

A Study on Digital Display Design of Facial Cultural Heritage Based on Graph - Based Theory

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Abstract:

Digital technology has become an important means for the protection and inheritance of intangible cultural heritage. The display of digitalization of intangible cultural heritage can not only effectively protect the intangible cultural heritage culture, but also help the inheritance and development of intangible cultural heritage. In order to study the design method of digital display of intangible cultural heritage, this study explores the digital communication path of intangible cultural heritage culture for cultural communication and user experience in the digital age. This study believes that digital display should highlight the subject's position of users and guide users to understand and perceive different levels of intangible cultural heritage culture. At the same time, it is necessary to use cognitive graphics to express the user's cognitive process, thereby summarizing the goals of Chinese cognition of digitalization of intangible cultural heritage.

Keywords:

Cognitive Graphics, Intangible Cultural Heritage, Digital Display

1. Introduction

1.1. The subjectivity of cultural cognition

In mass communication, the “audience” is the object of communication of the media. The audience is both readers and listeners. The digital display of intangible cultural heritage, as a new way of cultural communication, is a strategy of digital communication ideas and the audience, and a two-way communication between the communicator and the audience. In the display of intangible cultural heritage culture, it is controversial whether the audience is subjective. In the traditional display mechanism, traditional exhibitions organize information resources with system - centric [1]. The audience only rely on visual and hearing sensory experience to obtain information during the entire process of watching the exhibition. The exhibition will not have a practical impact on the audience at the spiritual level. In the digital display, it is emphasized that users -centered. Organize information resources in an all -round

way for users and provide corresponding information services. This makes users an active choice of digital display information resources rather than passive recipients. Because the user's main position is highlighted, the display system is open and inclusive to users. Users can establish an interactive relationship between "action" and "ideological" in the process of cognition [2].

1.2. The theory of cultural cognition of cultural cognition

Faculty theory is a theory that cognitive psychologists use to explain and understand psychological processes. The pattern is the thinking mode of cognitive objective things. This thinking mode is a systemic concept that needs to be perceived from the overall departure [3]. Adhering to the systemic concept is to start from the overall situation and promote the connection and integration of various information elements with overall thinking. In recent years, graphic theory has been widely used in design fields. According to the inevitable trend of digital publication, Zhang Jian et al. Using the characteristics of user cognitive graphics and regularly, the mobile phone interface was re-designed. Chen Guoying uses cognitive graphic theory to build a cognitive model in combination with the cognitive needs of users, and forms an interactive content graph of the Guangcai Porcelain handicraft app based on the cognitive model. Wang Yu Needa's theory of cognitive psychology, analyzes the cognitive psychology of users through graphics, and enhances the user experience of interactive design from the perspective of psychology. In addition, cognitive graphics have a positive impact on library reading, online library platforms, the interactive interface design of the digital library, and the formation of the new form of the smart museum, which inspires the digital display of intangible cultural heritage [4].

Cognitive psychologist Piagie studied the cognitive structure and mechanism of human beings. He believes that in the process of cognition, there are four elements of "graphic, assimilation, conformity, and balance" [5,6]. The pattern refers to the cognitive structure of objective things in the human brain. It contains multiple information units, which form a huge and complex cognitive network by multiple main maps and sub -graphics. The theory of cultural cognition is the purely comprehensive and systemic framework mode of the general elements of the general elements (Figure 1) that should be included in the general many elements of the digital display information construction (Figure 1).

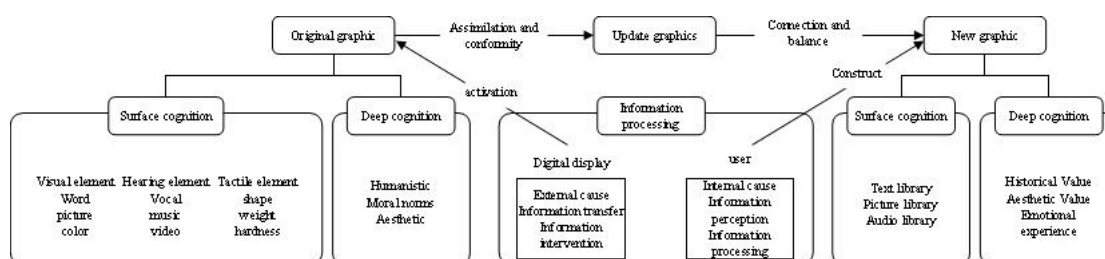


Figure 1. Cognitive chart structure.

