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Utilizing Augmented Reality Technology to Create Interactive Printed Designs for Hanging Fabrics

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Abstract:

With the technological development and global digital transformation in various fields of life; Human knowledge has multiplied through the communications and information revolution due to the technological revolution of multimedia and the Internet. Many technological applications have appeared, the most important of which is the "augmented reality" technology, which unleashed designers' freedom of thought and creativity without restrictions, and which allowed the recipient to experience the experience of living in a virtual three-dimensional interactive environment. The textile industry has developed significantly and rapidly in recent times, so it had to keep pace with modern technological applications to create interactive, dynamic, and visual dimensions to attract the attention of the recipient to interact with the printing surface in an era filled with technological elements in all aspects of life, hence the idea of research based on dependence On augmented reality and its various interactive techniques to overcome the stereotypical design ideas by employing this technology on the printed surfaces of the hanging fabrics, which allows the recipient to interact with them and see artistic dimensions emanating from them, whether by displaying them in a three-dimensional image or by applying movement within the printing surface or coloring them differently to create a new world Emanating from the two-dimensional flat, the recipient is immersed in it through an interactive environment in which embodiment, movement and interactivity are integrated through an innovative creative idea that departs from the framework of typological constants and violates the typographical boundaries of traditional two-dimensional commentaries, taking into functional and aesthetic values. Augmented reality came to change the way we deal with flat surfaces. It is not an independent dimension of the real reality in which we live, but it has become part of it. In order to deal with augmented reality technology, it was necessary to use computer applications in that field and use one of its specialized programs which is the (Eyejack) program, which enabled us to link the intellectual side with the applied side.

Statement of the problem: The research problem is determined in answering the following two questions: How to create experimental approaches to augmented reality in creating creative starting points in the field of textile printed Hanging? How can we take advantage of modern technology and apply it to create innovative aesthetic formulations that keep pace with contemporary thought in the field of textile printing design?

Research Objective : The research aims to: Application of augmented reality technology to achieve interaction between printed hanging and viewer. Using a new approach to experimentation with digital programs for augmented reality on computers and smart phones to update the contemporary experimental thought of the textile printing designer. Creating printing designs for hanging fabrics that achieve the concept of interactivity through movement, shape and color using augmented reality technology. Introducing a new intellectual approach; It enriches the constructivism of hanging fabric print design through interactive processes and innovative design alternatives to link technology with art.

Research Importance : Supporting the connection between the field of digital technology, represented by the technology of augmented reality, and the field of textile printing in general, represented in the field of designing printing hanging in particular. Shedding light on a new type of interactive printed textile, which relies on introducing new interactive experimental approaches to link modern technology and the field of textile printing through some specialized computer programs and smart phones. Interest in enriching the thought of textile printing designer; By applying the techniques and tools of some augmented reality programs to create designs for printed interactive hanging fabrics.

Research Methodology: The research follows the descriptive analytical approach and the experimental method, including the theoretical framework**.**

Results: Modern technologies, such as augmented reality technology, have helped to find new design solutions and alternatives for textile printing design, which enriches printing designs. Developing the method of designing printed fabrics to become more interactive by using specialized computer programs and smart phones that support augmented reality technology, which provided many design solutions and alternatives. The results of design experiments, numbering eight (8) design experiments for interactive hanging fabrics, are consistent with the objectives of the research, which provides an innovative experimental entrance. The link between modern technological techniques and relevant scientific knowledge skills that work to develop the mental, interactive and experimental skills of the textile printing designer.

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Augmented reality technology, applications, Interactive Hanging fabrics

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