

## Solutions of Environmental Graphic Design in building Spaces

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### Abstract:

The design of the spaces and areas within the buildings requires solutions that work on three-dimensional processing for space through different design elements. While talking about space associated with environmental space, the discussion is different with respect to elements based on design solutions of wayfinding and the ease of movement and extends more thoroughly to the design of the ENVIRONMENTAL GRAPHIC DESIGN (EGD) and how this affects the behavior of space users. Graphic design offers solutions to the spaces of architecture both internally and externally and plays a vital role in shaping the space and feeling it in humans. It can also carry a message or concepts that improve human behavior. In addition to the aesthetic use, the graphic design can form the space and give different impressions of the reality of the space within the buildings. It also plays a role in feeling the place. The environmental graphic design (EGD) has elements and principles that govern the work to achieve its objectives, which makes talking about the concept of architectural space is important, in addition to how it is developed, what are the most important visual determinants of the space, and how to exploit the graphic design to achieve the sound foundations of spaces and areas without affecting the user's sense of place to achieve aesthetic dimensions in addition to the guidance function that helps to find ways, direction within the building and also conveying the message carried by the design.

### المخلص

يحتاج تصميم الفراغات ومساحات داخل المباني الى حلول تعمل على معالجة الفراغ معالجة ثلاثية الابعاد من خلال عناصر التصميم المختلفة , وعندما يرتبط الحديث عن الفراغ بالفراغ البيئي , فان الحديث يختلف فيما يتعلق بالعناصر المبنية على حلول تصميمية تتعلق بحلول تصميم ايجاد الطرق WAYFINDING وسهولة الحركة وبشكل اشمل واعم يمتد الحديث الى التصميم الجرافيك البيئي " ENVIRONMENTAL GRAPHIC DESIGN " EGD وكيف يؤثر على ذلك في سلوك مستخدمي الفراغ . يقدم تصميم الجرافيك حولا لفراغات العمارة سواء داخلها او خارجها ويلعب دورا حيويا في تشكيل الفراغ والاحساس به عند الانسان كما انه يمكن ان يحمل رسالة او مفاهيم تعمل على تحسين السلوك الانساني. بالاضافة الى الاستخدام الجمالي فان التصميم الجرافيكى باستطاعته تشكيل الفراغ واعطاء انطباعات مختلفة عن الواقع للمساحة الواحدة داخل المباني . كما يلعب دورا في الاحساس بالمكان , ان تصميم الجرافيك البيئي له عناصر ومبادئ اولية تحكم العمل ليحقق اهدافه , وهو ما يجعل الحديث عن مفهوم الفراغ المعماري شىء هام بالاضافة الى كيف تطور وماهى اهم المحددات البصرية للفراغ , وكيف يمكن استغلال تصميم الجرافيك فى تحقيق الاسس السليمة للفراغات والمساحات بدون ان يؤثر على احساس المستخدم للمكان لتحقيق ابعاد جمالية بالاضافة الى

الوظيفة الإرشادية التي تساعد على إيجاد الطرق وتحديد اتجاه السير داخل المبنى وايضا توصيل الرسالة التي يحملها التصميم .

مشكلة البحث تكمن المشكلة في عدم الاستفادة من المعالجات الجرافيكية المتاحة وتطور التكنولوجيا في هذا المجال بشكل صحيح كحل مناسب للفراغات المعمارية التي تحتاج الى حلول تصميمية جذرية في جمهورية مصر العربية , كما يتبع البحث المنهج التحليلي التجريبي من خلال تطبيق تصميم الجرافيك البيئي كحلول لبعض الفراغات العامة . ويهدف البحث الى تحقيق التوازن المساحي لبعض الفراغات في المباني العامة داخل مصر , من خلال استخدام تصميم الجرافيك كاحد الحلول المطروحة , كما يلقى الضوء على مفهوم التصميم الجرافيك البيئي ومجالاته المتعددة وكيف أصبح جزء هام من التصميم البيئي الداخلي والخارجي , كما يناقش البحث كيف يمكن ان يسهم تصميم الجرافيك البيئي في التأثير على السلوك الانساني داخل الفراغ. وبناءً على هذه التحليلات فقد توصل البحث الى عددًا من الملاحظات العملية على النحو التالي

من الممكن الاستفادة من المعالجات الجرافيكية كحل تصميمي مناسب للفراغات والاماكن العامة التي تحتاج الى حلول جمالية في جمهورية مصر العربية مثل اماكن الانتظار , الحمامات العامة , المحددات البصرية للميادين مثل الفراغات واتجاه الطرق , يمكن ان يسهم تصميم الجرافيك البيئي في التأثير على السلوك الانساني داخل الفراغ.  
**كلمات البحث:** تصميم الجرافيك البيئي - تخطيط اللون, الاماكن العامة, السلوك الانساني, اللافتات, لوحات ايجاد الطرق

### **The problem of the research:**

The problem is not to benefit from the available graphics processors and technological development in this area properly as a solution suitable for architectural spaces that need radical design solutions in the Arab Republic of Egypt. The research also follows the experimental analytical approach through the application of environmental graphic design as solutions for some general spaces.