In the digital display of intangible cultural heritage, cognitive graphics as a thinking tool helps users to highly grasp the knowledge of new intangible cultural heritage and cultural knowledge. The digital display of intangible cultural heritage is the medium of information transmission and the entry point for information intervention. When user subjects are processing the information they receive, they will instinctively call the original simple cognitive graphics of the intangible cultural heritage culture in the brain. The logical information transmitted by the digital display stimulates the

subjective initiative of the user. On the one hand, guide users to perceive and understand new cultural information; on the other hand, the new information that is displayed by digital display is integrated into the original graphics, improved and expands the known information, and completes the process of information assimilation and conformity.

2. Cultural Cognitive Goals

Users have cognitive needs for intangible cultural heritage culture. Digital display of intangible cultural heritage display through visual symbols, interaction interfaces, and scene imagery to convey the cultural characteristics and spiritual connotation of intangible cultural heritage. The digital display of intangible cultural heritage is an effective way for the protection and inheritance of non -material cultural heritage culture. Users' awareness of intangible cultural heritage can be divided into two parts. The first is the knowledge of the knowledge of intangible cultural heritage. The non -material cultural heritage culture of the material form that conveys the material form through the display of cultural information. The second is the awareness of the spirit of intangible cultural heritage. Realize the resonance of intangible cultural heritage culture and user spirit through information interaction. Digital display can not only use digital technology to inherit and spread the knowledge of intangible cultural heritage cultural heritage, but also promote the inheritance and development of the spiritual and cultural spirit of intangible cultural heritage.

2.1. Inherit and spread the cultural knowledge

Digital display helps the protection and inheritance of intangible cultural heritage cultural knowledge. The digital protection of intangible cultural heritage culture is first reflected in the restoration and reproduction of the tangible cultural heritage of historical relics, cultural sites, and historical buildings. Digital formatting storage of intangible cultural heritage cultural information reflects the durability and diversity of multiple values such as the collection, collection, storage, restoration, and research of intangible cultural heritage cultural resource information. Digital display uses new technologies such as cloud technology and virtual reality technology to convey the social heritage cultural information to the society through mobile phones, computers and other mobile terminals. This provides a rich source of knowledge for the protection and inheritance of intangible cultural heritage culture. At the same time, digital display helps to realize the diversification and three -dimensional communication of intangible cultural heritage cultural knowledge. In the form of digitalization, the cognitive results accumulated in the human brain's long -term accumulation of intangible cultural heritage cultural knowledge have been preserved and the digital carrier is used as an objective form to output to the public, achieving the goal of the transmission of intangible cultural heritage culture.

2.2. Promote the inheritance and development of cultural spirit

The intangible cultural heritage culture, as an important testimony of human civilization, has unique value for human survival and development. The intangible cultural heritage culture is a human -oriented living cultural heritage, which has the characteristics of inheritance, intangible materiality, and activity. In the new technical environment, the digital display of intangible cultural heritage uses digital technology and information technology to restore intangible cultural heritage culture to real historical contexts, create a space for users to experience and interact, and translate

intangible cultural heritage cultural elements Symatic visual symbol. The symbolic characteristics in the digital display evoked users' memory and understanding of deep cultural connotation such as moral norms, value concepts, humanistic feelings, aesthetic tastes in the spirit of intangible cultural heritage culture to meet the new era of users in the new era of intangible cultural heritage culture The spiritual needs, so as to inject the vitality of the era into the intangible cultural heritage culture.

3. Digital Display Design Method Based on Graphic Theory

The graph has the role of expression and processing information and building logical relationships. The design method of digital display design of intangible cultural heritage based on graphic theory refers to processing processing the intangible cultural heritage cultural information transmitted by the digital display through cognitive graphics, and then the logical architecture of digital display of intangible cultural heritage. Use digitization to show this method to activate the knowledge of intangible cultural heritage. At the same time, improve the cognitive mechanism of individuals and guide individuals to actively accumulate intangible cultural heritage cultural cognition. Based on cultural cognitive derivation of intangible cultural heritage cultural translation levels, and using users as the center to build a semantic text network, thereby providing methods and theoretical guidance for the digital display of intangible cultural heritage.

3.1. Cultural information translation method

“Translation” belongs to the category of linguistics, which refers to translation behavior that translates one text through language into another. This study based on the subjectivity of user culture cognition, and accurately analyzes, translate, and re - design the intangible cultural heritage culture, so as to re - establish a connection relationship between traditional culture and digital age. The digital display of intangible cultural heritage has experienced three processes: cultural level, translation level, and design level (Figure 2).

