The relationship between graphic design and interactive mural art "applied study in the Egyptian environment"

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Abstract:

The graphic design process for mural art is a complex process in which the design foundations and the quality of the design elements intertwine, as well as the designer's vision, the quality of the design, and the place where it is implemented in terms of its physical, cultural and environmental composition, and the style of the design place itself can also affect it. The graphic design process of mural art also includes the quality of the material in which the design is implemented and the extent of its relevance and acceptance of digital interventions, so, the integration of digital design with graphic design played a role in designing the rest of the formal elements. Accordingly, the research aims to study the relationship between graphic design and interactive mural art as a development trend in design and applied practices, within the framework of the research for an artistic design language that integrates with modern interactive technologies. While the research problem lies in the need to activate the concept of interactive graphic design in the design of murals as a systematic process that aims to meet the needs of the recipient in the easiest, comfortable and effective way, that elevates the general taste and the visual environment. The research is divided into three main parts, the first is concerned with studying the concept, objectives and communication methods of graphic design, while the second discusses the art of interactive murals, the concept and applications, and the research ends with the third, which provides an applied study on interactive murals by achieving the integrative relationship between interactive art and graphic design.

Keywords:
 Graphic Design - Mural Art - Interactive Murals

Introduction to the research:

The interactive graphic design of mural art is a kind of creativity for a conceptual dialogue between man and interactive digital murals that meet and collide with daily humane experiences, as well as a design that expresses an interactive relationship whose main themes are humane, technical and aesthetical senses.

The graphic design process of mural art is therefore a complex process in which the design foundations and the quality of the design elements overlap, and the design vision and the quality of the design and the place implemented in terms of its physical, cultural and environmental composition are included, and can be influenced by the design place model itself, and the graphic design process of mural art also includes the quality of the material implemented by the design. Its relevance and acceptance of digital interventions, hence digital design and its integration with graphics played a role in the design of the rest of the formal vocabulary.

Where the art of murals has recently gained importance different from previous periods of time, it is no longer a recording of the civilizations of peoples and the embodiment of the features of

their cultural identity, but the interactive mural design plays an essential role in the revival of visual culture, and responds effectively to the technological and digital culture of the recipient that has changed with the development of digital technologies and their heavy entry into everyday life, so the modern interactive murals began to correct the concepts of vision. The content of the murals and the way they are handled change, and the technique also changes with their cultural environment, depending on the extent to which individuals accept these murals and absorb the aesthetics of interactive mural design.

The research is divided into three main themes, the first focus is concerned with studying the concept, objectives and methods of communication of graphic design, while the second axis discusses interactive mural art concept and applications, and ends with the third axis that provides an applied study on interactive murals by achieving the complementary relationship between interactive art and graphic design.

Research problem:

The research problem can be explained by the following points:

- Lack of research studies related to the sciences and applications of interactive techniques in the design of mural art, especially in Arab studies.
- The need to activate the concept of interactive graphic design in the design of murals as a systematic process aimed at meeting the needs of the recipient in the easiest, comfortable and effective way and promote the general taste and visual environment.

Research Objective

The research aims to study the relationship between graphic design and interactive mural art as a development trend in design and applied practices, in the search for an artistic design language integrated with modern interactive technologies.

Research Hypothesis:

The research is based on the basic premise that integrating interactive systems into mural design from a graphic design perspective can contribute to improving the quality of these murals in Egypt.

First: The concept, objectives and communication methods of graphic design
1. Graphic design concept:

Graphic design is a type of multi-purpose design used in the production of various works of art, and graphic design can generally be described as the art and craft of creating a design with an attractive and successful aesthetic dimension, organized for groups of diverse elements for the purpose of conveying the message with visual pleasure. Recently, graphic design is digitally perspectived and therefore any work of art in which the computer plays a role in the production phase, an art based on rapid changes in computer technology and software in order to improve the essence of the artwork and the speed of production. Digital Graphic designers play an active role in designing and directing works of art based on the use of multimedia, including motion, sound, hard image, video footage, different colors and shapes of letters, and this harmony comes from the designer's experience in developing the potential of graphic design programs to employ these elements in their respective positions in order to obtain successful media that serve the

field for which they are designed. Graphic design elements include shape (titles, texts, images) and colors, while the graphic design processes are (advertising, printing, planning, visual design, environmental graphic design, urban design), the main objective of graphic design is to provide a functional structure, an aesthetic structure, and a structured structure for all types of information.

