International Journal of Enhanced Research in Science, Technology & Engineering
ISSN: 2319-7463, Vol. 12 Issue 6, June-2023, Impact Factor: 7.957

Create 3D design for Women's Garment Using 3D Studio Software

Monika[1], Ashish Hooda[2]

[1]M. Tech Scholar, Department of Fashion Technology, B.P.S Mahila Vishwavidyalaya, Khanpur Kalan, Sonepat, Haryana
[2]Assistant Professor, Department of Fashion Technology, B.P.S Mahila Vishwavidyalaya, Khanpur Kalan, Sonepat, Haryana

ABSTRACT

Fashion design software is a computer-aided graphic design tool that enables the creation of digital fashion sketches, garment designs, fabrics, fashion illustration, artwork, and other components pertinent to the design of clothing, footwear, and accessories. There are numerous processes involved in the production of apparel. There are numerous methods to create clothing using fashion design tools. Planning is the first stage in making clothing. With the aid of 3D technology and computer images, the design process for clothing has evolved. CAD, which stands for computer-aided design and computer-aided fabrication, is the most advantageous option for textile manufacturers. In this research paper we have discussed for 3 D design create women's garments.

Keyword: Women's garments, CAD fashion wear design, Design tools

INTRODUCTION

Fashion design software is a computer-aided graphic design tool that enables the creation of digital fashion sketches, garment designs, fabrics, fashion illustration, artwork, and other components pertinent to the design of clothing, footwear, and accessories. The primary purpose of fashion design software is to facilitate the creation of digital apparel by users. Using CAD software, three-dimensional models can be created and viewed from multiple angles. There are numerous processes involved in the production of apparel. Design is the initial step in creating apparel. Historically, apparel was created manually using paper patterns or fabric draped over a dress form [1-3]. In the traditional industrial system of garment design, the fundamental designs are created based on the dimensional typology model of a specific population's body types. Widespread use of CAD systems in the clothing industry to design patterns along with databases generated by 3D scanning technology of the human body is a requirement to extend virtual modelling of the dimensional correspondence body dress in the work of finalising the 2D patterns after the concrete body dimensions. Fashion As a result of CAD's innovative approach to pattern manufacturing, you can create patterns for your own unique designs that suit your body or the size and shape of each individual consumer [4-6]. To use computer terminology, CAD employs a "rethink" methodology for grading. Adjacent pattern curves can be pressed to be the same length, ensuring that patterns match up without puckering and that the designer will produce a garment of superior quality with a refined appearance. Using completely functional CAD tools, designers can create or modify patterns to meet their specific requirements. Excellent materials and patterns for all patternmaking requirements, including infant apparel, lingerie, swimwear, evening dress, bridal gowns, casual wear, accessories, and home furnishings.

Functional requirements of CAD

Design is a hybrid and creative process that is motivated by a need and results in some form of invention, whether it is useful or aesthetically pleasing, practical or merely appealing, created to enhance life in some manner. Designs are distinct interpretations or variations of the same style, and the potential variety of designs is infinite in

comparison to the number of styles in any given product. Style refers to the silhouette, design elements, proportion, colour, and fabric of a garment. The following sections discuss the creation of a 3D design library.

- Selecting Clothing Items, Selecting Software, Generating Garment Outlines for Selected Clothing
- Developing a 3D Female Human Figure, Creating Simple 3D Garment Silhouettes
- Deviating from Standard Garment Silhouettes

Choosing clothing Garments

The design library is intended to generate the five most popular designs for women's apparel. According to the preference study, the three most popular ensemble combinations were tops and pants, midi dresses and tops and skirts. Therefore, the attire described above was chosen for the 3D design library [7-8].

Basic 3D Garment Silhouettes Creation

Typically, a silhouette is created first when designing apparel. Under the following headings, a detailed explanation of how the selected garments' fundamental 3D silhouettes are created is provided. Top and Pants, Salwar Kameez, Midi,Tops & Skirts

Salwar Kameez

In addition to the saree and the salwar kameez, the saree and the salwar kameez are part of the identity of Indian women. There are three components to a salwar kameez. The Kameez is a long, slack-fitting blouse with a wide neckline opening that is worn from the top down. The loose pajamas worn with the kameez are called salwar. The Duppatta can be worn in a variety of forms, including as a loose neck wrap, shoulder sling, and head covering. Salwar Kameez styles that have been produced include the standard kameez, the short kurta, the flare type, the frock type with a single layer, a double layer, and a three-layer skirt. There were two types of salwars: loose and tight. There are different types of necklines, including halter, close, open, and shoulder straps [9-11]. In the armhole, simple sleeve and sleeveless varieties were created. At the sides and Centre, panels were made. Additionally added as variations to the kameez were the shoulder and neckline yokes. Asymmetrical patterns, borders at the hem, and half-and-half designs are other variations.