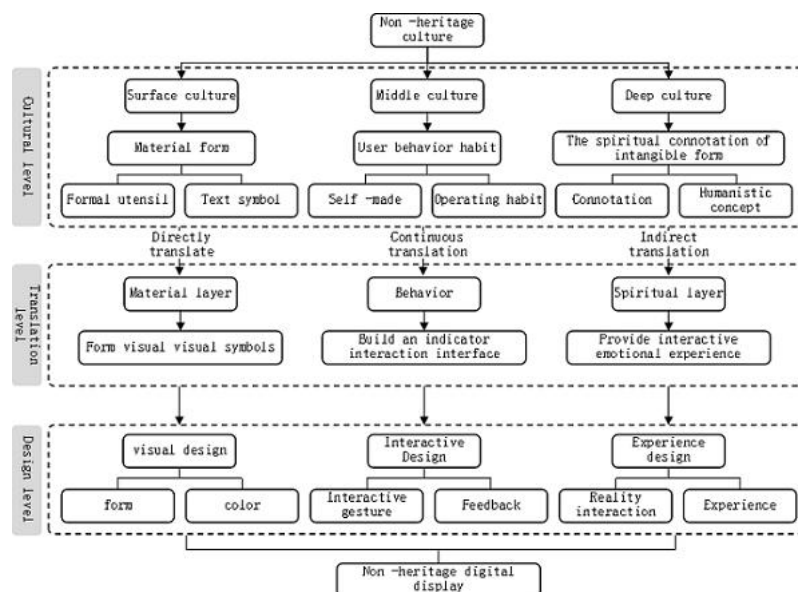


Figure 2. non -heritage culture translation level.

In the cultural level, intangible cultural heritage culture is divided into three levels: surface culture, middle -level culture, and deep culture. The transition from the

cultural level to the translation level, respectively, translates the three levels: the cultural material layer, behavior layer, and spiritual layer of intangible cultural heritage. Then transition from the translation level to the design level, translating the intangible cultural heritage culture in a gradual and clear level to the visual design, interactive design and experience design design of the digital display, and gradually derives the translation level of the intangible cultural heritage culture based on the user subject Essence

3.1.1. Cultural material layer translation

Material layer translation refers to the translation of “form” of intangible cultural heritage culture. This level of culture is mainly composed of visual elements such as text symbols and decorative patterns. In the process of translating the “form” of non-material cultural heritage Chinese -Chinese elements to digitalization, all elements will be converted to visual content resources that adapt to the aesthetics of the digital age and conform to user cognition. For example, various elements of the function interface, navigation, icons, labels, color, etc. This process is the process of editing and reorganization of cultural elements of intangible cultural heritage. By translation, each element can be associated with digital display interface components. The translation of the material layer of culture needs to build an information architecture based on the core content and main functions displayed by the digital display to achieve the effect of conforming to the user's visual aesthetics and enhancing the user's sensory experience.

3.1.2. Cultural behavior layer translation

The translation of the behavior layer is the translation of interactive design, which refers to building a digital display interaction interface by analyzing the user's behavior habits. Users' behavior habits are naturally implemented in the subconscious. The focus of mobile information interaction is to predict and judge the behavior operation that users may implement. Then, consider using interactive methods to cooperate and respond to users' behaviors to meet the cognitive needs and interactive experience of users. Therefore, the way of the user's operation interaction interface should be considered when translating the behavior layer. By setting the familiar operation methods of users, it can naturally make their own familiar physiological and psychological feelings. The translation of behavioral layers of intangible cultural heritage culture requires the behavior of user habits as the starting point of guiding users to operate the digital interface. The user's behavior habit is then interpreted as an interactive behavior in the digital display interface. This process can reduce the misunderstanding behavior of users during use, and it can make a good interactive mode between the display system and the user.

3.1.3. Cultural spiritual layer translation

The translation of spiritual layers is the inheritance of the spirit of intangible cultural heritage culture, and it is a deep cultural connotation that continues from intangible cultural heritage culture. This level has raised user experience from the level of visual perception and interaction to the spiritual connotation. The cultural spirit of intangible cultural heritage is restrained, abstract, and invisible, so users need to rely on their own experience and association to experience the spiritual core of the culture of intangible cultural heritage. The translation of spiritual layers integrates the spiritual connotation of the intangible cultural heritage into the scenario image of the

digital display, and guides users to combine their own cognition and experience. The translation of spiritual layers must first be extracted for the typical cultural spirit, and then constructs scene phenomena through spatial interactive experience, emotional transmission, narrative expression and other methods. The translation of the spiritual layer of culture requires the translation of comprehensive material layer and behavior layer.

