of promising directions for sustainable fashion development based on ethno-cultural heritage, and methodological foundations for sustainable fashion design education programs.

Key words: sustainable fashion, Ukrainian ethno-cultural heritage, zero-waste production, traditional crafts, fashion design, cultural identity, eco-friendly fashion.

UDC 7.012:659.1
STRATEGIES FOR ADVANCING INTERACTIVE DESIGN IN MUSEUM EXHIBITS

Wang Shuanghu – Postgraduate student of the Kyiv National University
of Technology and Design, Kyiv, Ukraine
DOI
541464641@ qq.com
Tetiana Krotova – Professor of the Kyiv National University
of Technology and design, Kyiv, Ukraine
Orcid: 0000-0003-2282-0029
krotova_t@ukr.net

This study endeavors to enrich visitors' museum experiences by incorporating diverse interactive and sensory approaches, transcending the conventional media display paradigms in museums.Drawing on the emotional hierarchy framework, it delves into visitors' psychological and behavioral demands within museum exhibition spaces, categorizing them into instinctual, behavioral, and reflective dimensions. Furthermore, the paper explores the evolution of interactive design in museum contexts and its practical manifestations through illustrative case studies.From the angles of perceived experience, interactivity, and interaction modalities, this work proposes strategies to enhance interactive experiences in museums. It emphasizes that these experiences should harmoniously blend technology with visitors' needs and prior experiences, avoiding a mere technological drive. Instead, it advocates for a «from object to subject» and «from external to internal» exhibition engagement paradigm, achieved through the seamless integration of visitor, scene, and behavior via perceptual experiences. This approach fosters deeper connections and resonance between audiences and museum content.

Key words: interactive design, digital technologies, museum exposition design, exhibition, interactive experience, visual communications, virtual reality technologies, mixed reality technologies, multimedia tools.

Problem statement. Museums are places for people to learn knowledge, promote the development of lifelong education systems, and improve artistic literacy. The study of museology has evolved from «exhibit-centered» to «communication-and education-centered» to the current «people-centered» theory. The theory of «human-centered». With the development of the times, the society as well as the public for the museum visit experience, interactive entertainment, learning, service, aesthetics, social and other aspects of the demand is getting stronger and stronger, but most of the domestic museums are in a state of lagging behind in the development of the exhibits are still used as the center of the way and ignored the main position of the people in the space. The most commonly used form of exhibition is to put the exhibits into the display cabinet for closed display, the museum tends to homogenize the phenomenon of display, the visitor's experience is more monotonous. Interaction design has the characteristics of interactive immersion, diversified forms, strong interest, etc. The use of interaction design in museum display design can make up for the shortcomings of the current development of China's museums and the disadvantages of the visitor experience.

Analysis of research and publications. In 1984, designer Bill Moggridge, one of the founding fathers of the famous design firm IDEO, introduced the concept of «interaction design». Due to the cross-disciplinary nature of interaction design, it is difficult to clarify its specific definition. In short, interaction design is a design field that defines and designs the behavior of man-made systems, which is oriented to human needs and understands the expectations of users [14]. Interaction design can create a new user experience, and in interaction design the two-factor motivation theory of Frederick Herzberg has been recognized as one of the most important factors.

Jing WANG and Qi SUN have paid attention to the creation of narrative environments in museums. The authors describe how through touch, sound, smell, spatial language and other perceptual elements the audience can generate intentions and memories through various sensory inputs, have a holistic perception of the museum environment, thus forming the narrative character of the environment [13].

The use of narrative in the museum was investigated by Li Han. In his opinion, the construction of narrative environment is a kind of design principle and method, as well as a kind of design thinking that helps visitors directly perceive the museum exhibition environment [6]. The researcher takes into account Walter Fischer's findings that 'narrative is fundamental to the cultural life of mankind, whether it is what actually happens or the various experiences of people within themselves, which show their existence in some

narrative form and through which different points of view are brought to the forefront of their consciousness'
[6]. Thus, the formation of narrative thinking in exhibition design by means of interactive design is an actual
research problem and requires studying and searching for rational ways of solution. On the one hand,
interactive design can help integrate the information conveyed by the museum and better interact with the
audience in terms of content and environment; on the other hand, through the use of perceptual modes of
interactive design, it can maintain a balance between «education» and «entertainment».

   Purpose of the article: to explore the possibilities of sensory experience and interaction for designing
a museum exhibition space.

   Summary of the main research material. The advent of the Internet era has prompted the rapid
development of the field of interaction design, the emergence of new media for museum display design has
changed the visitors' thinking mode, communication and the way of receiving information, which accelerated
the museum to reflect on its own means of display, and began to use a variety of interactive media to break
the limitations of the museum's traditional display, and to build a bridge between the museum and the
audience with a more open and free form [17]. At present, the more common interactive form of China's
museums are mostly found in the audio technology under the voice guide, touch screen browsing content and
knowledge quizzes, interactive games and other ways, to a certain extent, more interesting than the previous
planarization of graphic displays and closed display cabinets of the display mode.

