3 d - LookStailorX system application in the clothing pattern design

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Abstract. Clothing pattern design is the most key link in garment production process, and is the most important part of the costume design, is a clothing design and technology of the connection of the bridge. With such as clothing CAD technology widespread application of digital technology, the clothing pattern design is increasingly digital. The birth of the 3 d - LookStailorX system, break through the traditional two-dimensional pattern of garment pattern design, provides a new design idea and method. This paper briefly describes the 3 d - LookStailorX module composition and function of the system, explore the 3 d - LookStailorX system application value in the clothing pattern design.

Introduction

Digital technology has obtained widespread application in the clothing industry, especially in garment CAD technology, its application range is more extensive, promoted the transformation of modern clothing enterprise working mode. But, more reflect the advantage of clothing CAD technology in the pattern of data storage and management, and is a 2 d design pattern, the pattern of the produce need a plane cutting technology formula computing to implement, but the formula for computing asked the pattern maker has a certain practical experience, lead to the technology and the traditional paper-based hand-made plate design ideas and methods are not too big difference. In the construction industry, 3 d digital technology has gained a wide range of applications, but in the garment industry, the application and development of this technology is relatively backward. In recent years, the use of 3 d digital technology's clothing industry attaches great importance to, among them, the 3 d - LookStailorX system for breaking the garment pattern is 2 d design patterns, created a panoramic view of 3 d design patterns for garment industry.

3 d - LookStailorX system overview

3 d - LookStailorX system research and development of digital fashion company is Japan's 3 d applications, mainly used for the stereo design of clothing and tailoring, can for the user to create a new, more intuitive, more three-dimensional operational Windows platform. Unlike garment CAD system, 3 d - LookStailorX system can be set volume parameter according to the clothing style, again on the 3 d model line, necklines are measured.2d pattern design, etc., and then according to the garment area segmentation automatically generate 2 d garment pattern, and output the DXF file. Main advantage of 3 d - LookStailorX system embodies in: breaking the traditional clothing pattern design mode, from a 2 d pattern is upgraded to 3 d garment pattern, then directly to the 3 d pattern is converted to 2 d pattern; Effectively solve the mass during the period of garment pattern design formula and empirical parameter Settings of uncertainty, saves a large amount of workload and time; The pattern maker can more intuitively pattern design in 3 d garment model; System and feasible, convenient and quick, as the foundation of traditional two-dimensional clothing pattern design to create a new design idea and method.

3 d - LookStailorX system modules and functions

3 d - LookStailorX system composed of Mannequin module, Gaement module, and the Pattern module. Mannequin module is mainly used for the construction of digital human body model,

which can realize parametric Settings. Gaement module is mainly used for the initialization of clothing design, which can realize the pine and surrounded degree parameter Settings, etc. Pattern module is the core module of the whole system, mainly to complete style clothing design and converted into 2 d digital Pattern.

Mannequin module. Mannequin module is human body model of the data processing module, the extraction of digital human body size, surface reconstruction of digital human body, human body characteristic line production and editing, etc. Mannequin module can use four view window shows each position of the digital human model. Mannequin module also provides a variety of human body model of the system default, the designer can according to need to choose, it also provides personalized human body model of parts size set, the designer can according to need to the size of the human body model, presenting an objective the multidimensional structure of human body.

Gaement module. Gaement initialization module is digital clothing model editing and processing module, which can realize digital editing and formation of clothing model concrete including the selection of clothing type, size measurement, outline of editing, etc. Gaement module can start clothing model set, in order to realize the clothing elastic initialization Settings, also can adjust initialized clothing model size, can effectively meet the demand of different sizes of personalized clothing design, digital fashion model generation, can still to modify and perfect its contour.

The Pattern module. Pattern module is the core of the 3 d - LookStailorX system module, its function mainly includes the digital paper, the internal structure of clothing design, design of 3 d garment piece, provincial roads, a three dimensional cutting piece for two-dimensional cutting piece, two-dimensional editing work piece, etc. The Pattern module contains 3 d digital garment editing and processing, 2 d garment cutting piece of generating and editing processing two views.

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Construction of digital human body model. Princess in women's clothing line segmentation garment body part as an example, discusses the 3 d - LookStailorX system application in the clothing pattern design. Clothing pattern design is the basic premise of obtaining accurate human body size data, the traditional clothing pattern design to use formula to calculate according to the size of each part of the human body data can be drawn 2 d pattern. Application of 3 d - LookStailorX system of garment pattern design still need human body size data, but its advantage is that the pattern maker can be reference to national standards or the human body through actual measurement data structure, effectively save the time of construction of digital human body model, also make the design of garment pattern is more intuitive. Mannequin Lorx system module can provide a variety of shape more mannequins, pattern makers can also through the system default options for rapid construction of digital human body model, also can make appropriate modification according to the actual size.

Clothing styles set the profile with multiple points of view of form. Digital human model into up to get into 3 d - Gaement LookStailorX system module, the module provides the clothing is loose, two kinds of design pattern, the pattern maker can according to different styles of clothes check the corresponding option, then set in accordance with human body size clothes loose volume and length, adjust the different degrees of contour curve. The traditional hand-made plate or CAD system are not intuitive judgment effect and loose quantity of the profile modification of the clothing pattern design, and 3 d - Gaement LookStailorX system module can achieve this function, and for the design of garment pattern is to provide a new design idea.

Stylized the 3 d garment design and 2 d garment pattern is generated. Into the 3 d - LookStailorX system Pattern module, to initialize the first clothing model, then draw the pieces according to the dress design side seam, shoulder line, neckline line, etc., to complete the internal structure design. Pattern maker can use multidimensional digital model window, cuttings, composition of clothing, and splicing effect, the actual wearing effect of ready-made clothing and so on. Compared to the traditional two-dimensional garment Pattern design, under the Pattern

module, the Pattern maker without large-scale formula, also effective to solve the two-dimensional garment Pattern design appeared due to lack of experience in garment structure is not reasonable. In the clothing design, contour and internal structure design is completed, with the help of the Pattern modules each part of the work piece pick up tools can also be extracted directly clothing fabrics, and quickly generate clothing Pattern.

The creation of new clothing pattern design train of thought. In the field of garment industry, after the clothing designer to design clothing renderings, its modelling to decomposition. Whether the traditional manual work mode or clothing CAD system board, all must first carries on the 2 d pattern design, fabric for cutting and sewing sample again, if need to modify, is also on the pattern, the need for multiple sample cutting and sewing to complete clothing production pattern after finalize the design. Application of 3 d - LookStailorX system, however, can be in accordance with the garment rapid formation 2 d garment pattern, combining CAD technology modification and improvement. For such a design pattern, clothing pattern design creates a new way of thinking and methods.

Conclusion

Digital technology had been widely used in garment industry, 3 d - LookStailorX system also has obtained the preliminary application, for narrowing the clothing design cycle, improve product quality, reduce production costs, improve market competitiveness, etc which has played a pivotal role. Although 3 d - LookStailorX system application in the clothing pattern design has certain limitation, but its to quickly generate two-dimensional garment basic pattern is still very obvious technical advantage, has higher application value. On the basis of complex style clothing pattern design, can be used in 3 d - LookStailorX system quickly to complete the pattern design, 3 d garment model can be converted to 2 d garment model, output DXF file, and then integrated apparel CAD system is perfect, finally complete the clothing pattern design.

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