Space experience exhibition design -- Huawei 5G brand

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Abstract. With the increasing strength of the experience economy, the attributes of the exhibition space have gradually evolved. The exhibition space is not a simple artistic exaggeration, but exists to better highlight the main body of the display. Display design is a multidisciplinary comprehensive design processing and processing of space design, display prop design, information design, interactive design and other disciplines, and then translated into an easy-to-accept, effective and obvious form of information dissemination for the audience. The experience of exhibition design is aimed at information communication design and space as the carrier, so as to integrate the multimedia design form, and the purpose is to give exhibitors a good sense of experience.

Keywords: Exhibition space, experience design, information dissemination

1   Introduction

In Chinese Chinese, the word "experience" first appeared in the book "Zhuzi Language Class", and Zhu Zi said in a question with his disciples: "Talking about oneself is talking about oneself, and it must come from experience." He is expressing a certain cognitive state of people based on personal experience. In the West, the word "experience" appeared earlier in the literature of psychology, which means to experience after experiencing danger and taking risks. Today, "experience" is generally interpreted as meaning "on-the-spot comprehension," "personal experience," "experience," and "investigation." The book "Truth and Method" was written by the famous German scholar Hans, which mentions that something is experienced and then given meaning, and this meaning is called experience. Gadamer discusses the way of perceiving the world by "experiencing" the world from the human emotional perception system. Moreover, the design method of valuing "experience" in exhibition design has been a focus since the Bauhaus era. Display design is a multidisciplinary comprehensive design processing such as space design, display props design, information design,

interactive design, etc, and then translated into an easy-to-accept, effective and easy-to-display form of information dissemination that is easy for the audience to accept. In general, the experience of exhibition design is aimed at information communication design and space as the carrier, so as to integrate the multimedia design form and give visitors a sense of the future of science and technology.

2   From "Experience Economy" to "Experience Design"

At the end of the 20th century, "Experience Economy" was written by famous scholars in the United States and made this concept well displayed. Later, in the field of design, Nathan Sezhov of the United States believes that the root of experience is "people"[1] , "experience design is a way of growing constantly evolving", and it needs "passionate and imaginative design". From the "experience economy" to "experience design", the focus is on integrating people's participation into design activities. Simply put, it is the "consumer"-centric design that can finally impress the "consumer" and win people's love and support.

Current status of domestic research

Analysis in the form of the overall planning space of the Tianmen Planning Hall. The system in the Tianmen Urban Planning Exhibition Hall is composed of a variety of high-tech experience technologies and interactive experience systems, which is a very shocking effect and good experience of urban planning achievements exhibition hall. It not only has the experience facilities of traditional multi-media display functions, but also adds the use of digital technology, full of science and technology. Through the scientific and technological sand table and large-screen interactive demonstration technology, the beautiful picture of the city can be well displayed, which organically combines the information display content to be taken in the urban planning hall, and is the best plan result for the display and report in the planning hall.

Current status of foreign research

Take the German Pavilion at Expo Milano 2015, for example. In keeping with the theme of the Expo, the German Pavilion has chosen the theme of its pavilion as "Field of Inspiration", and the overall design of the pavilion constructs a landscape full of life, showing the audience a panoramic view of the solutions and experimental technologies of the future human food shortage problem through various multimedia means, vividly conveying its importance to the future source of human nutrition and human reverence for nature. At the World Expo, the German Pavilion presented ideas and solutions to the food challenges of the future from a political, industrial and social perspective. Each of its exhibition areas made multimedia displays from the perspectives of problems and challenges, how to deal with them, and Germany's actions, integrating official information on policies, research and development projects, social practices, etc. and showing the thinking and exploration of topics such as the protection of water resources, soil, and biodiversity, which is highly informative and educational.

Compared with the ordinary form of display experience, it uses all kinds of panoramic technology technology, without any text can make the exhibitors clear, highlight the theme characteristics of the exhibition, this form and content perfect combination of

the expression method has a huge information expression and visual appeal, giving the exhibitors a good viewing experience.

