

Creating designs inspired by Islamic motifs and applying them by 3D printing

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Abstract:

Islamic art is a very rich source of inspiration and quotes for all kinds, especially fashion design.

Fashion design can start in fashion design, which can find in 3D printing the possibility to print complex and outstanding stereoscopic shapes.

Since 3D printing was first introduced, it has been used in many manufacturing industries, from medicine to transportation but has slowly spread among hobbyist computer designers (CAD) who now own and use a 3D printer in their homes. 3D printing is a method of manufacturing where the raw material is applied layer upon layer to make a 3D shape. These objects are made through the digital file that contains the three-dimensional data that is extruded by the printer that can employ a large number of materials and techniques.

This research revolves around reading, analysing and studying 3D printing technology, in addition to studying the heritage of Islamic motifs, analysing their types and shapes, and then making some designs for the possibility of applying them with 3D printing in order to create and introduce new design dimensions and perceptions. Through this study, the fashion design process, the innovation process, and the employment of modern technology Everything that is new and useful.

Keywords:

Futurism , Wearable Technology , 3D Printing , Islamic Patterns

1- Introduction:

Since 3D printing was first introduced, it has been used in many manufacturing industries, from medicine to transportation but has slowly spread among hobbyist computer designers (CAD) who now own and use a 3D printer in their homes. 3D printing is a method of manufacturing where the raw material is applied layer upon layer to make a 3D shape. These objects are made through the digital file that contains the three-dimensional data that is extruded by the printer, which can employ a large number of materials and techniques. This research revolves around reading, analyzing and studying 3D printing technology, in addition to studying the heritage of Islamic motifs, analyzing their types and shapes, and then making some designs for the possibility of applying them with 3D printing in order to create and introduce new design dimensions and perceptions. Through this study, the fashion design

process, the innovation process and the employment of modern technology Everything that is new and useful.

Research problem :

- 1- Studying the advantages of 3D printing technology and the possibility of applying it and integrating it on clothes with the motifs of Islamic art
- 2- Creating designs with new dimensions and characteristics by applying Islamic motifs by 3D printing.
- 3- Finding solutions to combine both directions of elements and vocabulary to produce images and lines that open new horizons in the field of fashion design. The research problem can be formulated in the following questions: What is the extent of benefit from 3D printing technology in employing Islamic decorative units in fashion design? What is the extent of benefiting from the application of 3D technology and expanding the horizons of creativity in fashion design in the local market?

Research Aims :

- 4- Reviving Islamic art and geometric motifs derived from it and applying them in fashion design using 3D printing.
- 5- Uncovering the unlimited possibilities of implementing Islamic motifs and printing them in 3D and using them on clothes in unconventional ways.
- 6- Creating new dimensions and sophisticated silhouettes in fashion design 7- To absorb the advanced technologies provided by modern technology in the field of fashion design.

Research hypotheses :

- 1- The possibility of applying Islamic geometric motifs using a 3D printer.
- 2- Is it possible to take advantage of 3D printing technology to apply prominent Islamic motifs on clothes.
- 3- By studying the works of fashion designers affected by both trends, it is possible to identify innovative ideas, methods and techniques that can be employed in fashion design. Research Methodology: The research follows the descriptive and analytical approach to define three-dimensional technology and its advantages and combine it with Islamic geometric decorations

Search Limits : -

Studying 3D printing technology as one of the most important techniques of modern technology - Study of Islamic motifs and arabesque art

Results:

- 1- The researcher was able to present new and innovative design ideas through the use of Islamic motifs and their 3D printing technology and using them on contemporary fashion.
- 2- The research presented a synthesis of integrating and linking modern technologies such as 3D printing and a historical topic such as Islamic motifs as a means of reviving the heritage of Islamic art in modern technological ways.
- 3- Mixing 3D printing in the implementation of heritage decorative units that adds to contemporary fashion an aesthetic value in terms of shape and texture.
- 4- Utilizing 3D printing technology in developing contemporary design thought
- 5- The technology of 3D printing on clothes is useful in the field as a whole as there are also no restrictions on the design even if it is complex.

Recommendations:

- 1- Directing researchers towards conducting more research and studies on modern technology to expand the boundaries of design thought and inspiration and create wearable fashion using modern technology.
- 2- Doing more studies and researching sustainable environmental materials that are commensurate with complex designs to be used in fashion designs
- 3- Paying attention to teaching 3D printing programs and their various stages, from sketches to implementation in educational curricula.
- 4- Encouraging researchers and scholars to adhere to identity and heritage and the possibility of employing it in an aesthetically valuable way in design.

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