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A Comparative Analysis of Clo3d & 2d Softwares To Design Apparels And Their Impact On Fashion Industry

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Abstract-

Technology and Artificial Intelligence have a significant impact on all aspects of fashion from designing to creation and utilization. The clothing industry is increasingly relying on the use of advanced technology moving towards advanced version whereas the use of AI in fashion industry plays a vital role and considered a player of the global economy. The present paper aims to highlight the features of clo3d software in comparison to 2d software used in fashion industry for digital work. The main contribution of this work is to showcase features of clo3d software for Apparel design. The structure of the paper defines the introduction importance and reality of 2d and 3d software also explains the software application and describesthe different aspects of the experiment in compare to 2d software. The major outcome of the paper showed that 2d software tools have limitations to achieve accuracy in clothing simulations for fashion and textile industry which is not an issue while using 3d software as 3d software gives you 360 degree view with accuracy. However, as a result of extensive parameters weight, quality and handle a bidirectional view can be attained with more accuracy.

Keywords: Clothing design, Digital illustration, Fashion industry, 2d software, 3d software

Introduction:

The fashion industry is a highly competitive and dynamic industry. This fashion industry today is one of the leading economies in the world. Garment manufacturing, one of the oldest human activities has come down through the centuries with continuously adapting to technology and society improvements. The fashion industry today is rapidly adopting the post modern industry and recently garments production technologies, along with all latest achievements the fashionand apparel industry is undergoing significant transformations due to increased digitalization andtherefore, it is experiencing rapid generation of data in large quantities at various levels of its supply chain. The use of technology has revolutionized the way fashion is designed, manufactured, marketed and sold. One of the major technological advancements in the fashion industry is the emergence of AI-based software applications. These software applications are changing the way designers create, prototype and test designs. AI-based software applications have the ability to create photorealistic 3D simulations of apparel designs, which can reduce the time and cost of production. The fashion industry has undergone a significant transformation in recent years with the advent of technology. One of the most significant innovations that have impacted the fashion industry is the use of 3D software in the design process. CLO 3D software is one of the popular 3D software used in the fashion industry. This research paper evaluates the innovative potential of CLO 3D software in comparison to 2D software in the fashion industry.

Fashion Industry:
The fashion industry is constantly evolving, and technology is playing an increasingly important role. With the rise of e-commerce, it has become more important than ever to have high-quality product images, which is where 3D software comes in. Clo 3D software allows designers to create realistic 3D models of their designs, which can be used for product images and marketing materials.

Clothing Design:
Clothing design is a complex process that requires a lot of time and effort. Traditionally,designers would have to create multiple prototypes before arriving at the final design. Clo 3D software has made this process much more efficient by allowing designers to create realistic 3D models of their designs. This software also allows for faster prototyping, which means that designers can create more designs in less time.

Digital Illustration:
While 2D software is still widely used in the fashion industry, digital illustration has become increasingly popular. Digital illustration allows designers to create more detailed designs than traditional sketching. It also allows for easy

manipulation of designs and faster prototyping. However, digital illustration is limited in its ability to create 3D designs, which is where Clo 3D software comes in.

2D Software:
Traditionally, the fashion industry has relied on 2D software for clothing design. These programs are typically used for digital illustration and are limited in their capabilities when it comes to creating 3D designs. While these programs are still widely used, they are becoming less relevant as 3D software becomes more prevalent.

3D Software:
Clo 3D software is 3D design software specifically designed for the fashion industry. It allows designers to create detailed 3D models of their designs, which can be viewed from any angle. This software has many advantages over 2D software, including the ability to create realistic fabric simulations, which is crucial in the fashion industry. The software also allows for faster prototyping and a more efficient design process.

Objective of the study

To compare the tools and perspective of 2d and 3d software.

Methodology:

To achieve the above-mentioned objective of the study following methodology was adapted.

(Research Design)
The research methodology used in this study involves a comprehensive review of the literature on AI-based 2D and 3D software applications in the apparel design process. The study uses a comparative approach to analyze the advantages and limitations of each software. This research into digital cloth simulation combines the established, traditional skills of the fashion/textile designer with the new digital methods of 3d graphics technologies.AI is being used extensively in fashion designing. Algorithm of AI can analyze fashion trends and consumer preference and generate designs that are likely to be popular.
The fashion industry has always been at the forefront of innovation, and with the rise of technology, it has become more important than ever to stay ahead of the curve. One of the most Significant technological advancements in the fashion industry is the introduction of 3D software, specifically Clo 3D software. This software has revolutionized the way clothing design is done, and it is quickly becoming the go-to tool for fashion designers. This research paper will explore the innovative potential of Clo 3D software in comparison to 2D software in the fashion industry.

Aim of the Research:

The aim of this research was to evaluate and compare the usability of existing 2D software for apparel designing in comparison with AI based 3d software with metric amount of time, aesthetics and user experience, In order to do so researcher created 01 digital illustration render it with both the software's to attain accuracy.