3   Research content

1.Enterprise brand knowledge: corporate brand knowledge refers to the cultural concept of the enterprise and the impression of the enterprise to the audience, is the precondition for the establishment of the purpose of the entire display activity, such as Nike's "JUST DO IT" expresses Nike's pursuit of individualization and the corporate philosophy of "want to do it, free and free athleteship", so for Nike's experience display design to pay more attention to express the desire for sports, more use of red to express the passion of sports, arouse the audience's sensory experience, cause emotional resonance, Driving consumer behavior.

2. Audience demand analysis: In the era of information economy, people-oriented has become the focus of commercial display design, so the analysis of audience needs is particularly important. The audience in the exhibition event plays a major role, and the degree of audience experience also determines the evaluation of the favorability of the corporate brand.

3. Display of physical resources: Each exhibition activity has its own physical resources, physical resources include the exhibits themselves and the information provided by the enterprise, videos and other information, each physical resource has its own unique position in the display represents a unique meaning, so the in-depth analysis of the entity resources helps to establish the purpose of corporate communication.

4. Display space environment: most of the exhibition activities are commercial display activities, the impact of the space environment on the audience's psychological analysis judgment plays a decisive role, different spatial environments produce different display effects will inevitably have different reflections, so in order to achieve a good communication purpose, we must do a good job in the analysis of the display space environment[2].

5. Experience design means: Experience design means often play a role in enriching the content of activities and promoting the communication between enterprises and audiences in commercial display design activities, but each design means has its own characteristics, and the application of different display means for the same event will also produce different effects[3], which will also have an impact on the completion of the purpose of communication. Moreover, the design method often involves the problem of early capital investment and later facility maintenance, so reasonable and appropriate experience means are more conducive to the establishment of the purpose of exhibition activities.

4   Experience design in the showcase

Display design is the product of social and economic development, which is a comprehensive embodiment of the economy, culture and technology of the times. The

development and maturity of the experience economy have promoted the evolution of the attributes of the exhibition space from material function needs to spiritual function needs, and interaction has become the inevitable development of display design[4] . By paying attention to the various needs of the audience, the information dissemination can achieve "AIDMA" in the shortest time, that is, attracting attention, interest, desire, memory, and action[5]. According to the survey, the memory effect of different participation methods is different.

It can be seen that interaction is the most effective means of disseminating information. Therefore, in the display design, the audience factor is fully incorporated into the design, and the audience's participation is improved by introducing interactive forms such as games, quizzes, experiments, and operations. On the one hand, it can deepen the audience's understanding of the displayed information in a relaxed and pleasant atmosphere; On the other hand, the dissemination of information is transformed from "passive acceptance" to a process of "active exploration", thereby improving the effectiveness of information communication[6].

The interactive display design device in the experience design plays a great role, and the virtual digital display platform can be used to allow people to realize the browsing experience of online virtual technology on the mobile device terminal, so that the exhibition hall can also display different display forms, so that the exhibitors can experience the whole display process has a good experience. People walk through these interactive "technological products", which enables exhibitors to generate a sense of pleasure and motivates people to actively explore the world of the exhibition hall. 3D stereoscopic projection, holograms, access to information, from deep experience or touch to achieve a higher level of information transmission.

5   Showcase spatial characteristics

5.1   Rhythmic

It's like watching a thrilling movie, and the mood gradually changes as the plot of the space evolves. Similarly, in the process of visiting the exhibition hall, a series of rhythmic elements have a strong driving force, which can promote the occurrence of exhibition activities and guide the direction, create the rhythm of spatial movement, and obtain an orderly change effect. As the speed of the audience's movement changes, the rhythmic experience of the spatial sequence is also enhanced, and the process of viewing the exhibition becomes poetic and full of fun.

5.2   Continuity

The information experience obtained in the previous space is to obtain psychological cues for the next movement process and be reinforced in the next space, so that the spatial experience has continuity. At the same time, the exhibitors trigger a certain emotional resonance through the continuous use of each sequence of spatial units and a series of continuously related spatial experiences, and the continuous transformation of space prompts different fragments to unfold alternately, reflecting the spatial charac-

teristics of the building from different aspects. Different exhibition spaces and display contents form different characteristic areas, and the development and changes in the flow have become more interesting. Moreover, because the content display of each space is logical and gradual, the expression of the emotions of the display theme tends to be more organic and deep.

