PREPARE DESIGN DIRECTORY OF STYLIZED DESIGNS WITH THE HELP OF COMPUTER AIDED DESIGNING

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ABSTRACT
The Internet's computer-assisted functions are also advancing quickly, and these developments, together with other advances in computing, have made almost every facet of modern life much more convenient. Computer-aided design (CAD) software has been used to create garment samples and 3D models for use in the fashion industry. This strategy not only significantly decreases the burden of the staff but also significantly shortens the cycle of creating and designing Fashion Designing. In this piece, we take a look at how CAD may be utilized in the modeling development process, and how techniques like multiformities modeling and NURBS surface modeling can help illustrate the capabilities of CAD. Inferring that the model's dying effect is similarly varied from the computer-aided dye applicator's functional properties, we then derive the virtual display effect from the digital 3D model of the garment. With the help of digital design software, it's possible to create clothes that not only looks good, but also performs reliably, steadily, and safely.

Keywords: Computer; Aided Design; Fashion Designing; STYLIZED

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INTRODUCTION

The term "computer-aided design" (or "CAD") refers to the practice of using computers (or workstations) to facilitate the design process. By using this program, designers may boost their output, design quality, communication, and documentation, and build a manufacturing database. CAD designs may be used as supporting evidence in patent applications, increasing the likelihood of success. The majority of CAD projects end up as digital files suitable for printing, milling, or other forms of industrial production. This method also goes by the names computer-aided design (CAD) and computer-aided drawing (CADD).The application of this technology to the procedure of developing electronic systems is known as electronic design automation (EDA). The use of a computer and special software to create a technical drawing is known as mechanical design automation (MDA) in the field of mechanical engineering. Vector-based graphics or raster pictures reflecting the final product's overall aesthetic may be used to represent traditional drawing objects in CAD software for mechanical design. However, geometry isn't the only factor. Similar to hand-drawn technical and engineering drawings, the CAD output must represent information like materials, methods, measurements, and tolerances in accordance with application-specific rules.

Computer-aided design (CAD) allows for the creation of both two- and three-dimensional (2D and 3D) curves, figures, surfaces, and solids. Numerous industries, including the automotive, maritime, and aerospace ones,

as well as those involved in industrial design, architectural design (BIM), and prosthetics, rely heavily on computer-aided design (CAD). Digital content creation (DCC) refers to the widespread usage of CAD for the production of computer animation utilized in the development of special effects in film, commercials, and technical guides. The widespread availability and processing capacity of computers now allow for innovations in product design that would have been unimaginable to engineers in the 1960s. CAD's massive economic impact has made it one of the primary motivators for advancements in fields.

LITERARTURE REVIEW

S. ARUMUGAVEL (2018) CAD is a computer-based design method that relies on the construction of digital models with geometry determined by parameters. These models often appear as a three-dimensional depiction of a component or system on a computer display, and their appearance and behavior may be easily modified by adjusting the essential parameters. Using a CAD system, designers may test their creations in simulated environments and see how they seem in a range of different representations. The procedure of computer-aided design is somewhat involved. Many specialized tools exist that help hasten the design process, reduce the likelihood of mistakes, and boost the quality of the final product. Learn about common CAD industry vocabulary, get an overview of the design process, and discover the many programs at your disposal.

Wenbo yu et.al (2018) In order to speed up the process of designing new antibiotics, computational methods may be used to analyze and direct studies. In order to determine which regions of a macromolecular target—typically a protein or RNA—are crucial to its biological activity, SBDD techniques examine the target's 3-dimensional structural information. Having this knowledge allows for the development of antibiotics that interfere with the microbes' vital biological processes by competing with important interactions involving the target. The purpose of ligand-based drug design (LBDD) is to create a link between the physiochemical characteristics of the ligands and the antibacterial actions of the target, with the end objective of optimizing current medications or guiding the creation of new treatments with increased activity. This chapter will provide the generally accepted CADD methods for both SBDD and LBDD, with an emphasis on the methodology and targets that are commonly explored in our lab for antibiotic drug discoveries.

