

Online Platform Design of Clothing Design in Higher Vocational Colleges Based on Cloud OpenGL Design Algorithm

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Abstract:In this paper, the contour of the template is constructed by OpenGL function and cubic NURBS curve, and the shape of the curve is modified by adjusting the NURBS weight factor. Source data, W meets the proposed demand for any human body and clothing. In the specific application scenario of this paper, the 3D simulation model establishment part is divided into grid model establishment, real-time lighting simulation and 3D virtual simulation design effect display module. This digital design method implements the WYSIWYG design concept. It can realize the sharing of high-quality teaching resources, interactive learning and teaching evaluation, and provide a reference plan for the construction of higher vocational teaching resources cloud platform.

Keywords: Online Platform Design, Clothing Design, Higher Vocational Colleges, Cloud OpenGL Design Algorithm

1. INTRODUCTION

The progress and development of society has improved the quality of life of the people, and the wealth of life has prompted the people to pursue a higher quality of life, and China has attached great importance to wedding ceremonies since ancient times [1], and it remains the same today. Wedding dress is one of the important wedding dresses. It is the embodiment of a couple's vision of a beautiful life after marriage [2], and it is also an important symbol of the bride's difference from other guests.

Many clothing-aided virtual design tools have been industrialized, such as virtual design software Marvelous Designer [3], Mechanix, Opti Tex, and Lectra systems. Clothing design using virtual design software is an iterative process. In recent years [4], higher vocational colleges in various places have attached great importance to the construction of education [5] management informatization, including the operation of various information systems and office automation systems such as educational affairs, scientific research [6], student status management, personnel, email and cloud desktop, which not only saves manpower and materials, but also It also improves the level and efficiency of education management [7].

Trained observers can judge clothing fit, but because of the subjectivity of analysis, it is difficult to be very accurate. The main disadvantage of qualitative [8] analysis methods is the inaccuracy of subjective judgments. Quantitative analysis method is mainly to objectively evaluate clothing fit, and judge clothing fit through [9] objective methods such as image forming and mathematical modeling. In view of the problem that the fit and actual wearing effect of clothing cannot be experienced in the process [10] of clothing graphic design, 3D clothing virtual simulation emerges as the times require. At present, there are mainly two kinds of 3D clothing [11] virtual simulation methods: clothing simulation based on geometric modeling and clothing simulation based on physical simulation. Initially [12], the points on the simulated grid are divided into clusters each containing only = H-angle clusters, which can efficiently extract optimal rotations for

shape matching without the iterative computation of limit decomposition [13]. Then through hard transformation, initialize the cluster points to calculate the target positions, and then move the particles to these target positions [14].

Essentially, cloud computing is a form of providing services. Service providers use the decentralized software and hardware [15] infrastructure to build a shared platform that can provide network users with resources and services. Therefore, we can use this emerging computing technology to build a new digital library management platform [16]. Data is stored in the cloud platform. User data is not stored in personal computers, but in cloud platforms, which are provided by cloud platform service providers [17].

Google has advanced technology in massive data processing, and its company has the world's largest Internet search engine. The business system can run on Google's distributed infrastructure [18]. As the best solution for the WYSIWYG design concept, the 3D garment CAD system can also play a vital role in the design of wedding dresses. For designers, it can intuitively and quickly show the effect of ready-to-wear to consumers [19]; for consumers, it can convey their design demands to designers more accurately and conveniently. Three main factors including contour, line and detail are extracted by principal component analysis, and the prediction equation is established [20].

At the same time, a prediction model based on neural network with the mechanical properties of the fabric as the input parameters for the comprehensive modeling value of the half-tight skirt [21] modeling style is established, and the mechanical properties of the fabric are used as the independent variables. Clothing logic modeling is the unified organization of clothing information [22]. Effective organization of clothing information (garment piece information and stitching information) is the basic condition for realizing virtual stitching of clothing. Due to the variety of clothing and the ever-changing styles, the unified organization of clothing information is very difficult [23]. The coarse grid of the oscillation mode is used to introduce high-frequency details. In contrast to subdivision, this paper argues that dense

sampling matrices are specific to a given environment, which facilitates the trade-off of higher visual quality for complete generality [24].

This trade-off is justified because the possibilities for interaction in games are often limited by design. Caltech Libraries and Eastern State University use Google's cloud services [25]. It uses Google Analytics to query relevant website information and other collection catalogues, etc. Eastern State University uses GoogleAppEngine to store library database information [26].

2. THE PROPOSED METHODOLOGY

2.1 The Cloud OpenGL Design Algorithms

Through the parameterized control of the point cloud radius of each layer, the purpose of controlling the skirt profile can be achieved. Although this paper studies the three-dimensional simulation design method of what you see is what you get, the essence of parametric deformation of skirt profile only involves two parameters, so it can be considered in two-dimensional space. As shown in Figure 5, in the two-dimensional plane coordinate system XOY, the black curve is the third-order Bezier curve. In order to ensure the quality of the two-dimensional pattern grid generation, this paper is based on OpenGL technology to create a virtual clothing two-dimensional pattern Design and modification studies.