5.3   Multidimensionality

Motion is a property of time, and studying space alone without time would be tedious and meaningless. In the exhibition space, viewing is a dynamic act, and time is the interpretation of this act[7]. The exhibition is a dynamic process of transmitting specific information, so in order for the exhibitor to have a complete sensory experience, the combination of time passage and spatial changes creates a vivid and interesting spatial experience with "flowing beauty".

6   Huawei brand experience display space design

- Exhibition hall space functional area

The functional areas of the exhibition hall bear the main responsibility for information dissemination. The important purpose of the display is to arouse the interest of the audience well, so as to effectively convey the brand message, which is the focus of the exhibition space design. The spatial form and display form must meet the scale needs and aesthetic needs of the audience when watching in the flow[8] . Information spaces are designed for the audience, and the flow and visual requirements of the audience must be considered first, so the setting of approaches and goals must be put first. The Huawei Brand Experience Showroom I designed is divided into functional areas as follows (Figure 1).
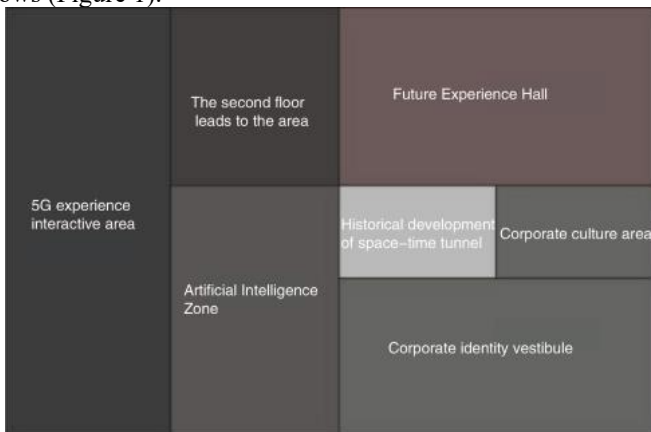

Fig. 1. Huawei Brand Experience Showroom Functional Area Image source: AI self-drawing

- Planning of the flow of visitors in the exhibition hall

Reasonable design of the visit route is the key to the success of the exhibition design activities, the flow line planning is the main spatial relationship on the exhibition line, usually not only the passage connecting the space or the arrangement of space units, but also need to have a strong visual orientation and spatial changes, accompanied by the definition of time and the occurrence of events. Different forms of space enclosure are an important basis for the formation of open and closed space, then the charm of space design lies in the grasp of the timing of the exhibition space, when the exhibitor moves in this system, it means the dynamic experience in the sequence of interconnected exhibition space and other open spaces.

- Circulation planning: single-line type

The exhibition spaces are connected in sequence, and the tour route is clear (Figure 2). The coherence of the space allows the exhibitors to enjoy the exhibits without interrupting their thinking due to the division of space, just like the creation of a novel, the storyline is ups and downs, sound and color, and the theme ideas and information content can be well communicated.
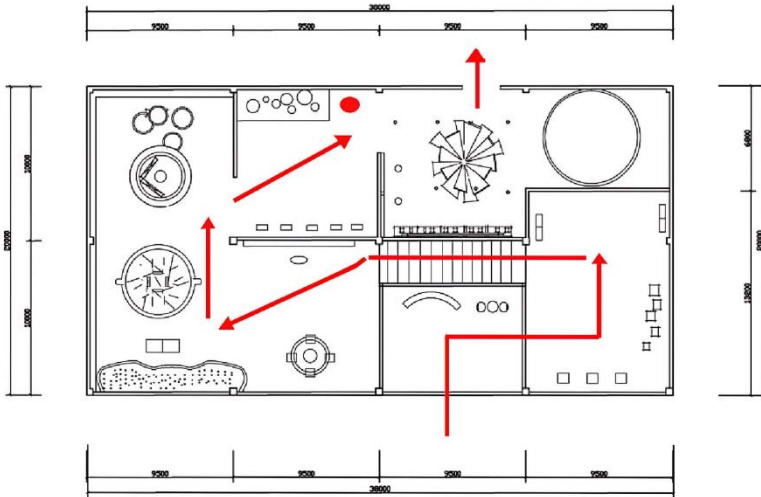

Fig. 2. Visitor flow line map of the exhibition hall Image source: Self-drawn by the author