3.2. Digital display logic construction method

3.2.1. Digital display text network construction

Semantic network is a structured way to represent knowledge. In a semantic network, information is expressed as a set of nodes. The semantic network is a knowledge network structure that introduces it into digital display logic construction. For intricate relationships, the combination of multiple semantic relationships can be achieved.

The semantic relationships commonly used in semantic networks include have, can (indicate the relationship between things and their attributes), ISA, A-Kind-Of (the relationship between individuals in class and class), part-of (indicating things part of the thing part Relationship with the whole), if-time (indicating causal relationship between events). Construct a local semantic text network based on the digital display of intangible cultural heritage (Figure 3).

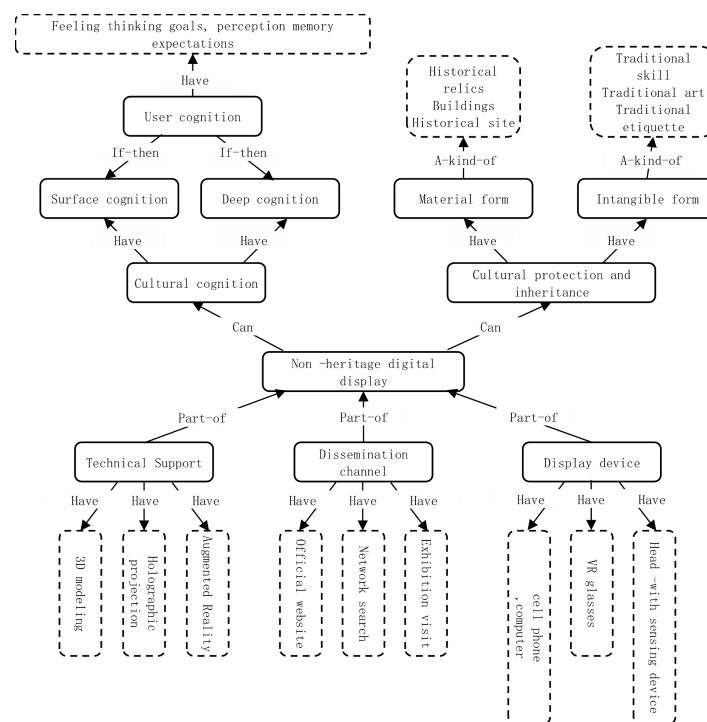


Figure 3. Local semantic text network displayed by non-heritage digital display.

In the semantic network, some complex semantic relationships in the digital display of intangible cultural heritage are clearly expressed by the graph. For example, in the semantic network of user cognition, the user cognition is composed of factors such as user feelings, perception, thinking, memory, goals, expectations and other factors (semantic relationship 1). Each factors are tied in the same level (semantic relationship two). Due to the differential cognitive capabilities of the user subject, the individual's different levels and different levels of surface cognition of the intangible

cultural heritage culture and deep cognition of different levels (semantic relationship three). The independent surface cognition of the user and the deep cognition of the individual of the user is a parallel relationship (semantic relationship 4). Four layered semantic relationships together constitute the semantic network of user cognition. The semantic network of this level is the digital display of the intangible cultural heritage of the knowledge network. The semantic text network displayed by the digital display of intangible cultural heritage is formed by the general cognitive mechanism of users' general cognitive mechanisms for intangible cultural heritage culture. With the help of semantic networks, it can make divergent thinking and Lenovo reasoning in the graphs well, laying a solid foundation for the establishment of a logical relationship of digital display.

4. Conclusions

In the context of digitalization, intangible cultural heritage displays from traditional material -centric display mechanisms to human -centered display mechanisms are the main directions of digital display development. The development of new media and new technologies and the introduction of new carriers and new methods provide a broader thinking space for re -interpretation and development of intangible cultural heritage. From a new perspective, the creative interpretation and reconstruction of intangible cultural heritage cultural elements is the process of creating creative transformation of intangible cultural heritage culture by using new thinking, and also the process of using multimodilica to promote cultural innovation development. Therefore, the protection and inheritance of intangible cultural heritage culture should bring together many aspects of resource advantages to promote the transformation of factor wisdom to intelligent factors to the realization of non -material cultural heritage cultural information. From multi -angle and multi -dimensional improvement of users' cognition and experience, guide users to experience the emotional resonance generated by the intangible cultural heritage culture, so as to effectively spread and develop the intangible cultural heritage culture.

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