Midi

A two-piece outfit called Midi and Tops consists of a skirt worn around the waist and a block-shaped top. Children and teenagers in India wear this outfit. The following are the actions that were taken in developing the fundamental style. The tubular skirt, tubular skirt with frills, gathered skirt (regular and fully gathered), double-layered skirt, and three-layered skirt are the varieties of the midi. The Tops come in a variety of necklines, including close, open, halter, shoulder strapped, and shoulderless [12-13]. The princess line, shoulder and neckline yokes are present on both the sleeveless and sleeved Tops. In the middle and on the sides, panels were added. Asymmetrical patterns, panelled skirts, and tops are other variations.

Tops and Skirts

Given that the length of the skirt reaches the wearer's foot, long skirts are also known as full skirts or skirts. During the festive seasons, full skirts like silk skirts, lachas, and serraras are worn. Along with the skirt, a top that matches the top is worn. Long Skirt and Tops are made using a similar technique to Midi and Tops, with the exception that the skirt is longer and there are additional steps.Similar to the Midi and Tops, the Full Skirt and Tops have variations. In addition to the improvements indicated above, skirts made of silk and blends as well as skirts covered in transparent fabric were developed. By changing the yokes in the bodice block, the necklines, and the sleeves of the basic garment patterns, variations can be constructed. Gathers and flares are two of the skirt variations [14]. The number of modifications made for fundamental clothing is as follows.

Making Changes to the Simple Garment Silhouettes

By changing the sleeves, necklines, yokes in the bodice block, and skirts, variations are developed from the basic clothing styles of Salwar Kameez, Saree and Blouse, Midi and Tops, and Long Skirt and Tops. The style appears different as a result of design modifications made to the pattern components and the employment of value-added techniques like printing and embroidery. Textural variances were produced in addition to variations in the garment's structural design. The following headings are used to discuss the variations that were created:

- Top and Skirts, Midi and Tops, Tops and Skirt, Salwar Kameez

Final create design for Midi dress for woman shown below

Figure1. (a)Midi design creates by CAD

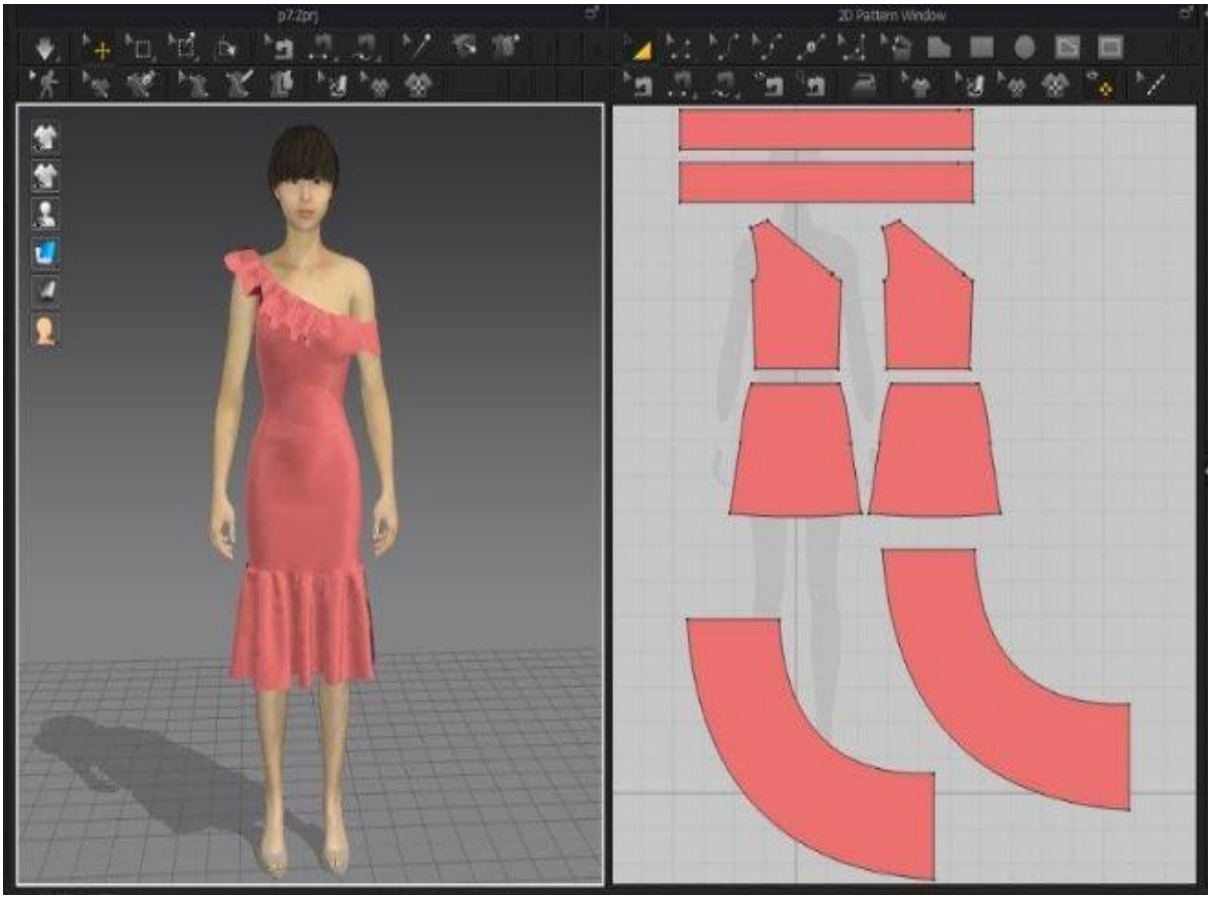

Figure 1. (b) Midi design creates by CAD

Final create design for Tops & Skirts dress for woman shown below

Figure 2. (a) Tops and Skirts design creates by CAD

Figure 2. (b) Tops and Skirts design creates by CAD

Final create design for Top and Pants dress for woman shown below

Figure 3. (a) Top and pants design creates by CAD

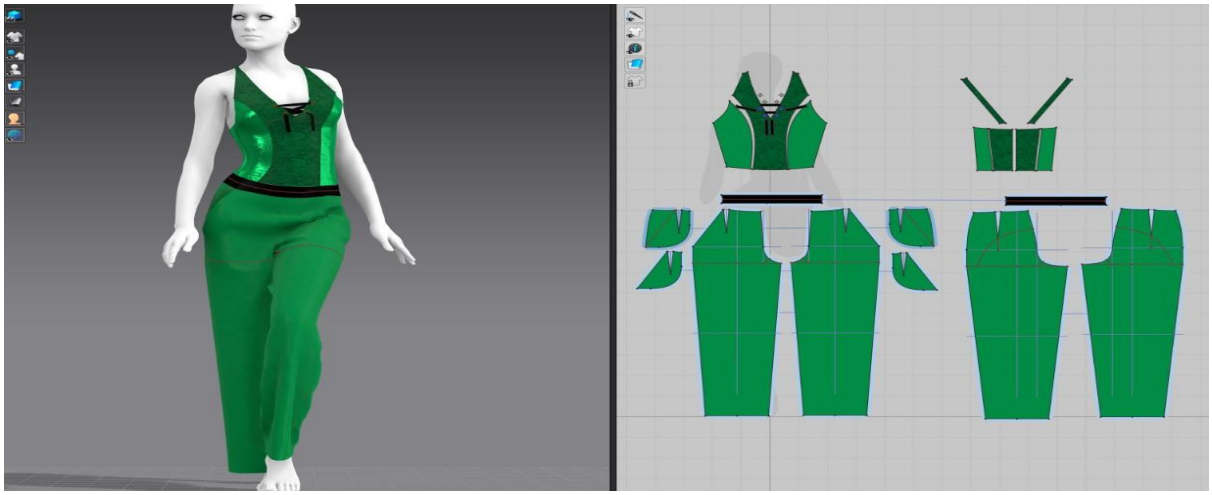

Figure 3. (b) Top and pants design creates by CAD

Figure 4.CAD is used to design the salwar kameez

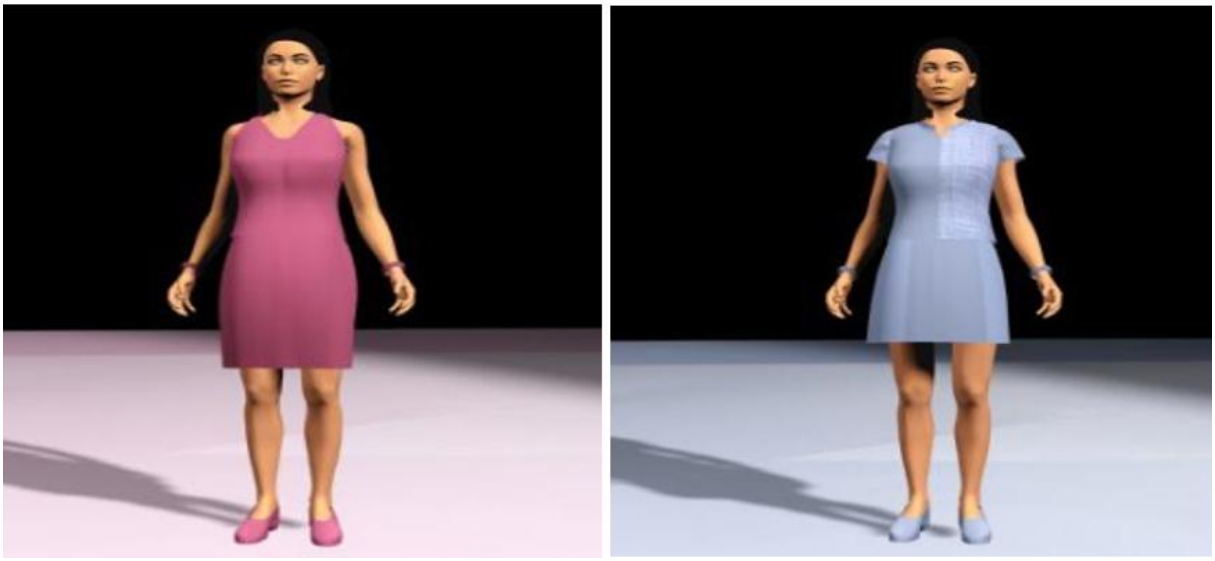

Figure 5. Midi design creates by CAD

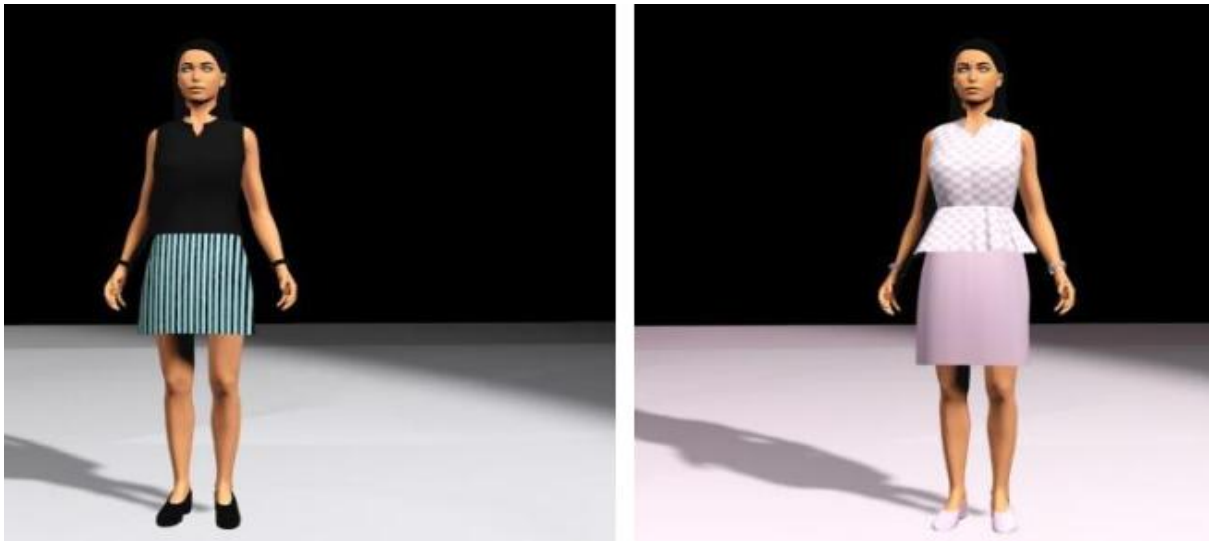

Figure 6. CAD is used to design tops and skirts

CAD generally refers to computer assistance as a designer converts his or her ideas and knowledge into a mathematical and graphical computer model. The use of CAD technologies expedites and improves the design, construction, and modelling of apparel. With its diverse drawing tools and customization tools in CAD systems, garment design is a highly specialised field. Only after maximizing the utility of instruments is maximum assistance available. CAD enables the designer to complete a task more swiftly and accurately, or in a manner that is not possible with conventional methods [15]. Computer-aided design has become an integral part of the design process, and in order to become a manufacturer or designer in the modern fashion industry, one must understand the importance of CAD software.

CONCLUSIONS

This evaluation provides an overview of how computers are utilised in the textile and apparel industry. Creating new patterns for fabric surfaces with 3D Studio is a significant element of Indian culture and history. This pattern is suitable for making draperies, cushion covers, pillow covers, wall decorations, and skirts. It concentrates primarily on CAD packages and tools for 3-D body scanners. There are numerous methods in which computers can be utilised in the apparel industry. These new 3D techniques have many advantages, including their speed and the ability for customers to use their own 3D models to virtually create and put on clothing. Utilizing new technologies has facilitated the production of customized clothing. The use of these technologies is not only simple and efficient, but it can also help the apparel industry advance. Numerous items can be conceived, evaluated, and then manufactured precisely as required.

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