Literature Research:

1. The paper "Ogulmus on June 2015" explores the advantages of CAD systems in the textile and fashion industries, highlighting cost savings and improved efficiency. The study compares traditional methods with CAD programs, emphasizing the benefits of digital design workflows. The paper also discusses the potential of 3D body modeling in the fashion industry.
2. The paper "Hossain on June 2022" aims to explore the effects and future contributions of 3D virtual garment design software, considering its impact on productivity, quality, lead time, design diversification and its alignment with the principles of the fourth industrial revolution. Through qualitative research, including surveys and interviews with industry stakeholders, this study aims to provide insights into the benefits and potential of 3DVGDS in the garment industry.

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Figure: 1-Comparative analysis of front view of rendered and non rendered image

Figure: 2- 360-degree View of rendered Image

The above result of represents the comparative analysis of 3d and 2d software's to design apparels. It includes all the above mentioned point which describes the result of designing of garment representation**.**

Discussion:

The results of the study indicate that AI-based 2D software applications such as Adobe Illustrator and CorelDraw are highly effective in creating accurate and detailed flat sketches of apparel designs. These software applications allow designers to quickly create and modify designs, andto easily share them with team members. However, these software applications lack the ability to create 3D simulations, which limits their usefulness in the later stages of the design process.
On the other hand, AI-based 3D software applications such as CLO 3D and Marvelous Designer are highly effective in creating photorealistic 3D simulations of apparel designs. These software applications allow designers to visualize designs in 3D, which can reduce the time and cost of physical prototyping. However, these software applications require a steep learning curve andcan be expensive to implement. As the above discussion of 2d and 3d software some more detailed results are:

Reduced design time: CLO 3D software reduces the time it takes to create a design by allowing designers to visualize their designs in 3D. Designers can create and make changes to their designs in real-time, which reduce the time it takes to create a design.
Improved accuracy: CLO 3D software enables designers to create accurate 3D models of their designs. The software simulates the draping and fit of the garment, which helps to improve the accuracy of the design.
Cost-effective: CLO 3D software is cost-effective in the long run. The software eliminates the need for physical prototypes, which reduces the cost of production.
Better communication: CLO 3D software enables designers to communicate their designs better. Designers can share their 3D models with other members of the team, such as pattern makers and manufacturers, which improve communication and reduce errors.
Improved visualization: CLO 3D software enables designers to visualize their designs in 3D, which provides a more accurate representation of the garment. 2D software, on the other hand, only provides a flat representation of the garment.
Better accuracy: CLO 3D software simulates the draping and fit of the garment, which helps to improve the accuracy of the design. 2D software does not simulate the draping and fit of the garment, which can result in inaccurate designs.
Reduced cost: CLO 3D software eliminates the need for physical prototypes, which reduces the cost of production. 2D

software, on the other hand, requires physical prototypes, which can be costly.
Versatility: 3d software is more versatile in terms of designing garments than 2d software. It allows designers to create garments with complex shapes and cuts, and to simulate how different fabrics will drape and move on the body. This can help designers to experiment with different design options and create more innovative designs.

Conclusion:

The use of AI in the fashion industry is still in its early stages, but it has the potential to transform the industry. AI can help retailers to create personalized products, improve their marketing efforts, and optimize their supply chain operations. However, it is important to carefully consider the potential risks and concerns associated with the use of AI in the fashion industry. In conclusion, AI-based software applications are transforming the way fashion is designed, manufactured, marketed and sold. The study highlights the advantages and limitations of AI-based 2D and 3D software applications in the apparel design process. AI-based 2D software applications are highly effective in creating accurate and detailed flat sketches of apparel designs, while AI-based 3D software applications are highly effective in creating photorealistic 3D simulations of apparel designs. The choice of software application will depend on the specific needs of the designer and the stage of the design process. Overall, AI-based software applications have the potential to revolutionize the fashion industry and create new opportunities for designers, manufacturers and consumers alike. CLO 3D software has revolutionized the way clothing design is done in the fashion industry. Its innovative capabilities have made it the go-to tool for fashion designers, and it is quickly becoming more prevalent than 2D software. The ability to create detailed 3D models of designs has many advantages over traditional 2D software, including faster prototyping and a more efficient design process. As the fashion industry continues to evolve, it is likely that Clo 3D software will become even more important in the design process.
CLO 3D software has revolutionized clothing design in the fashion industry by enabling photorealistic 3D simulations of apparel designs, reducing the time and cost of physical prototyping, and improving accuracy. In comparison, 2D software like Adobe Illustrator lacks 3D simulation capabilities, which limits its potential for advanced design stages. Moreover, CLO 3D software is cost-effective in the long run and enables better communication among team members, providing a more accurate representation of the garment. Lastly, 3D software is more versatile in designing garments, making it a go-to tool for fashion designers.

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