Application of Yao costume elements in modern costume design based on virtual reality

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Abstract. With the development of society, people's aesthetic needs for clothing are also changing. The emergence of national style has become a new trend in the field of clothing design. Yao costume language and modern fashion elements have many common features. Yao costume can be integrated from the details of costume elements, costume color matching, decorative techniques and costume elements. Modern fashion design is carried out in style and other aspects. Virtual reality technology is a technology of human-computer interaction using virtual technology. Modern virtual clothing design is that clothing designers use virtual reality design technology through vision, hearing and touch to design clothing under the virtual reality environment displayed by computer. A comprehensive technology integrating computer graphics, artificial intelligence, concurrent engineering, network technology, multimedia technology and virtual reality technology. Retain and develop the essence of national costume and apply it in modern society, which reflects the artistic expression and national cultural charm in modern costume design, improves the position of national costume elements in modern costume design, and plays an important role in promoting the excellent costume culture of ethnic minorities.

1. Introduction
As a minority with a long history, each migration brings different changes to the Yao nationality. Through learning from the different nationalities in the residence, Yao nationality forms its own unique national costume culture in the process of integration and change. They not only inherit and develop the national costume culture [1]. It is of great significance to excavate the essence of Yao costumes, and it is also conducive to promoting the long-term development of Yao costumes and carrying forward the traditional Chinese culture [2]. The concept of "culture" has rich connotations and can be divided into many different cultural forms from different perspectives. Culture is not only a social life style, but also a spiritual value system. Culture is the soul of a nation. Excellent culture is the crystallization of the progress of human civilization and the carrier of human spiritual civilization [3]. Starting from traditional elements, the Yao nationality's traditional dress culture and cultural products can be combined to promote the development of cultural and creative products with regional characteristics. The Yao nationality clothing element and the modern life unifies [4]. Traditional ethnic costumes have a lot in common with modern fashion aesthetic consciousness in the expression of costume language. Clothing design is one of the language of clothing design, which can not only reflect human wisdom, but also express people's beautiful yearning and desire for life. The creators of Yao costume designs are generally simple Yao women, most of whom love life and art very much [5].

Virtual reality technology is a technology of human-computer interaction using virtual technology. In virtual environment, designers can develop and design products according to three-dimensional models, tools, etc [6]. On the basis of the existing clothing virtual products, further research is carried out to integrate some new technologies into the existing systems and solve the new technical problems.
brought by the new requirements of clothing three-dimensional design and collaborative design to the clothing manufacturing industry [7]. Because of the great migration events in history, the Yao people in different branches were dispersed to the whole country and even all over the world, forming the same dress characteristics. Different tribes have different customs and habits due to different geographical environments, which are embodied in clothing [8]. Sample body of pattern is an emotional symbol, which collects Yao traditional culture, contains rich connotations, and expresses Yao's specific aesthetic concept and life interest. The ever-changing color of clothing; painting refers to the pattern of clothing. The component elements of Yao costume are more directly applied in modern costume design, and the expression of rhythm and rhythm is stronger [9]. Clothing designers use virtual reality design technology through vision, hearing and touch to design clothing in the virtual reality environment displayed by computers. Elements for innovation and integration, to achieve technological innovation and design innovation. Good visual design is the external performance of high quality, the key to successfully attracting consumers' eyes and moving consumers' hearts, and the key factor to enhance market competitiveness. Therefore, this paper studies the application of Yao costume elements based on virtual reality in modern costume design [10].