Genchev i. (2017) Many different degrees of abstraction are possible when designing electrical integrated circuits (ICs), from the most intricate layout to the most abstract designs. This research provides a review of recent advancements in the field of CAD tools for analog and mixed-signal ICs. As silicon technology allows for greater levels of integration, and as digital systems become more dependent on establishing connections with the real world, the need for CAD tools that increase design efficiency and enhance the quality of analog ICs rises. There is no shortage of CAD tools available today; yet, the vast majority of them are either prohibitively costly or demand very powerful hardware. One of the most difficult aspects of teaching Microelectronics design is finding a suitable CAD tool for classroom usage. Several different free and open-source CAD programs are discussed and rated in this study. This document provides advice for choosing the best open-source and freeware CAD program for education based on the needs of the individual instructor. The article explains why these tools were developed and how they've changed over time, as well as detailing how far we've come in solving their many design challenges. Modeling, simulating, synthesizing, optimizing, designing, and testing

Saleh, b. , rasul, m. et.al (2018) It's not simple, particularly in the product development stage, to create an environment that promotes long-term product quality and innovation. As a result, CAD software may be an invaluable resource in creating the innovative design and high-

quality end result. For the purposes of this research, "quality design" was defined in relation to the production of product designs. In order to better understand what goes into making a high-quality product, this study employed a systematic review to provide a framework for doing so: product design requirements, design product ideas, detailed product design, and product design assessment. The conceptual framework's findings demonstrate the importance of the ideation phase in the design process, providing the basis for a methodical approach that may provide original, creative, and high-quality product development.

Sriram s., et.al (2018) Over the last quarter century and a half (3), CAD/CAM technology has become an integral element of the dental industry. CAD/CAM technology has advanced dramatically in the field of restorative dentistry(4). In the future, digital intraoral scanning will become standard practice for most dental restorative treatments thanks to the solutions provided by digital impressions, with its great advantages, and CAD CAM. In addition to improving the accuracy and precision of the therapy, using digital impressions decreases the number of office visits necessary. In this way, patients may benefit from the convenience and relaxation provided in the dentist's chair. This results in more uniform lab-made restorations, which in turn reduces patient chair time. We can expect to see a true digital revolution in dentistry in the coming years as the technology for digital impression taking and digital models becomes more widely used in specialties like restorative dentistry, prosthodontics, orthodontics, and dental implantology. As a result, patients would have less pain and faster recovery times after treatments. It paves the way for the use of cutting-edge, high-strength materials that are also biocompatible, provides for aesthetically pleasing designs, and increases accuracy of fit and durability. Despite these benefits, CAD/CAM systems have a high entry price and need extensive training.

METHODOLOGY

APPLICATION OF CAD TECHNOLOGY IN GARMENT DESIGN

Application of Fashion Designing Style

After designing the most up-to-date styles, fashion designers can directly select the best models and actions from the previous human body model database or design more appropriate styles based on the body shape of models. This is made possible by the computer painting function's rich and colorful brush library, as seen in programs like Photoshop. The "undo,""restore," and "eraser" keys, together with other function keys, may provide designers additional leeway when creating new Fashion Designing designs. All of the design schemes may be saved on the computer, and the designer doesn't even have to redraw anything if they want to change a few details here or there.

Application of Color and Fabric Filling

Computer-aided design technology provides a simple solution to the laborious and time-consuming task of painting a specific section of clothes. It solves the issue of "traditional hand painting rework" with a single click of the mouse, and it can also switch between color block and color. This method of getting things done quickly is much superior than traditional painting. Watercolor pen, brush, marker pen, color lead, and drawing board are just some of the instruments a fashion designer may require while sketching garments by hand. These instruments are not only prohibitively costly, but also use up power at a startling rate. On the other hand, all you need is a scanner or a sketchpad and Photoshop or Auto-CAD. The brush's hue, size, shape, and opacity may all be altered on the fly. A hand painter would have to painstakingly redraw a pattern for a shaped garment if the designer wanted to use it, while the scanner in the computer drafting program would just reproduce it with the press of a button.