Reasonably estimate the flow rate of visitors, flow velocity and the basic status of the exhibition. The display channel is generally not less than 3m, the average body width of the human body plus the appropriate swing amplitude when exercising is 60cm, and the narrowest part of the channel should be able to pass through 3~4 streams of people, that is, the width of the minimum channel cannot be less than 2m; The widest point can pass 8~10 people, that is, 5~6m. These standards will bring a good viewing experience to exhibitors. Fully consider the nature and display method of the exhibits,

so as to regulate the flow of people and people. The relationship of the passage avoids crowding and causes the passage Congestion. (Figure 3)
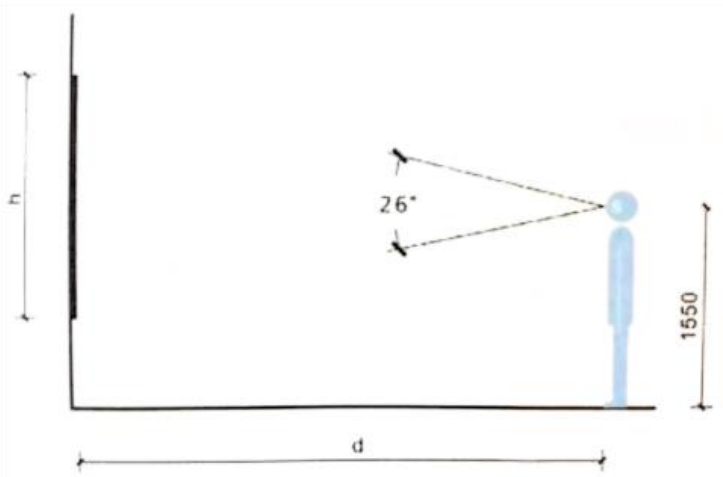

Fig. 3. The relationship between viewing angle, line-of-sight and channel

- Digital interaction design in Huawei's brand experience exhibition hall

Exhibition space refers to a form of space that can meet the needs of the audience to obtain information, and is a public space with openness and fluidity. It is a comprehensive design means based on visual means, supplemented by hearing, touch, smell and kinesthetic means to provide a display place environment for specific theme information, and it is also a communication carrier to meet the needs of exhibitors to obtain information and achieve the purpose of information dissemination and exchange.

Nowadays, interactive multimedia installation art is more and more popularly used in exhibition halls and pavilions, and has become the most widely used high-tech multimedia with a wide range of applications. The design solution of Huawei's 5G Technology Exhibition Hall combines advanced projection technology, high-end display equipment, and the architectural technology of the exhibition hall itself, and staged an interactive visual experience in the form of breathtaking light and shadow, allowing exhibitors to feel the charm of the corporate brand and the spiritual feelings brought by high technology.

6.1   Interface touch

Interface touch is an operating system based on visual images, which is realized by sensing technology using interface displays or interactive projection devices [9]. The display interface is the carrier of the visual operation of the display interface, the audience through simple click, touch, swipe and other basic actions to browse the information content, the information expression of the sensor interface can expand the

content of the display information to a certain extent, so that the exhibitors can deeply interpret the exhibits or information.

Large-screen interactive video, multi-touch interaction by multiple lidar mounted on the top of the screen. A large screen can give people a strong sense of immersion, provide a wide field of view, increase the depth of the line of sight, and bring the image space closer to the real space (Figure 4 and Figure 5).

Fig. 4. 5G experience interactive area Image source: Rendering self-drawing

Fig. 5. 5G display area Image source: Render self-drawing

6.2   Ground projection

The principle of ground projection is a form of VR technology (virtual reality), through the application of VR, AR and other technologies in the exhibition space, a virtual 3D scene can be constructed, so that the audience walks in the scene from the first perspective, and forms an interaction with the space, through wireless sensing technology, wireless transceiver motion capture technology, helmet-mounted display tracking technology to interact with the exhibitors in real time space, to achieve the real expe-