2. The Historical and Cultural Connotation of Yao's Clothing

2.1. Application of Detailed Elements in Yao Garment

Folklore is an important part of human culture, and all kinds of folklore matters in our life occupy a very important position in the formation, development, maintenance, transmission and continuation of culture. Yao costumes are developing in the process of continuous integration and variation. They have the characteristics of unity, regionality and relative independence, and form a distinctive costume culture language. Yao costume is the intangible cultural heritage of the nation. Flower-stitching, embroidery and batik are the main ways of costume making. They are unique artistic forms in the national art. These beautiful costumes can not only exist in history. In addition, when matching colors, Yao costumes choose the main form of matching is the contrast of brightness and color, mainly for the contrast of bright and dark, multi-color and monochrome matching. The colors of decorative patterns often change gradually from deep to light and from cold to warm. This dense and complicated decorative form is similar to some complicated fashion in modern clothing fashion and embodies the characteristics of "fashion". The combination of patterns with different themes and colors of modern high-tech clothing fabrics can enhance the artistic features and effects of clothing decorate on clothes. These patterns with various forms, exquisite workmanship, magnificent colors, national style and local flavor vividly reflect the life interest and intelligence of the Yao people and their love for life and nature.

2.2. The influence of virtual reality technology on modern fashion design

Virtual reality technology is not only a demonstration media, but also a design tool. It produces a human-friendly multi-dimensional information space in the form of vision, which provides favorable support for us to create and experience the virtual world. The comprehensive coordination of clothing and specific wearers can artistically reflect the practical process of the idea. It includes fashion design, structure design, color design, costume pattern design, accessory design and Costume-related auxiliary design. In addition, its objective geographical conditions also limit its development, so that its original social and cultural characteristics can be retained, and gradually formed a cultural and historical prescriptive style of dress art. There must be innovative ideas for clothing elements in the design. These elements can be recombined to create new patterns. Both traditional elements and novel contents are required to create valuable creative products. Aesthetic concepts are closely related and integrated with each other, which is why they are widely popular in our nation. Pattern is a very important part of Yao nationality culture. Its formation and development cannot be separated from the development of Yao nationality culture.

The integrality principle of clothing is the most fundamental principle to be followed in clothing design and the internal mechanism of all aesthetic artistic values. It combines various elements into a
whole, and the inspiration of costume creation mostly comes from the real traditional life. The production of clothing is not only closely related to the traditional way of life, but also to a certain extent, clothing is a direct expression of the way of life. Virtual environment technology has the advantage of directly manipulating objects in virtual space, from which design activities will gain great benefits. Existing architectural design and appearance planning have gained a lot of benefits from virtual environment technology. Through the combination and change of fashion shape, color and fabric, we can constantly improve and improve in the virtual reality technology environment, and eventually form our own design personality and produce a unique modeling effect. It has played a certain role in promoting the color of Yao costumes. In addition to the influence of raw materials and workmanship, traditional Chinese culture, philosophy and national aesthetic ideas have also exerted great influence on the color of Yao costumes. Decorating different artistic patterns on different parts of the clothing can make the clothing design more distinctive, full of the spirits of Chinese traditional culture and strong aesthetic feeling of modern design. Therefore, modern technology can be used to solve its characteristics of easy wrinkling and weak modeling so as to be better applied to modern clothing design.

3. The Relation between Yao’s Dress Elements and Modern Fashion Aesthetics

3.1. Networking of Clothing Virtual Product Design
Virtual reality garment design is a virtual reality simulation. It is an ideal combination of garment designers, computer electronic technology and animation technology to use computer electronic technology to simulate cloth. The virtual environment that enables multi-users to share the behavior and status of virtual objects can enable users distributed in different places to simulate the cooperative operation of object scenarios through computers and networks. Clothing will have different spatial positions in different spaces. It includes a combination of fashion design and art design, such as color, light, area, location, plane, stereo, visual and spatial functions. It can also realize the virtual display effect of clothing through virtual reality technology, observe the effect of clothing on human body in virtual environment, and the different wearing effect of clothing in different human body model dynamics. The style of clothes is the superposition of colors, designs, materials, accessories, superposition, etc. and various complicated shapes, which is also consistent with the formal beauty principle of clothes and can be reflected in the aesthetic layering of clothes. The design of ethnic costumes will be redesigned and displayed in different positions of the costumes, such as the shoulders, collars, pockets, cuffs, hem and other parts of the costumes. Local design with patterns to embellish can avoid the monotony of the costumes and highlight the key points visually with clear priorities.

