the wind becomes strong; the difference of engine sound between sports car and family car brings young car owners psychological pleasure; while the maple trees on both sides of the city roads beautify the environment, they attract birds to build their nests, and their sounds make people feel like they are in nature; Buddhists believe that temple clocks has a influence of purifying the soul, and sitting and listening is used to cultivate one's character.

3. "The Eyes Are Blind, the Ears are not Heard"-Applied Research on User Experience

3.1. User experience design focuses on the expression of emotions

Norman proposed in "Emotional Design" that when studying emotions, he found that human brain activity is divided into three levels: instinct level, behavior level, and reflection level. Each level has different designs and different experiences. The experience at the instinctive level is the first impression of the product, mainly the experience brought by the appearance design. The behavioral experience is reflected through the interactive behavior process of people and products, which is the subjective feelings of users in the process of use. The user is sensible in this process, experiencing the practicability, ease of use, and comfort of the product. Products must meet the needs of users in order to have a good experience, that is, the experience that the function brings to users.

3.2. User experience design pays attention to the invisible needs of users

The invisible demand can be understood as the potential consumption demand that consumers don't realize, vague, and there is no clear abstract or concrete satisfaction. The key to user experience design is to focus on needs and design with users as the center. The invisible needs of users cannot be expressed to the designer in words, and they need to be obtained by the designer through observation, interviews and other methods. When the designed product can pay attention to invisible needs, this product will bring humanistic care to users. Good design can reach the spiritual level of people. Take IKEA's experiential store as an example, with simple and fashionable products as the main selling point, providing customers with experiential services. Putting the furniture in the scene gives customers a real feeling, and increasing desire to buy when resting. IKEA often takes several hours to complete the shopping, so it provides customers with one yuan, two yuan small cones, the cost is not high, but it also attracts many customers. In a word, IKEA provides considerate service to meet the invisible needs of customers. The invisible needs of users can bring temperature to the product and bring good feelings to users.

3.3. User experience research based on visual and auditory design makes products innovative

Focusing on user experience will focus on user emotions, allowing emotional communication between users and products, and applying them to design, which can bring new methods to product design. Designers design products from user needs and focus on invisible needs to design innovative products. Starting with vision and hearing will allow users to get the most intuitive experience, and achieve the emotional communication between people and products.

4. "The Eyes are Blind, the Ears are Blind"—Analysis of Visual and Auditory Design Methods Based on User Experience

The main body of the design is "people", the objects are "things", and the results are "things". User experience design is carried out from three levels.

Taking "people" as the starting point, more consideration is given to the emotional cognition of target users, and emotional design can be carried out. If the design combines the human relations of specific countries and national traditions, reflects the local cultural traditions, spiritual characteristics and even language characteristics, it can create products with a sense of national pride, culture and inner identity. In short, we will do a better design for "people". For example, the design of the IKEA Chinese dining table uses a unique Chinese tenon and tenon structure instead of nails, fixing frames, and in addition, the color of the wood grain itself reflects the national culture and gives people a sense of affinity.

Focus on user explicit needs, invisible needs, and uncertain needs with "things" as the starting point. Professor Liu Guanzhong of Tsinghua University systematically and theoretically analyzes and combs the science of affairs in the "Outline of Science of Affairs" and "Design Methodology". "Things" are the main factors that restrict and shape "things". They reflect the relationship between people and things, and reflect people's goals and emotions. For example, glasses are a tool to restore vision, children are used as toys, and considering the beauty, adults may use glasses without lenses as decoration.

Appropriate visual and auditory design is a necessary condition for excellent product design. Designers must first understand "things" and shape "things" through "things". What color is used for the product body and function keys? What shape is used? What sound does the structure make? Do these elements of the product reduce visual user interference? For example: Naoto Fukasawa's wall-mounted CD player perfectly combines colors and shapes, and combines the visual and auditory senses with just pull.

Taking "things" as the starting point, consider the functional attributes of the product. "Things" are products realized by integrating "people" into technical elements, including automobiles, home furnishings, buildings, subways, and mobile phones. "Things" are the process of materializing people's needs. The design focuses on materials, how to process, and manufacturing techniques. In product design, different colors, materials, and shapes will give users a different experience. For example: the design of the cobblestone sofa, using the traditional gray, the shape of the cobblestone gives people an accessible feeling. Suitable for a comfortable and relaxing home environment.

5. Conclusion

a) Pay attention to the part of "Thai Clan Training" that has relatively little research in "Huainanzi". Combining it with industrial design has caused a collision between traditional Chinese ideas and modern design. While studying traditional culture, it will be spread out so that the public can reach it and help promote traditional culture.

b) Deduced vision and hearing from "no sight in sight, no hearing in ear", and explore its impact on user experience. Through analyzing the reflection of visual and auditory design in daily life, it explains that user experience should focus on emotions, needs, etc., and analyzes the visual and auditory design methods based on user experience.

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