   Some museums pay more attention to visitor experience and participation, mainly by mobilizing the
audience sensory experience, increasing interactivity or relying on virtual presentation technology to enhance
the viewing interaction, so that the audience get a better feeling of visiting, reflecting the trend of more
immersive and interactive. Based on the emotional hierarchy theory of experience design, this paper analyzes
how museums can better interact and connect with audiences from three aspects: instinctive layer, behavioral
layer and reflective layer, taking into account the audience's needs and behaviors.

   1. From the point of view of the visitor's perceptual experience (instinctive level). The instinctive layer
brings direct sensory stimulation to the viewer, which is reflected in perceptual demands such as gaze and
sound. As early as the 1990s, the American Society for Non-Visual Arts (ABS) began to study how to allow
visually impaired people to experience museums and visual culture through perceptual tools, such as
touching pictures, tactile, auditory, verbal sound, and other multi-sensory modalities [8]. With the rapid
development of perceptual research in the last 20 years, more and more studies on perceptual strategies have
shown that multisensory learning is not only applicable to children, but also has a significant effect on youth
and adults, which has inspired museum researchers to think about how to break through the limitations of
this informal learning venue and actively engage the perceptions of the audience. At present, museums with
multi-sensory experience are still a minority, and there is less research on the enhancement of different
sensory modes and sensory experience in museums. How to enhance perception, promote interaction and
realize immersive experience in museums is an important direction for the enhancement of museum design
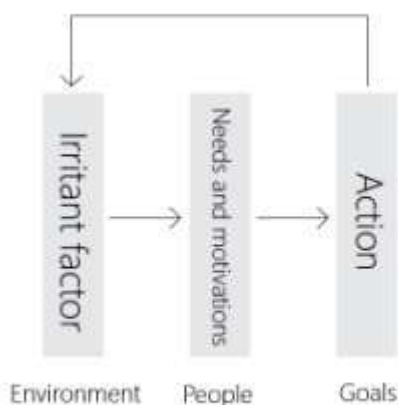in the future.
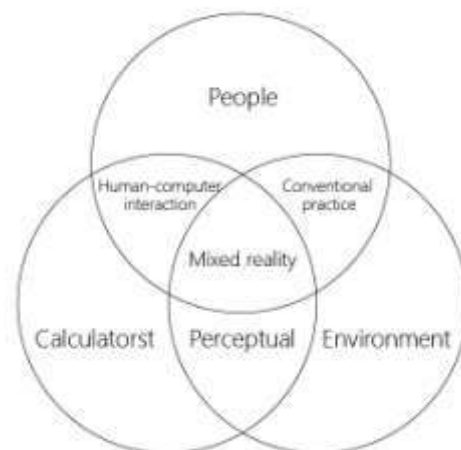

Fig. 1. Model of human environmental behavior   Fig. 2. Interaction between computers, people,
                                                                and the environment

   From the point of view of the characteristics of visitors' behavioral patterns (behavioral layer). Behavioral
layer contains easy to understand and easy to use, focusing on the audience's behavioral characteristics when

interacting with the exhibits and spatial environment. Psychologist K. Lewin proposed the human environmental behavior model i.e., the formula of human behavior: B=F (P-E), in which B is Behavior, F is Function, P is Person, and E is Environment where B is Behavior, F is Function, P is Person, and E is Environment [1]. From this formula, we can see that human behavior is the result of the joint influence of the individual and the environment. Firstly, human behavior is based on certain individual needs and motives, which is the expression of individual subjective will; secondly, according to the stimulation of the external environment, human behavior will respond; finally, after the change of human behavior, it constitutes a new environment, which generates a new stimulation response to human beings again, and so on (Fig. 1).

In the museum exhibition space, the external environmental factors are the objective factors affecting the outcome of human behavior, which possesses uncertainty and unpredictability, and is also the main source of influence on behavior. As summarized, the environmental stimuli that people may be subjected to include: first, the attraction of CMF, sound, light, etc. in the environment. In the exhibition space, people and the environment are interacting with each other, and at the same time, people have formed specific instincts to adapt to the environment [3]. Attractive colors, light, graphics, materials, etc. in the space will have a certain degree of attraction to people, and these factors affect the visitor's experience to varying degrees. Second, tendency. Tendency refers to the directional movement of people towards and away from a stimulus source in an exhibition. Tendency, as a kind of guiding attribute, can guide or imply visitors' psychology as well as subconsciousness, as people usually expect to be able to touch things in the exhibition viewing behavior.

From the point of view of visitors' needs (reflective layer). The reflective layer is not just the sum of all the functions, but also needs to truly meet the fundamental and potential needs of the audience. Traditional museums favor the collection, protection and display of cultural relics stacked, while modern museums are gradually developing into a form of mass cultural consumption, from the point of view of audience demand, the transformation of modern museums presents three trends: first, the display content and mode more open and interesting [21].