2. Graphic design objectives:

The purpose of working with graphic design is to find a suitable presentation of the message so that it is suitable for the recipient culturally and economically, how to group content in graphic design may affect the first impressions of the recipient, and how he perceives the content and we must take into account the following set of considerations:

− It must be readable, understandable and easy to recruit by the target audience.

− Be visually readable in terms of visual clarity and no interference or confusion in visual relationships between the graphic elements that make up the message.

− The graphic content of the message carries aesthetic and symbolic values that appeal to the recipient so that visual information is worth reading. (Robert Harland,2015)

3. <u>Ways to connect to graphic design</u>
**<u>A- Bruce Brown's Graphics Triangle:</u>**
Bruce Brown tried to explain the three values (persuasion, interpretation and identification) in a typical form   of graphic design of a connection, referring to them as the "graphic triangle." to explain" related to health, safety and well-being. The results of designs in this category result in one preferred solution, rather than a variety of possible options. The second side of the triangle is "persuasion", which is more open to alternative outcomes - the pursuit of recognition of potential large-scale results is very important and is the   main motivation here.
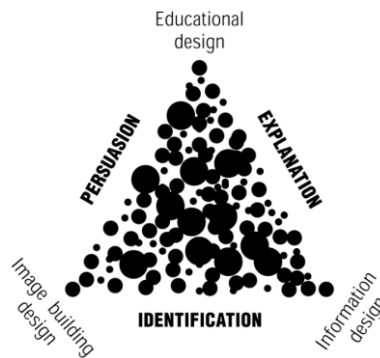
Bruce Brown's graphic design triangle

B- Typography as discourse:
In the 1980s, the phrase "print communication" appeared as a speech from the Cranbrook Academy of Arts in Michigan to describe a model developed in education by Katherine McCoy. This has been referred to as "expressive formalism" expressionism. This model appears to have emerged as a reaction to the solution of the rational problems that emerged in the graphic design that evolved with the maturity of modernist principles, which was revealed through the graphic design work of large American companies.   Such as (art, mythology, technology, pure pluralism, colloquial classics).

McCoy print model as speech
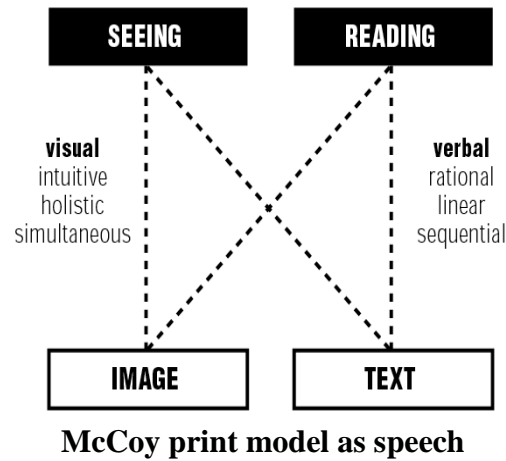
Second: Interactive mural art concept and applications
A- The characteristics of mural art
Mural art has recently gained different importance from earlier periods of time, it is no longer a recording of the civilizations of nations and an embodiment of the features of its cultural identity, but it plays an essential role in reviving visual culture, correcting the concepts of vision, where the content of the frescoes and the way they are handled change artistically and technically change their cultural environment, as it depends on the extent to which individuals accept this mural design and absorb its aesthetics.

B. Interactive murals
Examples of interactive murals used to beautify the façade of the Simons Center of Geometry and Physics in New York include Simons Center of Geometry and Physics. New York, called Tessellate, and design is the interactive movement of three vacuum panels with digital water jet-cut on stainless materials) in geometric shapes including hexagons and circles, squares, the triangles, and the panels have been employed in the form of successive layers that move in an interactive movement behind each other, resulting in multiple aesthetic formations as a result of successive movement in the four directions, and reach the dimensions of the interactive mural design (Tessellate) about (5.6 meters wide) with 6.7 meters height), and the interactive movement is controlled by the digital control system, which is controlled by motion sensors that respond to different situations and fit with the movement of the receiver.
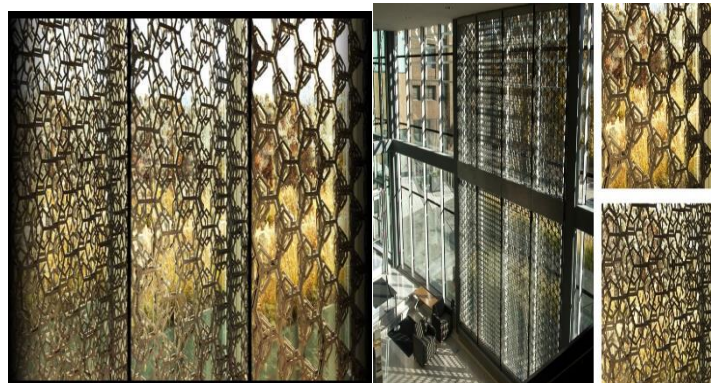