The Application of Computer-Aided Fashion Designing Design

CORELDRAW's new dynamic guides and smart drawing tools make it possible to quickly and correctly position and scale objects, minimize the number of clicks

required to do so, and shorten the design process as a whole. Consider a women's relaxed top. To finish the fundamental design sketches, fashion designers may use the CORELDRAW software's pattern collection of women's apparel and choose the best pattern to match. The designer may then import more collar, cuff, and combo designs, narrow down to an ideal style sketch, and finish out the finer points of the design.

COMPUTER-AIDED DIGITAL FASHION DESIGNING MODELING METHOD

Computer-Aided Technique

A computer-aided technology, 3D modeling runs on the Windows NT or Windows 98 platform and is a modeling software program. It's a popular choice for 3D modeling on home computers. Constant updates have strengthened 3 ds Max's position on desktop PCs, particularly in the areas of workflow mode, custom interface, renderer, and modeling technology. The fine-tuned control of details made possible by 3D modeling in the fashion industry is a boon to the creative process and the development of new trends.

Both a geometric model-based approach and an image-based rendering approach are common practices in 3 ds Max. Methods based on geometric models are widely used in the modeling of Fashion Designing. The process of making a Fashion Designing model begins with segmenting the model, which makes it easier to manipulate or observe in a VR environment.

Three-Dimensional Modeling of Fashion Designing

There are a variety of approaches to model construction, each with their own benefits and drawbacks. Fashion Designing modeling is a kind of complicated hybrid modeling that involves setting-based design of the garment's sculptable surface. Adapting to the ever-evolving human form necessitates a wardrobe that can switch styles as quickly as the body does. There are both dynamic and static impacts on various regions of the human body. The NURBS surface modeling based on a slice is used to model the human body's dynamic parts; this allows the model to account for the stretching and deformation of the human body, automatically adjusting the model's size. In contrast, the static parts of the body can be described qualitatively more quickly using polygon modeling and patch modeling. This section offers visualizing combined modeling of Fashion Designing utilizing standard CAD software, the VR system, and 3 ds Max to build an interactive object model. The hybrid modeling mode would be built on polygon modeling, patch modeling, and NURBS surface modeling, all with the goal of creating digital models of garments for the human body.

Obtaining the Fashion Designing model requires the use of three-dimensional modeling techniques, which in turn will have an impact on the practicality of 3D printing garments. Figure 1 and Figure 2 demonstrate the visual impacts of polygon modeling, while Figure 3 and Figure 4 display the visual effects of NURBS modeling.

Figure 1 Polygon modeling.

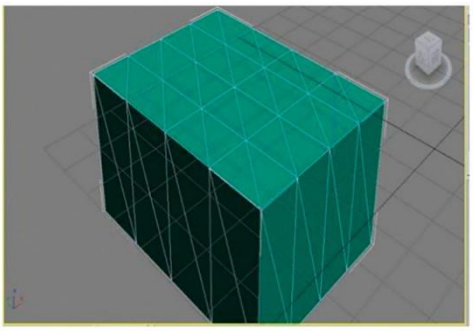

Figure 2 Patch modeling.

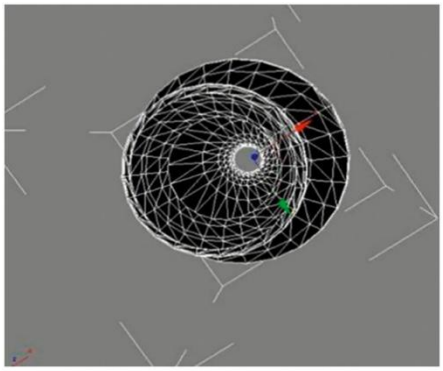

Figure 3 NURBS modeling.

In 3D modeling, a garment's fundamental body is formed using polygons, while local processing is handled using patch modeling and NURBS modeling. Time spent on modeling may be cut down significantly if an all-encompassing model is used. Rapid prototyping, or 3D printing, is a kind of additive manufacturing. It's a method of making physical items using computer models and sticky materials like plastic or metal powder. Models for 3D printing may be created using 3D modeling.

DATA ANAYLSIS

In this article, we employ 3D modeling software to create garments, the Windows operating system as the hardware foundation, and SPSS for data processing and analysis. This is all we know thus far.

(1) A User's Data. Its primary function is to record user demographics including age, profession, and level of education. Figure 4 depicts the user information attribute diagram.