First draw the outline of the 2D template and modify it; secondly, use the Delaunay triangulation method to mesh the template, and control the triangle density by defining the extrusion vector corresponding to the 3D space. OpenGL was originally developed by S Intercompany The developed IRIS GL evolves, but the later development is relatively slow. There are few new technologies in each version, and most of them are modified and perfected for a certain part. Compared with version 1.0, OpenGL version 1.1 has more performance improvements, such as new texture features and improved printing support. Cloud users can control their resource configuration and use at a higher level based on these data. In order to optimize the configuration of IT resources, virtualization technology is applied to the IaaS layer. Service providers usually use various virtualization tools such as Xen, KVM, and VMware to improve hardware utilization and load balancing, and provide IaaS with strong customizability and high reliability.

2.2 The Fashion Design in Higher Vocational Colleges

OpenGL adds different lighting to each point in the model by calculating the normal vector of each point. Among them, the normal vector of the point is calculated by the face normal vector of each triangular patch in the model. The two-dimensional template is mainly composed of various curves and straight line segments. At present, second-order or third-order NURBS curves and B-spline curves or interpolation splines are mostly used to simulate the approximate curve parts. Construct the initialized two-dimensional template, and create a straight line segment through the OpenGL function. The mean value of the patch normals.

Clothing generally has a dart design, and the border of the garment piece is not only composed of the outer contour, but also includes the dart design and pleat design. Here, the darts are divided into two categories: the darts that form a closed boundary together with the outer contour are called the first category of darts; the darts that exist inside the garment and have no connection with the outer contour are called the second category of darts. According to the specific angle, the

curve equation of the variation law of the looseness of the profile body is fitted. From the perspective of the human body, the human body is divided into three parts: front, side and back. By calculating the area slack of the three parts of the characteristic cross-section, the area index with a good appearance effect of the dress silhouette is summarized. Through the above calculation, the normal vector can be added to each point in the triangle mesh model of the skirt, and then the lighting effect can be added to the model.

For the drawn pattern profile, design modifications are made in two ways. One is to adjust the position of the boundary line intersection, and adjust the shape of the outline according to the new position generated by dragging the boundary line intersection. If the two boundaries corresponding to the boundary intersection are line segments, adjust the length of the line segments according to the vertices corresponding to the line segments. As users of the platform, teachers and students cannot participate in the maintenance of platform resources. In the process of resource construction, there is a lack of resource information as resources. Concept of building part to finish. Most vocational colleges only pay attention to resource construction and ignore the management and use of resources.

As users of the platform, teachers and students cannot participate in the maintenance of platform resources. In the process of resource construction, there is a lack of the concept of taking resource information as a part of resource construction. Most vocational colleges only pay attention to resource construction and ignore resource management and use.

2.3 The Online Platform Design of Clothing Design Based on Cloud OpenGL

The more layers there are, the finer the mesh model will be. The points of each layer that make up the point cloud of the skirt have their own sizes, and it is precisely because of the size change between different point layers that the different silhouettes of the skirt are formed. Therefore, the key to the parametric design of the skirt profile is the dimensional change and transition between different point layers. Taking a simple top body pattern as an example, first set the key vertices that make up the top pattern, set the type of connection between the vertices, select the armhole position connection as a curved line segment, and other parts as straight line segments.

We show the outline drawing and curve modification of the upper body pattern. The application of cloud computing technology in the library field can not only save costs but also provide high-quality service guarantee for the library. Cloud computing virtualization technology can abstract the physical server into a virtual server, and then install the operating system and application software on the virtual server. The resources provided by cloud services are powerful. The resources provided by the cloud platform are centrally managed by cloud service providers, and support many software services, providing massive storage space and other resources. Users do not need to know the specific location of these resources, they can use the virtual Services use these resources.

The cloud platform-based course resource sharing system for higher vocational colleges is an HDFS distributed storage system based on the open source Hadoop system. The course resource data files are stored and read by calling the HDFS API interface, and the basic information of users on the

resource sharing platform is stored in MySQL In a relational database. Given a human body model with a certain body shape and pose, wear the obtained clothing model on a static human body. In the static try-on process, it can be observed that the clothes are handled under the condition of their own gravity and air resistance, and after the clothes touch the human body. Because the clothing model in this paper is a downloaded 3ds model, the clothing CAD system requires simple and effective operation, complete functions.

3. CONCLUSION

In order to realize the design and editing of the 2D pattern in the clothing virtual design software, this paper uses NURBS to construct the basic outline of the 2D pattern, and based on the idea proposed by Dirichlet, the 2D pattern is automatically triangulated. The section above the bust line Sections below the bust line for shoulder width, bust width and back width Sections bust, waist and hip sections. The analysis and research obtained the loose distance between the human body and the clothing in the section above the bust line. It is proposed to use the Hadoop Distributed File System (HDFS) distributed file system to store the course resource data.

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