Exhibit-oriented museums still account for a large part of the proportion of the museum display mode, however, the monotonous environment and single viewing behavior can not meet the cultural consumption needs of visitors, so museums have to pay attention to the creation of the atmosphere and environment as well as a richer interactive experience, whether it is the exhibits or the display environment, will be more interesting and vivid. Second, changes in display modality and viewing behavior. The exhibits in the museum have been detached from their original environment, which requires an appropriate way to remodel the essential properties of the exhibits, no longer confined to the static and monotonous display, while encouraging the participation of the visitors, increasing the contact and communication between the visitors and the exhibits. Thirdly, the way of communication is more interactive. Through the transformation of the display mode to influence the visitors' viewing behavior, cognition and value judgment, so that visitors actively explore instead of unilaterally receiving information [18].

2. The Necessity and Application Forms of Interaction Design in Museums.

The Necessity of Interaction Design in Museums. In interaction design, Frederick Herzberg's two-factor motivation theory, demand mining theory, Maslow's hierarchy of needs theory, the kano model, and the five elements of interaction design related to characters, scenes, behaviors, goals, and media are all able to provide theoretical and methodological guidance for experience design in museums. Interaction may exist between people and people, or between people and objects, and the interaction design in museums is also centered on audience experience, which can satisfy the material and spiritual needs of the audience. Especially in the era of experience economy, museums need to use experience design thinking to provide the audience with rich, energetic, relaxing and fulfilling exhibition experience.

Forms of application of interaction design in museums. Human-computer interaction design has roughly gone through four stages of evolution, namely, the era of human manual work, the stage of programming language, the stage of graphical interface, until the emergence of artificial intelligence interaction [9]. In museums, the expression of interactive experience presents a variety of interaction methods based on different technological stages, first, interaction based on traditional hardware devices. First, interaction based on traditional hardware devices. Traditional hardware interaction is usually by means of a joystick, keyboard or mouse, and the user can click on a certain area in the interface with the help of the device to complete the operation.

Secondly, visual touch interaction expression. Visual touch interaction as the current museum in the information communication in one of the main forms, than the traditional mouse, keyboard input more humanized, with the rapid development of intelligent mobile terminals, touch interaction is more likely to be recognized by the public users, the user can be operated by different gestures, such as clicking, sliding, zooming, rotating, etc. [9]. The more common interaction methods in museums usually use the screen as a medium, but visitors facing the two-dimensional interactive interface is difficult to get a multi-dimensional experience, and it is easy to produce visual fatigue. Thirdly, sound and light interact with each other. As auditory and visual elements,

sound and light can create the environmental atmosphere of the exhibition space, which has an important auxiliary effect on the enhancement of the interactive experience. In addition, the interaction mode based on voice recognition has a strong ability to process information, and the interaction efficiency is faster, but for the case of a large number of visitors in the museum's exhibition space, there may be an environmental interference factor in the process of voice recognition. Fourth, behavioral interaction technology. Through real or virtual behavioral interaction can enhance the viewer's participation and interactivity, such as somatosensory technology, which can obtain real-time images of the scene, and motion capture system can obtain the key parts, analyze the user's movements and convert them into information input commands, so as to realize the interaction between the user and the computer, as well as the precise docking between the interaction device and the physical elements.

In addition, based on the microscopic behavior of eye tracking, the subtle changes around the eyes when the human eye gazes in different directions are precisely captured, the gaze point of the human eye is determined analytically, and the information about the gaze point, which is converted into electrical signals, is sent to the computer, which realizes the interaction between the computer and the human eye, and does not require manual input during the whole process.

In addition, immersive experiences and multi-sensory interactions can be realized with virtual presentation technologies. Among them, the application of holographic image technology in museums realizes the transformation from two-dimensional to three-dimensional, using the principle of interference and diffraction to make the viewer perceive the virtual image in space; virtual reality technology (VR) creates a virtual environment by using a variety of means, such as computer graphics, sensing technology and other means, and carries out real-time interactions through multi-sensory channels, such as visual, auditory, haptic, and force senses, which is characterized by a high degree of immersion; Augmented reality (AR) technology superimposes the virtual world and the real world through the information provided by the computer system, thus enabling visitors to have a sensory experience that transcends reality, which is to a certain extent more advantageous than virtual reality [16]; Mixed Reality (MR) technology is a fusion of the physical environment in AR and the digital environment in VR, and is capable of realizing the switching between the virtual and the real.Mixed reality enables content inputs in different ways, such as environmental inputs, ambient lighting, spatial sound effects, and user identification and localization in real and virtual environments, thus enabling interactions and connections between people, computers, and environments (Fig. 2). Among them, the interaction between the computer and the environment is the understanding or recognition of the environment, and the application of sensors provides technical support for the computer's environmental input. Input modes between users and computers have been explored in the field of human-computer interaction, and user inputs are carried out in different ways, including keypad, mouse, touch, voice, motion, and even Kinect bone tracking [10].