The midpoint, line and surface are the most basic images in the modeling elements. Due to the combination and effect of different forms of points, lines and surfaces, there are many different ways of expression and images. The application of fashion accessories modeling elements is mainly based on the transformation of their original appearance and classic modeling. The user carries out clothing modeling through interaction with the clothing modeling platform, and displays the established model through the clothing display module and carries out corresponding feedback. The network part is mainly based on the network parameters derived from the clothing modeling platform. The design of clothing virtual products is shown in Table 1 and Figure 1.

|            | Simulation | Combination |
|------------|------------|-------------|
| Interactive Modeling | 9.18       | 7.36        |
| Apparel evaluation   | 8.26       | 8.19        |
| Clothing Show       | 8.36       | 9.17        |
3.2. *The Common Embodiment of Planar Component Elements*

The application of Yao costume elements is very similar to modern costume. Modern clothing is used more directly, and the sense of rhythm and rhythm in costume aesthetics is more intense. It is shown in modern clothing, such as horsetail, beads, wool balls, tassels made of wool, etc. The application of local style structure is mainly to reflect and extract the characteristics of Yao costume style structure in modern clothing. Clothing art is formed in the continuity of history and local cultural conditions. Its artistic style is also prescribed by history and culture, and its form of history is also a dynamic development law. The purpose of clothing interaction is to model and evaluate clothing through user interaction. Mainly uses the computer graphics related technology, uses the provided interface, provides the interactive tool for the user. Absorb and display the charm of Yao nationality clothing. To master the overall characteristics of Yao's clothing, analyze the key points and design concepts of Yao's clothing. The structure of costume modeling can break through the traditional mode and make any bold attempt, thus stimulating designers' design desire and passion and creating distinctive costume modeling. Harmony creates a sense of magnificence. The color of clothing patterns is also very important, which can strengthen artistic charm. Yao people's clothing patterns are colorful, varied in complexity and simplicity, bright and strong, rich but not chaotic, with clear priorities.

Clothing design not only pays attention to the coordination of clothing effect and theme, but also pays attention to the physical environment of each part and the psychological environment factors such as interrelated spatial form. The creation of space visual environment is a comprehensive care system for people, clothing and environment. The virtual apparel product design system is mainly based on the known patterns. By establishing the corresponding virtual samples, it can provide the basis for people to evaluate the final ready-made clothes and let designers carry out forward-looking work. In the fashion trend of modern clothing, it is common to take plane elements as the design point, but as a national traditional costume with thousands of years of history and culture, it is relatively rare to have such design and expression forms. The design elements in Yao costumes have harmonious and gorgeous colors and rich and varied patterns, and their modeling language is also abstract, image and concrete diversified language. The creators of Yao costume patterns are all working women rooted in real life. They love life and art, but they never take art as a means of livelihood. The purpose of their drawing patterns is to establish their ideal world and create a beautiful image for life. Only by taking the essence of Yao's clothing culture and guiding modern clothing design with the essence of Yao's clothing culture can we design practical works that can promote the development of Yao's culture and save the marginalized Yao's clothing culture.
4. Conclusion
In this paper, the application of virtual reality of Yao costume elements in modern costume design is studied. Clothing is the product of social development. It reveals the social characteristics and human essential characteristics of social politics, economy, ethics, art and so on. Yao costume pattern has the characteristics of traditional national culture. Designers can combine Yao costume shape, color, fabric and decorative techniques with modern western fashion elements in the design process. It will make the modern clothing design show unique characteristics, and at the same time, it can also promote the personalized development of modern clothing design, make the Yao clothing culture have a long history and promote the development of national culture. Only by absorbing the soul and essence of traditional culture, exploring the correspondence and communication between national costume and modern aesthetic consciousness, and constantly guiding modern costume design with the essence of national historical culture, can we create the classic works of the times that not only have the national cultural spirit, but also conform to the spiritual style of modern people. Strengthen the promotion of national costume design, and integrate and communicate costume and modern aesthetic consciousness. Guide modern fashion design with national history and culture to create modern costumes with national characteristics. Virtual clothing display uses virtual characters or real people to wear the latest designed clothing, which can fully show the design characteristics and brand style of clothing and enhance the artistic expression of clothing.

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