rience effect[10]. It can even be combined with wireless interactive control equipment for deep virtual reality information interaction. (Figure 6)
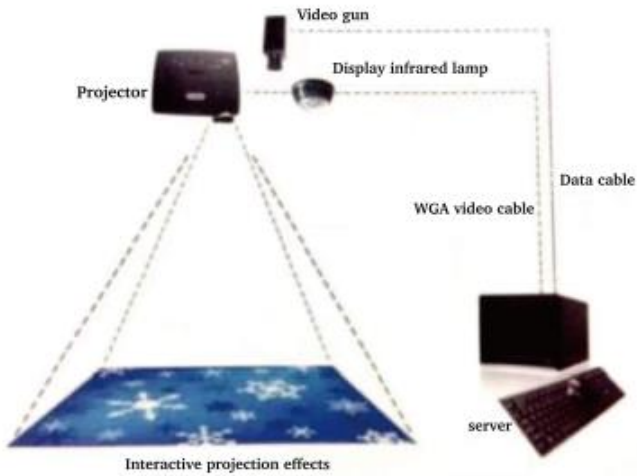

Fig. 6. Ground projection structure Image source: "Display Design New Multimedia"

7   Exhibition hall space design scheme

Exhibition space refers to a form of space that can meet the needs of the audience to obtain information, and is a public space with openness and fluidity. It is a comprehensive design means mainly based on visual means, supplemented by hearing, touch, smell and kinesthetic means to provide a display place environment for specific theme information, and it is also a communication carrier to meet the needs of exhibitors to obtain information and achieve the purpose of information dissemination and exchange.

- Entrance reception area

The entrance reception area is simple and elegant, and there is a touch screen table with an interactive signature message system directly opposite the door, which can copy the brush to write, the color can be selected, and WeChat, Weibo, email and local storage can be sent, and it can also be post-edited. Simple and practical, it is used to sign in for guests and exhibitors at the reception desk(Figure 7).

Fig. 7. Entrance reception area Image source: Self-drawn SU rendering

- Corporate culture area

The Corporate Culture Zone introduces Huawei's brand development, various products over the years, and a series of honors achieved throughout history. The booth supporting the product is a luminous lamp post that can automatically slide on the ground and constantly change the ranks, giving the exhibitor a sense of technology at the beginning of the exhibition hall (Figure 8).

Fig. 8. Corporate culture area Image source: Self-drawn SU rendering

- 5G experience area

Exhibitors were introduced in detail to various technology services related to the Huawei brand, such as smart city, smart healthcare, and smart transportation, so that exhibitors could view and operate the products and interact with them to achieve intelligent interaction.

The use of scene construction, in order to shorten the distance between the exhibitors and achieve a better information communication effect, the visual information brought to the audience can play a role in stimulating, infecting, resonating, communicating and imagining. The purpose of using atmosphere creation is to create a dialogue space that has an affinity between the display content and information media and the audience, so that the audience can experience the vitality of shapes, objects, images, sounds, etc. (Figure 9).
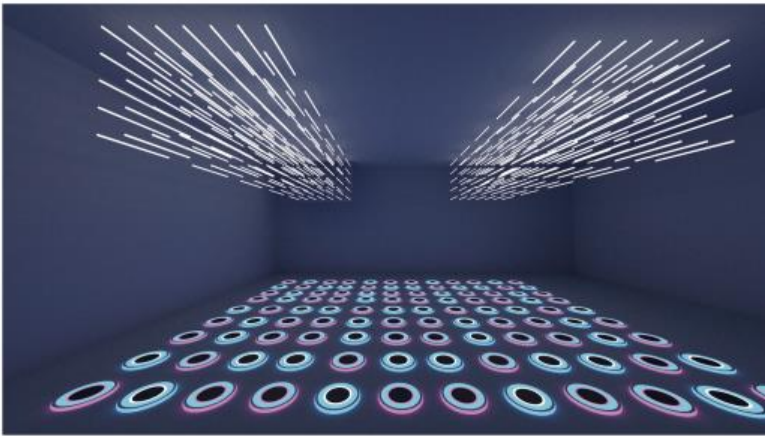

Fig. 9.5G Experience Area Image source: Self-drawn SU rendering

8   Brief summary

The display of formal art design uses artistic means to carry out unique artistic creation activities on the basis of scientific research, which is an important means to achieve the effective transmission of content design. The performance technology design in the exhibition activity is the technical guarantee for the perfect realization of the display information content design. Only the interdependence and combination of content, form and technology to achieve the effect of mutual unity can arouse the emotional resonance and interest of the audience, and the exhibitors can comprehensively, accurately and actively and effectively convey the information to our exhibitors.

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