3. Museum Interactive Experience Case Studies. Museum interactive experience is mainly embodied in the wisdom museum, digital museum, virtual museum, the interactive experience of these museums with the help of three-dimensional graphic image technology, facial recognition, motion capture, stereoscopic display system, VR virtual reality technology, etc. to bring the viewer a rich interactive experience effect.In Smart Museums, the Cleveland Museum of Art's Gallery One debuted the largest multi-touch MicroTile screen in the United States at the time, featuring images of more than 4,100 renowned works of art from around the world to form a museum where visitors can create their own ArtLens Wall, a wall of favorites that visitors can save to their mobile devices and share via social media or use for custom browsing [12]. The ArtLens Wall is a collection wall where visitors can save artwork from the wall to their mobile device to create a favorite, and can share favorites via social media or use them for custom browsing [12]. The exhibition also utilizes a facial recognition system that computationally matches a visitor's facial expression with one of the 189 artworks in the collection, creating a direct link between the visitor's facial expression and the artwork, reinforcing the connection between the visitor and the artwork.

The exhibition integrates art, technology, design and personalized user experience to form an experiential museum that is highly participatory and interactive (Fig. 3). In digital museums, The Museum of the World, an interactive project produced by The British Museum and the Google Cultural Institute, has dramatically enhanced the digital museum experience, allowing visitors to view exhibitions from miles away without having to leave their homes (Fig. 4). The Museum of the World The exhibition shows the rich collections of the British Museum in an information visualization way, and takes time as the axis throughout, with five different colors representing the five cultural regions of Africa, the United States, Asia, Europe, and Oceania, and placing them in the corresponding spatial and temporal coordinates according to the geographic location and historical period of the collections, and by clicking on the different points, one can see detailed information about the collections represented by each point and link exhibits of the same type from the five cultural regions. By clicking on different points, we can see the detailed information of the collections represented by each point, and the exhibits of the same type in the five cultural regions are linked, which strengthens the commonality and connection between the collections [20].

ISSN 2518-1890   Напрям «КУЛЬТУРОЛОГІЯ»
Розділ I. Динаміка культури. Культурна пам'ять. Культура та традиції

537

Fig. 3 Cleveland Museum of Art's Collection Wall and Facial Recognition Matching System
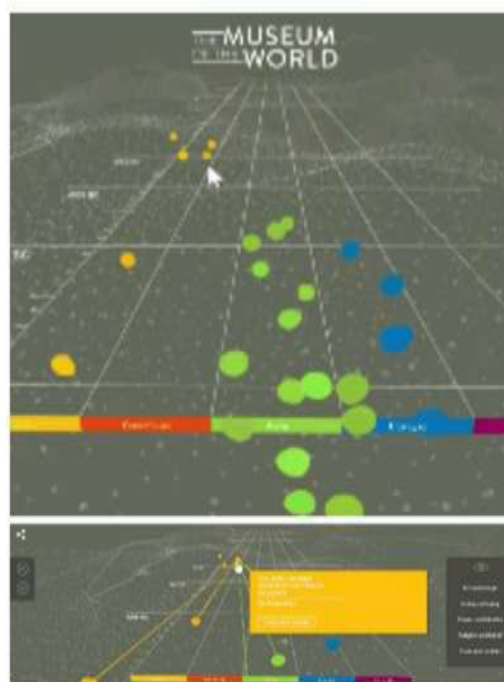
Fig. 4 British Museum online exhibition

The viewer slides the page according to the evolution of time from ancient times to the present day, each point sends out different rhythms, and many point-like rhythms form a rhythmic music, which provides the viewer with an auditory experience. While appreciating the collection, the viewer can experience the development and evolution of cultures all over the world from 2 million years B.C.E. to 2,000 years A.D. through the interaction of the visual and auditory effects. In the virtual museum, the Forbidden City in 2017 created the Ming Chengzu Zhu Di built the Forbidden City VR interactive experience museum (Fig. 5), experience using the HTC Vive headset system, visitors wear VR equipment, showing in front of the eyes is a magnificent panoramic view of the Forbidden City buildings, visitors as if riding on horseback with the Ming Chengdu group Zhu Di, driving, steering the horse with the tour, and then visitors were able to see the Ming Chengzu carefully review the blueprints of the Palace building scene, while hearing explanations related to the Palace building, and can choose from the five elements, astrology, rituals, and other options interested in content.

Then visitors can see the scene of Ming Chengzu carefully reviewing the blueprints of the Palace buildings, and at the same time hear the explanations related to the Palace buildings, and can choose the content of interest from the five elements, astrology, rituals and other options. With the help of the VR system, the Forbidden City Museum creates an interactive and immersive exhibition experience for the visitors from the combined effect of multiple senses, such as physical, visual and auditory [5].

4. Enhancement of interactive experience in museums.

Perceptual experience: building narrative environments. The landscape and atmosphere of museum display design directly affect the audience's perception of the display content, the construction of narrative environment allows visitors and exhibits, space and environment for interaction and information transfer and reception, and through the multi-sensory environment elements will be the material space and visitors to establish a link between the behavioral patterns. Zhang Yonghe, director of the Department of Architecture at the Massachusetts Institute of Technology (MIT), once put forward the theory of «Translation Narrative», which supports the use of space to «translate» the language.