Interactive Mural Design (Tessellate)

Third: An applied study of interactive murals by achieving the complementary relationship between interactive art and graphic design

Interactive graphic design is linked to a set of entries that determine the relationship between aesthetic values in the mural, expected digital interaction and responsive reactions through the recipient, and these concepts can be clarified as follows:

Previous entries were applied to the interactive graphic design of one of the models in the Arab Republic of Egypt in the city of 6th October inside the building of the University of Zewail, and the use of formal vocabulary expressing modern sciences in the form and technical development with the development of an interactive visualization based on graphic elements in the design of the mural, where digital screens were used at the top of the mural which allows immediate transmission of the recipient's impressions and reactions. When interacting with the mural and transferring these images to the university's Facebook page and then making them available to recipients to like and comment on them, the mural changes its shapes, colors and contact according to traffic density or optical density according to time, and the following forms illustrate the proposed design of the interactive mural:
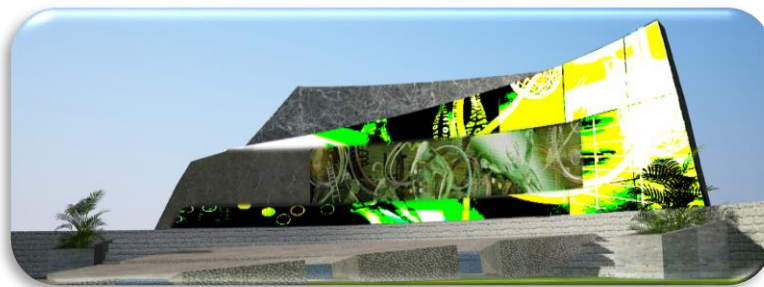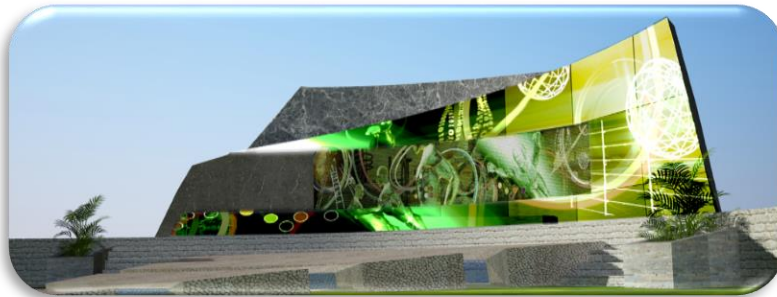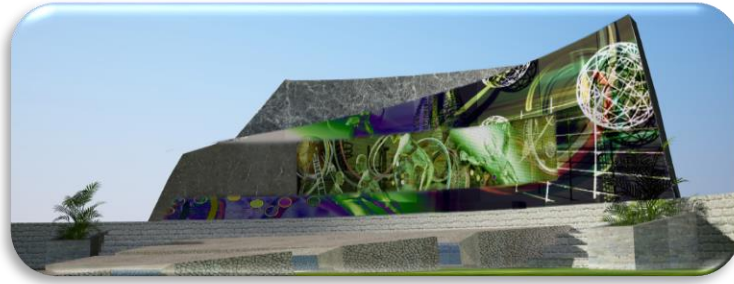
The proposed application model with digital screens with interaction

Results:

1. Mural art is organically linked to architecture as the mural is only a continuation of the architectural entity and part of the fabric of the urban environment, and through the design of the mural and the uses of color and graphic treatment, changes in the sense of proportions and their relationship around them.

2. The function of interactive graphic design of murals is to find a suitable presentation of the message so that it is culturally and economically appropriate for the recipient, how the grouping of interactive content into graphic design may affect the recipient's first impressions and how they perceive the content.

3. The interactive graphic design of murals must take into account the set of considerations: the design message and graphic elements are readable, understandable and easy to assign to the audience in terms of visual clarity and not interference or confusion in the visual relationships between the graphic elements formed and the graphic content of the message must carry aesthetic and symbolic values that appeal to the recipient so that visual information is worth watching and interacting with.

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