Citation: Tariq Zagloul, Amira Al-Nousani (2024), Would CLO 3D Program be a revolution in Virtual Reality Design and Production of Garments Prototype? (An Expository Study), International Design Journal, Vol. 14 No. 5, (September 2024) pp 195-202

Would CLO 3D Program be a revolution in Virtual Reality Design and Production of Garments Prototype? (An Expository Study)

Tariq M. Zagloul
Associate Professor, Department of Ready-made Garments, Faculty of Applied Arts, Damietta University, tarekzaghlol@yahoo.com
Amira A. Al-Nousani
Assistant lecturer in the Department of Ready-made Garments, Faculty of Applied Arts - Damietta University. amiraadel808@gmail.com

Abstract:

Virtual reality programs have changed the concepts that we use and the interests that we are able to reach, as CLO 3D is considered one of the most powerful programs for design and production of clothing prototype by drawing the pattern with the required sizes and seeing its adjustment on the virtual mannequin to the specified size, while making the necessary adjustments to the pattern to reach the appropriate adjustment.

This research presents an analytical study of the CLO 3D program and its uses in design and production of clothing prototype. It is a pioneering program in 3D fashion design. It allows fashion designers to create digital clothes, and simulate how the model and move on it in a virtual environment, and this is what distinguishes it in preparing the prototype without the need for actual experimentation and the loss of a lot of financial costs.

The research concluded that 3D programs are one of the most important current methods for preparing prototype because they save time and effort and give results in the shortest possible time and the possibility of modifying the prototype with complete ease. CLO 3D is a professional tool that offers a wide range of benefits to fashion designers of all levels, from those creating new collections to technical designers working in industrial production. Virtual reality represents a major shift in the workflow of design and production of clothing prototype, allowing for greater creativity, efficiency, and cost savings.

Research problem: The research problem in asking the following questions: How capable is the CLO 3D virtual reality program in producing the prototype?

Research objectives: 1. Trying to make the most of virtual reality programs in production of prototype. 2. Shedding light on the CLO 3D virtual reality program and how to benefit from it.

Research importance: 1. Using modern technology in production of prototype. 2. Contributing to enriching the field of clothing manufacturing with advanced technological techniques and developing the industry.

Research Methodology: The descriptive analytical approach, which provides a description of the technology of the CLO 3D virtual reality program and reaches conclusions.

Research results: The results of the research can be summarized in that the CLO 3D program achieves distinct capabilities in prototype design and production, which are as follows: The program is considered one of the most important current methods for preparing primary samples because it saves time and effort and gives results in the shortest possible time and the ability to modify the initial sample with complete ease. It is possible to create and coordinate parts for the sample and change color groups and materials through the program. It contains mannequins for women, men, and children. Enables designers to create clothing patterns from scratch or use a library of existing clothing items. Fabric simulation enables designers to see how clothes will move and behave with different fabrics and textures. Provides the necessary tools to draw patterns with great professionalism. Through it, the marker can be prepared more accurately, and the marker is executed automatically by giving more than one result and option to the designers. Enables designers to create realistic prototype garments without having to actually sew them. It contains an adjustment map that reflects the pressure of clothing on the virtual mannequin. Provides virtual ironing tools to adjust the appearance of clothes. It provides virtual auxiliary materials for zippers of all types and shapes, buttons, and control of the number of holes and the direction of sewing of buttons. It provides a virtual showroom to see the design in motion from all sides. Displays and markets 3D clothing sample collections that have been designed virtually.

Keywords:

Virtual Reality, CLO 3D Program, Fashion Design, Prototype

References:

1- Alaa Bint Saleh, Imad Al-Din Johar (2023). “The effectiveness of using extended reality in producing the first sample of workers’ clothing in the Kingdom of Saudi Arabia.” International Journal of Applied Design and Research.

2- Ahmed Al-Barbari, Noha Ibrahim (2023). Utilizing virtual simulation to control the industrial model in the sampling department of ready-made garment factories, "a case study," Journal of Architecture, Arts, and Human Sciences, vol. 8, no. 37, 121-143.
3- Ahmed Al-Sheikh, Hossam El-Din Gad, Shaima Kamel, Ahmed Al-Barbari, Mohamed Taha (2020). The impact of using virtual reality technology on improving the level of production performance in Egyptian ready-made clothing factories. Journal of Architecture, Arts and Humanities, No. 20, 34-54.
4- Halima Mishari, Amal Abdel Qader, Shadia Salah (2019). Design a virtual fashion show using 3D software. Journal of Specific Education Research, pp. 55, 71.
5- Rania Ghazi (2018). Technical mechanisms for displaying 3D ready-made clothing designs online, Journal of Architecture, Arts and Humanities, No. 10, 256-276.
6- Shaima Al-Hadary (2023). Dimensional fashion promotion using augmented virtual reality (application to the fitting room), Heritage and Design Journal, 3(14), 184-206.
7- Tariq Zaghloul (2005). Preparing a vocational training program in the field of designing and implementing the first sample of jeans using a computer, Master's thesis, Faculty of Applied Arts, Helwan University.
8- Abdul Rahim Dafa, Ihsan Adam (2020). "Virtual Reality Technology and its Contemporary Applications." Journal of Islamic Sciences and Arabic Language, No. 5, 179-204.
9- Nashwa Al-Shafi'i (2012). "Fashion design between virtual reality and digital marketing." The Fourth Annual Arab Scientific Conference: Knowledge Management and Intellectual Capital Management in Higher Education Institutions in Egypt and the Arab World, Volume 3, Mansoura: Faculty of Specific Education - Mansoura University, 1393 - 1406.
10- Nashwa Abdo, Asma Abu Radi (2020). Using the CLO 3 D program to evaluate the basic flat model for girls in adolescence. Journal of Architecture, Arts, and Humanities, No. 22, 726-74.
11- 4. Hallgrimsson, Bjarki (2012) "Prototyping and Modelmaking for Product Design", London, England, Laurence King Publishing.
12- Cynthia L. Istook(2000): "Rapid prototype in the textile and apparel industry". -Journal of Textile and Apparel Technology and Management ITATM – USA.
13- 4. Wohlgenannt, I., Simons, A. & Stieglitz, S. (2020): Virtual Reality. Bus Inf Syst Eng BUSINESS & INFORMATION SYSTEMS ENGINEERING, Volume 62,Issue 5.

Paper History:

Paper received April 29, 2024, Accepted June 27, 2024, Published on line September 1, 2024.