The theory supports the use of space to «translate» stories and narrate people, events and scenes. In the stage design in the picture, the mountains, clouds and the moon in the set symbolize the mountains and forests, the roof and the screen imply the interior, and a huge spiral is the inner struggle of the characters. The audience moves through the environment and understands the content of the show through touch and perception of the language of space (Fig. 6).

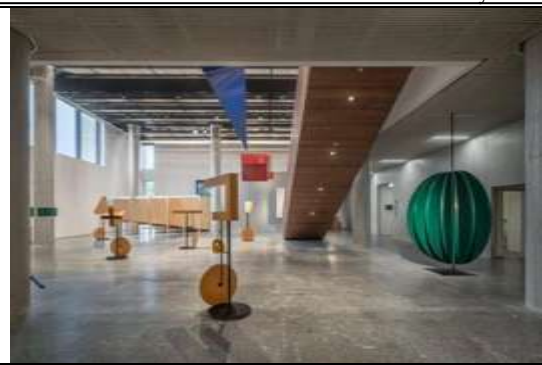| Fig. 5. Scene of the Forbidden City VR Experience Hall | Fig. 6. Zhang Yonghe's «Narrative of Translation» |

Interactive participation: guiding audience behavioral patterns. First, to establish behavioral identity. Museum display design methods and display forms have been innovating, among which interactive and experiential displays have become the most eye-catching focus in museum display design. Changes in the way museums are displayed have facilitated a close integration between the audience, space, models, exhibits, perceptual elements and equipment so as to increase interactivity and experience through the coordination of these elements [2]. In the museum display design is more common is the two-dimensional planar form, however, the planar display way to bring boring, passive visitors experience, the audience's viewing behavior is single and repetitive, it is difficult to mobilize the audience's interest in the exhibition and emotions through rhythmic perception and behavioral changes, so the establishment of the participation behavior that can be recognized by the audience is an important link in the museum to achieve the interactive experience.

Second, from static display to dynamic display change. The display form of museum display space is generally divided into two categories, one is the basic static display mode, and the other is the relatively new dynamic display. Static display methods usually include display cabinets, window display, lighting rendering effects, props display, background atmosphere rendering, etc.; dynamic display methods usually include interactive devices, interactive multimedia display, holographic projection, VR virtual reality technology, AR augmented reality technology, etc. [4]. In the museum display space, in view of the visual needs of visitors to the material properties of the real existence of the space, static display mode is the form of each museum space will be used, and dynamic display is the trend of museum design development [15], but due to the limitations of the cost of budgeting and technological realization of the factors, in order to be in the museum in the wide range of applications still have certain difficulties.

In a museum display design practice, the author, when faced with a large amount of text content, used a combination of graphic and interactive projection, the important information in the large text is distilled and visualized, symbolized, graphic-based, text as a supplement to create a «graphic narrative» of the overall space, and through interactive projection, using Iconic diagrams, to create the overall space, and through interactive projection, using Iconic diagrams. By means of interactive projection, the Icon graphic is used to draw the interactive wall, on which small screens and LED lamps are embedded, and visitors can touch the interactive switches to light up the graphic and text on the wall, and at the same time, with the help of indoor acoustic and optical effects, a sense of technological and fashionable ambience is formed.

Interaction modes: using multimodal interaction. First, touch interaction. For example, touch or gesture, of which, gesture touch interface is a common way of natural interaction interface, the most natural way of information transfer to let people interact with the device, in other words, the natural interaction interface does not need a keyboard or a mouse, and it is more natural and intuitive to help the user to realize the exchange of information with the screen (Fig. 9). The natural interaction interface is based on multi-touch technology, which can reduce the user's cognitive barriers to the operation commands and minimize the user's learning costs. The design of gesture touch interface needs to pay attention to the following three aspects, firstly, it conforms to the cognitive pattern of most people. Intelligent system users are of different types, including users from different regions, different ages and different education levels, and they have different learning ability and acceptance ability for new products and new technologies.

ISSN 2518-1890   Напрям «КУЛЬТУРОЛОГІЯ»
Розділ I. Динаміка культури. Культурна пам'ять. Культура та традиції
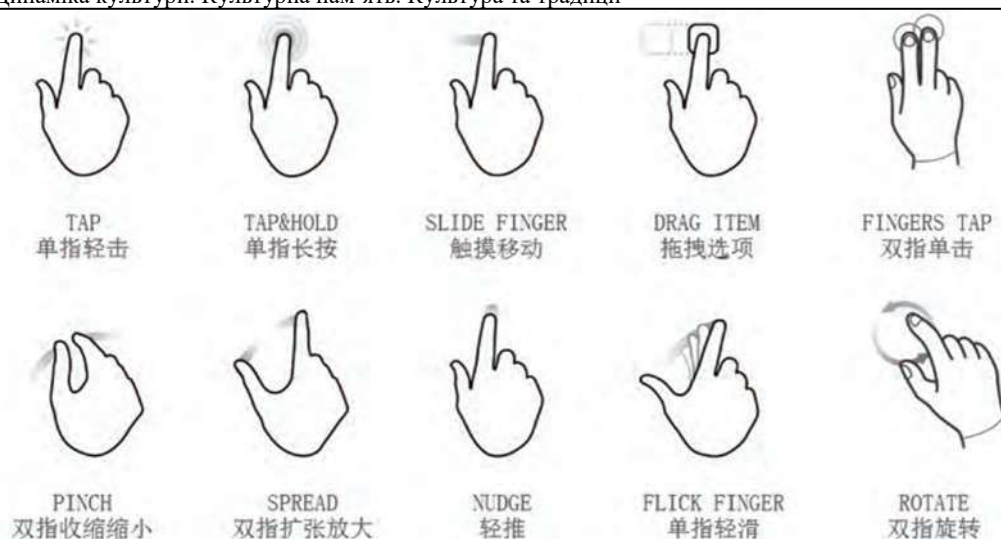
539

