

# Virtual Clothing Display Platform Based on CLO3D and Evaluation of Fit<sup>\*</sup>

Yan-Xue Wang, Zheng-Dong Liu<sup>\*</sup>

*No. A2, East Yinghua Street, Chaoyang District, Beijing 100029, China*

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## Abstract

The article uses CLO3D and HTML5 to design a virtual clothing display system. And for the problems that may arise when using CLO3D to make garments, the solution is given. At the same time, the evaluation of the fit of the virtual clothing made in CLO3D was discussed. Designers can use CLO3D to quickly create virtual clothing in accordance with the users' requirements. After, through the system, designers can publish it on the Web for the users to effectively see the process of cloth making in an all-rounded way, while sustaining communication with designers. The design of this virtual clothing display platform provides some reference value for the digital model of the apparel industry.

*Keywords:* 3D Clothing Design; CLO3D; Virtual Display; Virtual Fitting

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## 1 Introduction

With the development of society and the advancement of technology, all walks of life have more or less contact with the Internet. Clothing, as the “second skin” of the human body, In addition to basic functions such as prevention and warmth, it is a label that shows one's own personality and reflects personal style. People pursue individualized and diversified clothing styles. Therefore, people are no longer just satisfied with traditional and mass-produced clothing styles, but hope to have a clothes that belong to their own independent labels. Thus, a growing number of niche and independent designers has sprung up. They are not mass-producers like traditional large clothing companies are. Instead, they will design a niche and very fashionable clothes based on their own design style and customer needs. Because of the personal characteristics such clothing represents, it is usually not suitable for large volume production. With regard to both, the number of production and production cost, it is very difficult for personal brand designers to use the Internet, television and posters for large-scale publicity or to have models present their work. Therefore, starting a personal brand website, establishing the human body model by creating a virtual sample of it and publishing it to a virtual display system, would shorten the production

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<sup>\*</sup>Corresponding author.

*Email address:* jsjlzd@bift.edu.cn (Zheng-Dong Liu).

cycle and the production costs as well as it would facilitate the communication between designers and users. This would help designers to design clothes that are more in line with consumer needs.

The site is designed with CLO3D and HTML5. The project consists of two major components: the clothing design part of CLO3D and the website implementation part of HTML+CSS+JavaScript. And in the CLO3D, the fit of the clothing has been evaluated.

## 1.1 CLO3D

This is a software that fashion designers use to complete garment design and production. It can completely meet a series of design requirements that fashion designers might have, such as fashion design, pattern making, adjustment and modification, fabric selection, display and release. For designers, this is a very convenient software. It can quickly implement the designer's design prototype. Using this software can not only greatly reduce the length of the design process, but also save on the cost and time of production, making it a very convenient and practical clothing design software. At the same time, we can also make a certain evaluation of the designed virtual clothing through this software. In this way, ensure that the designed clothing is more in line with the needs of human comfort and fit. (Statement: all of the pictures in this article, namely, mannequin is CLO3D publicly model and clothing pictures are for my own production and do not involve any copyright issues.)

## 1.2 Project Significance

Regarding the way clothes are displayed, there are a few other ways besides television, the Internet, posters of plane publicity and model show. The above-mentioned displays either require having a physical object to promote, or the display is not entirely 3D, thus not offering comprehensive clothing details. This not only requires a lot of time to make a sample of a dress, but also needs to consider the extra promotional costs, which are paid to other platforms that provide advertisement services. For some personal brand designers, because they produce a small amount of clothing items, making use of the publicity does not sound very reasonable. Therefore, the simple virtual clothing display system formed by CLO3D and HTML5 can provide with a very good solution to the problem: As the clothes are designed virtually, one can not only see the effect of wearing and style but also details such as fabrics is visible. This can be published using the HTML website. Publishing it on the Web makes it easier for the consumers to have a better image and understanding of what the clothes look like and at the same time it gets rid of the dependency on the professional production software.

## 2 Research Status at Home and Abroad

At present, for virtual clothing display and virtual fitting, firstly, the data indicators of the human body are usually detected by 3D anthropometric technology. Then, by digitally fitting and digitizing the pieces on the mannequin, the pieces are stitched together to form a virtual 3D clothing display system. For garment production, generally, a rough board of clothes is made through 2D page at first or by clothing CAD to obtain precise clothing plate with corresponding edge stitch and by adjusting the related parameters and angles and keep the relevant information.