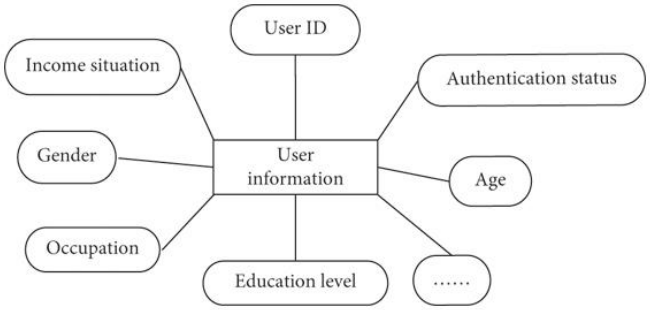

Figure 4 User information attribute.

(2) Information Relating to Human Characteristics. Human height, skin color, gender, head size, body part, leg length, and other anthropometric data are among the most common types of data stored in this format. Figure 5 depicts the attribute map of human body information.

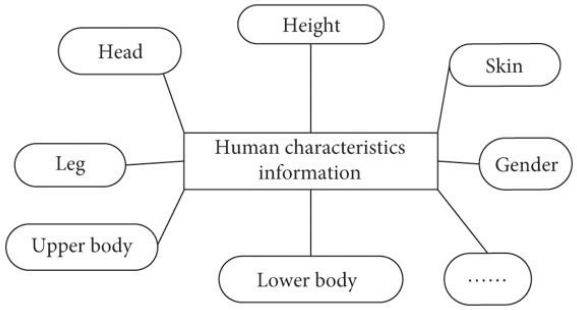

Figure 5 User-related data.

(3) Data on Fashion Designing Types. The majority of the data relates to coats, vests, and other articles of outerwear. Figure 6 illustrates a category attribute diagram of apparel items.

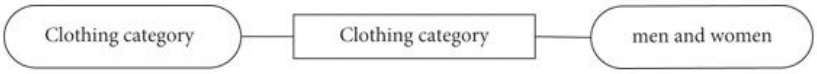

Figure 6 Fashion Designing category attribute.

(4) Data on Fashion. The primary purpose of the style information table is to record specifics about a certain garment style, such as the style, collar, pocket, and board. Table 1 displays its internal organization.

Table 1 Style information.

Field name	Data type and length	Allow space
StyleID	Int	No
StyleNO	Varchar (20)	No
CategoryID	Int	No
StyleType	Varchar (20)	No
Collar	Varchar (20)	No
Sleeve	Varchar (20)	No
Pocket	Varchar (20)	No
Button	Varchar (20)	No
Slit	Varchar (20)	No
Plate	Varchar (20)	No
StyleNote	Nvarchar (200)	Yes

Black-box testing is a kind of software testing that disregards the logical structure of the program in order to instead examine the product's interface and its capabilities in isolation. In order to ensure that every feature of the black-box test system is thoroughly examined, we choose the idea of test case, build the test case based on the parameters the user needs to submit on the page, and finally input the relevant test case on the website.

Test Items

(1) Check of the Acting. The goal of this test is to evaluate the functionality of the whole system as a whole.

We execute the system and verify its general functionality and performance after incorporating each module into the framework.

(2) Checking How Well Something Works. Its goal is to ensure that the system's various parts are working as intended.

CONCLUSIONS

An key challenge in the study of manufacturing is the reliance on digital 3D design. Combining digital model creation with computer graphics, this technology makes it possible to bring designers' concepts to life. Several foundational technologies, like as digital human body modeling and computer-aided body measuring, as well as Fashion Designing design research, provide the basis for the merging of digital technology with apparel creation. This study employs 3D modeling as a part of fashion design's auxiliary system; this helps to develop designs that are both more innovative and more in tune with the tastes of the audience. This article provides an overview of the philosophy behind computer-assisted human-body technology, before expanding on its central ideas and methodology by drawing on the tools of contemporary digital research. This technique employs computer-aided apparel design (CAD) based on ergonomic and

mathematical principles. We get ready for these practical stages by drawing on our theoretical understanding and combining it with 3D digital model editing technologies and computer graphics.

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