Fig. 9. Interface interaction gestures

Therefore, it is necessary to establish a unified usage specification when designing gesture-touch interfaces, and too much diversification will lead to confusing rules, which will confuse the users and increase their cognitive load and burden of usage. Second, it respects the user's memory patterns. Since the use of gesture interaction interface cannot be clearly displayed on the interface, it requires users to memorize the specific operations corresponding to different gestures, which takes up a certain amount of users' memory cost, therefore, the number of gestures designed should be avoided as much as possible, and at the same time, a certain amount of operation guidance should be given on the interface, so that the users can memorize and use gestures according to the specific use situation, thus increasing the ease of use of the operating system.

Third, to ensure the controllability of the operation. When users use the gesture interface, each operation should be given a certain visual or auditory feedback, so that people know clearly whether the current operation is correct, such as adding color feedback, size feedback, vibration feedback or sound prompts. In addition, when the operation is wrong, it is necessary to provide the user with options such as undo, restore, etc., which helps to have a clear controllability of the current use [7]. Second, non-contact interaction in the post epidemic era. For example, gesture recognition, motion recognition, voice recognition, virtual presentation, etc. Among them, non-contact gesture interaction intelligently recognizes commands through gesture movements based on visual sensing. In order for visitors to be accurately communicated as well as for the recognition system to quickly receive signals, gesture commands need to be simplified with gesture features to reduce learning costs, while the recognition system needs extensive training and machine learning optimization to achieve efficient communication of gestures and recognition.In order to realize long-distance interaction, the computer is used to analyze and judge the actions of the catching system. Especially since the outbreak of the new crown epidemic, the public's awareness of self-protection and public health has increased, and the non-contact interaction is not only flexible and simple to operate, but also reduces the contact, avoids the occurrence of cross-infection, and effectively reduces the spread of the virus [7].

Summary. Perception is fundamentally a translation of people's sensory and perceptual experience, and museums give more consideration to the combination and interaction between "people" and visual, auditory, olfactory, gustatory, spatial language and other perceptual experiences, pay attention to the audience's potential influence in aesthetics, thinking, cognition and emotion, and promote interaction and communication among people, things, objects and environment. It establishes an environment with perceptual experience, promotes interactive participation, utilizes multimodal interaction, and takes the needs and experience of the audience as the value embodiment of museum display design. The future museum will be a diversified space integrating knowledge, aesthetics, socialization, leisure and reflection, which is both educational and enjoyable.

Through the systematic research on sensory experience and interaction, it provides some inspiration for the experience design of museum exhibition space and will be continued by the author in subsequent studies. On the one hand, the stimulation of the sensory feelings of the audience by the exhibition design of the museum can promote the dialogue between the audience and the media of the exhibits and the environment to form the mode of «objective feeling-behavioral process-subjective reaction and reflection». On the one hand, the stimulation of visitors' sensory feelings in museum display design can promote the dialogue between visitors and media such as exhibits and environment, and form the viewing mode of «objective feeling – behavioral process – subjective reaction and reflection». On the other hand, the museum display design based on perception and interactive experience is no longer a simple display and static display, although interactive experience plays a great role in the museum display design, the museum's

interactive design should not be based purely on the innovation of equipment and technology as a means, which does not fundamentally enhance the visitor's participatory experience, and does not deal with the relationship between the interactive design and the needs and behaviors of the visitors, therefore, the The role of interaction experience in museum display design needs to be more accurately interpreted and applied.

References

1. Fu Yang. Research on the visual application of two-dimensional elements in commercial display space façade [D]. Beijing : Tsinghua University, 2013.

2. Fu Yi, Wang Shixu. Research on digital media art applied to display space design [J]. Furniture and Interior Furniture and Interior Decoration, 2021 (08): 116-119.

3. Han Xueying, Zou Guangtian. Behavioral interaction design strategy of tourists in exposition building space [J]. Journal of Harbin Institute of Technology University Journal, 2018, 50 (04): 160-166.

4. Hua Jian, Chen Qinghe. Immersive experience: a new business model for the integration of culture and technology [J]. Journal of Shanghai University of Finance and Economics, 2019, 21 (05): 18-32.

5. Jin Xiaoming, Wu Chenghao. Research on visual tour guide of Bada Shanren Memorial Hall based on VR/AR real-sense interactive design Research [J]. Packaging Engineering, 2019, 40 (06): 87-93.

6. Li Han. Yishan's Seven Stories under the Narrative Vision [J]. Journal of Shanghai University (Social Science Edition), 2015, 32 (01). 114-125.

7. Liu Weixian. The use of Dieter Ramsay's «10 principles of good design» in museum exhibition design[J]. Hunan Packaging, 2021, v. 36; No. 196 (01): 140-143 [22]. Li Xiaofang. Design and Development Mechanism of Museum Cultural Creative Products-Review of Research on Museum Cultural Creative Product Development [J]. Industry, 2020, v. 57; No. 335 (03): 119.

8. Nina Levent et al, translated by Wang Siyi, Chen Mengqi. The Multisensory Museum : Cross Disciplinary Perspectives on Touch, Sound, Smell, Memory, and Space [M]. Hangzhou:Zhejiang University Press, 2020.

9. Qin Lanjun. Digital Interface:Virtual Reality and Virtualized Reality [J]. Literature and Art Research, 2014 (10): 96-108.

10. Ramy Hammady, Minhua Ma, Carl Strathearn. User experience design for mixed reality: a case study of HoloLens in museum [J]. International Journal of Technology Marketing, 2019, 13 (3-4).

11. Song Yifan, Zhang Peng, Liu Libo. Human-computer interaction system based on visual gesture recognition [J]. Computer Science, 2019, 46 (S2): 570-574.

12. Tong Fang. Digital Narrative:Research on Museum Design under the Background of New Technology [J]. Journal of Nanjing Art Institute (Art and Design), 2020 (03). Art and Design), 2020 (03): 165-171+210.

13. Wang Jing, Sun Qi. Research on the application of «scene reproduction» in museum display design [J]. Furniture and interior Decoration, 2019 (12): 102-103.

14. Wu Qiong. Domain and boundary of interaction design [J]. Decoration, 2010 (01): 34-37.

15. Xie Xiaoyu, Yang Chujun. Design research on intelligent interactive experience in museum exhibition [J]. Furniture and Interior Furniture and Interior Decoration, 2021 (01): 90-92.

16. Xu Xiang, Wang Li, Weng Jin. AR/VR technology and information dissemination mode reconstruction [J]. Publishing Wide Angle, 2018 (19): 65-67.

17. Xue Juan, Wang Yue. Research on the innovative application of interactive experience in display space design [J]. Furniture and Interior Decoration, 2021 (08): 120-125.

18. Yu Na, Lv Yue, Zhang Xiaofan, Xu Ke, Zhou Jieyu. A user experience research method for museum exhibition design [J]. Furniture and Interior Decoration, 2021 (04): 84-87.

19. Zhai Jiequan, Yang Lianjie, Zhou Xiaolei. Science and technology communication in science and technology museums: conceptual update and capacity enhancement [J]. Journal of Beijing Institute of Technology (Social Science Edition), 2012, 14 (01): 121-124.

20. Zhang Wen, Fan Kaixi. The Intelligent Development and Research of Museum Cultural and Creative Products in the Age of AI by Exploring «New Design» and Translating «Homogenization» [J]. New Art, 2019, 40 (04): 117-120.

21. Zhang Zhen. The new trend of contemporary museum building function concept [J]. Journal of Architecture, 2004 (12): 22-25.

СТРАТЕГІЇ РОЗВИТКУ ІНТЕРАКТИВНОГО ДИЗАЙНУ В МУЗЕЙНИХ ЕКСПОЗИЦІЯХ

Wang Shuanghu – Postgraduate student of the Kyiv National University
of Technology and Design, Kyiv, Ukraine
541464641@qq.com
Тетяна Кротова – Professor of the Kyiv National University
of Technology and design, Kyiv, Ukraine

Дослідження присвячене вивченню засобів збагачення музейного досвіду відвідувачів шляхом включення різноманітних інтерактивних та сенсорних підходів, виходячи за межі традиційних парадигм медіа-відображення в музеях. Спираючись на структуру емоційного сприйняття, інтерактивний дизайн орієнтується на психологічні та поведінкові потреби відвідувачів у музейних виставкових просторах, які можна класифікувати на інстинктивні, поведінкові та рефлексивні виміри. Крім того, досліджується еволюція інтерактивного дизайну в музейному контексті та його практичні прояви. З точки зору сприйняття

ISSN 2518-1890   Напрям «КУЛЬТУРОЛОГІЯ»
Розділ І. Динаміка культури. Культурна пам'ять. Культура та традиції

541

досвіду, інтерактивності та модальності взаємодії, у роботі запропоновано стратегії для покращення інтерактивного досвіду в музеях. Підкреслено, що цей досвід повинен гармонійно поєднувати технології з потребами відвідувачів і їхнім попереднім досвідом, уникаючи простого технологічного драйву. Акцентується увага на парадигмі взаємодії з виставкою «від об'єкта до суб'єкта» та «від зовнішнього до внутрішнього», що досягається шляхом інтеграції відвідувача, сприйняття та поведінки через перцептивний досвід. Такий підхід сприяє глибшим зв'язкам і резонансу між аудиторією та музейним контентом.

Ключові слова: інтерактивний дизайн, цифрові технології, дизайн музейної експозиції, виставка, інтерактивний досвід, візуальні комунікації, технології віртуальної реальності, технології змішаної реальності, мультимедійні засоби.

УДК 687.01:687.1
КОМУНІКАЦІЙНИЙ ПОТЕНЦІАЛ МОДИ У ТВОРЧОСТІ МАРІЇ ГРАЦІЇ К'ЮРІ

Людмила Дихнич – професор, завідувачка кафедри фешн та шоу-бізнесу,
Київський національний університет культури і мистецтв, Київ
https://orcid.org/0000-0003-1778-7551
DOI: https://doi.org/
dl5020640@gmail.com

Висвітлено творчі підходи італійсько-французької дизайнерки Марії Грації К'юрі у створенні колекції Dior Cruise 2024, присвяченої життю та творчості мексиканської художниці Фріди Кало. Досліджено різноманітні форми і засоби презентації колекції в травні 2024 р. й Мехіко, виявлено комунікаційні контексти, закладені дизайнеркою у стильові та декоративні характеристики виробів, а також у способи їх презентації засобами дефіле та фешн-фотографії. З'ясовано, що М. Г. К'юрі через проєктні рішення та показ колекції втілює такі комунікаційні контексти: культурно-мистецькі (презентує давню та сучасну ремісничу спадщину Мексики), дизайнерські (демонструє синтез сучасної моди з мотивами творчості Ф. Кало та елементами мексиканських ремісничих практик); історичні (відтворює та продовжує зв'язок творчості К. Діора та культури і мистецтва Мексики); соціальні (завдяки постаті Ф. Кало демонструє можливості прийняття свободи та визначення себе на власних умовах; торкається таких тем стать, гендерної ідентичність, інвалідність); дослідницькі (розробила колекцію на основі всебічного вивчення архівної спадщини К. Діора, життя, творчості та костюмної спадщини Ф. Кало, традицій та інновацій мексиканських ремісничих практик). Наголошується, що аналізована колекція не є лише об'єктом моди та дизайну; вона є результатом глибокого дослідження соціальних та історичних аспектів життя і творчості Ф. Калло та особливостей ремісничих культур Мексики. *Метою даної публікації* є аналіз комунікаційного потенціалу у творчості італійсько-французької дизайнерки М. Г. К'юрі на прикладі круїзної колекції 2024 р., натхненої життям та творами мексиканської художниці Ф. Кало.

Використані такі методи дослідження: історико-хронологічний, біографічний (при відтворенні хронології дослідження М. Г. Кюрі творчості Ф. Кало), образно-стилістичного, формального аналізу (під час вивчення образів колекції), узагальнення (для виявлення комунікаційних контекстів у творчості дизайнерки, формулювання висновків), комплексний підхід (дозволив осмислити взаємодію культурно-мистецьких, дизайнерських, соціальних, історичних аспектів творчості М.Г. Кюрі). Результати дослідження можуть бути використані під час підготовки навчальних матеріалів з історії дизайну та моди.

Ключові слова: дизайн одягу, комунікаційні контексти, презентаційні практики в дизайні костюма, показ, фешн-фотографія, виставка.

Постановка проблеми. Розкриття через показ колекції не лише виразності дизайнерських виробів, а й численних сенсів – культурно-мистецьких, соціальних, світоглядних, – завдання, яке часто ставлять перед собою сучасні дизайнери. Творчість креативної директорки будинку Dior Марії Грації К'юрі є яскравим прикладом утілення розмаїтих граней творчості та контекстів. У 2016 р. уперше в історії легендарного французького модного будинку на посаду креативного директора після семи чоловіків була призначена жінка. Dior – бренд, відомий і прославлений тим, що визначав культ французької жіночності протягом багатьох поколінь, але при цьому ніколи не мав на головній посаді жінки.

У Мехіко 20 травня 2024 р. відбувся показ круїзної колекції Dior (Cruise `24) авторства Марії Грації К'юрі. Відносини будинку Dior із Мексикою мають багату історію – захоплення Крістіана Діора подорожами до іноземних культур виявилося в його ранніх колекціях: одна з його перших суконь мала назву «Мексика»; окрім неї відомі сукні «Acapulco», «Soirée à Mexico» і «Mexique» – тюлева сукня з колекції «осінь-зима» 1951 р.

Показ Cruise '24 М. Г. К'юрі, представлений у Мексиці, є своєрідним вшануванням раннього уподобання К. Діора. До того ж, сама дизайнерка ще з юного віку мала захоплення творчістю Ф. Кало. Розгляд особливостей комунікації дизайнерки зі світом через втілення мистецьких, культурно-символічних та соціальних значень представляє значний інтерес стосовно практики презентацій модних інновацій.

Аналіз останніх досліджень і публікацій. Презентаційні практики в дизайні костюма знайшли