**The research aims to** achieve the spatial balance of some spaces in the public buildings inside Egypt, through the use of graphic design as one of the solutions. It also sheds light on the concept of environmental graphic design and its multiple fields and how it became an important part of the internal and external environmental design. The study also discusses how environmental graphic design can contribute to influencing human behavior within the space. Based on these analyzes, the research reached a number of practical observations as follows:

It is possible to take advantage of graphic processors as a design solution suitable for spaces and public places that need aesthetic solutions in the Arab Republic of Egypt such as waiting places, public baths, visual determinants of fields such as land and direction of roads, and the environmental graphic design can contribute to influence human behavior within the space.

**Keywords:** Multidisciplinary - Environmental Graphic Design, public spaces, Human Behavior, Signage, wayfinding signs

## **1. Introduction:**

The environmental graphic design (EGD) includes many design disciplines including graphic, architectural, interior, landscaping and industrial design, all concerned with the visual aspects of road recognition, identity and information delivery, and the idea of creating experiences connecting people to the place. Environmental graphic design is also known as experimental design, which develops rapidly: from fixed communications that are carefully controlled to flexible environments and classes, and from strategic branding and identity, to signage and speed of browsing. Graphic design employs a range of ideas to coordinate richly designed and easy-to-navigate places that express spatial identity in an easy-to-read way for viewers and enhance their relationships with the surrounding space. Environmental graphic design, or experimental graphic design, as is often called, is interested in the possibility of searching for ways in which people move through space from one point to another, identity and brand communication, flow of information and design. However, most of all, EGD is interested in creating and shaping a real sense of any place. It has evolved from the need for a rapidly evolving and advanced society - the need to re-invent and re-design buildings and areas rather than demolish them only when they no longer serve their purpose.

## **2. THEORETICAL FRAMEWORK**

This research presents the development of a case study of some models of public places in the Arab Republic of Egypt such as parking places, parking, and visual limitations of open spaces such as road directions and signs of important sites.

The research sets a framework for the implementation of design elements that can promote cultural, historical and economic communication. It explores the development of tools as a way of giving meaning to a specific space. As part of this work, a case study was conducted on some of the public places within the Arab Republic of Egypt, which are areas with more contact with humans in an attempt to improve a development plan that focuses on understanding how graphic visual elements can help correct and influence human behavior.

### **1.1 Architectural space**

The visual design determinants on which the designer depends on the visual and aesthetic configuration will be addressed in the public spaces in Egypt in order to reach an aesthetic and visual design that expresses the national identity through the design of the environmental graphic.

that leads to an important question; What are the visual determinants of space where the design of the environmental graphic can be introduced to cause design effects and different

sensations in spaces? Environmental design can be applied to a multiple space that range from public spaces, facades interior spaces, restaurant, and everything in between. it is a multidisciplinary profession. Contrary to the name, the environmental graphic design does not involve using mother nature (or nature’s environment) to design. However, it is a profession that merges interior design, architecture, and graphic design. Simply, the environmental graphic design consists of using built environments and communication to effectively display a message to the viewer. Traffic patterns and visual information is taken into consideration along with colors and sometimes branding to further enhance the intended message or story. To clarifying the environmental graphic design meaning and help to clarify this misunderstood design area, there are four categories of environmental graphic design can be described into as follows :

### 1.1.1 Wayfinding and Signage.

An easy way to decipher what wayfinding is to simply think about it as giving directions through the use of signage to give whereabouts in a building. Wayfinding signage is frequently used in hospitals and city centers. They can easy be spotted in hallways or in lobby’s. Most of wayfinding signage uses navigational arrows and gives directions on how to get from one location to a destination. Maps are often used as references Figures 1,2.



**Figure 1**  
Wayfinding signage uses navigational arrows and gives directions on how to get from one location to a destination



**Figure 2**  
Giving directions through the use of signage to give whereabouts in a building

### 1.1.2 Place making and Identity

Place making is the design activity that uses communications to create experiences that connect people to place. Identity design creates a strong sense of “you are here” by differentiating a place or space from others through the use of graphic elements such as type, color, pattern, video and motion.



**Figure 4**  
Differentiating a place or space from others through the use of graphic elements such as type, color, pattern, video and motion.



**Figure 3**  
Identity design creates a strong sense of “you are here”

## 1.2 Visual elements of the public spaces

The elements included in the urban spaces constitute a set of visual indications that the human receives when they see these elements. Their brains work on analyzing them according to a complex mechanism, which depends on the meanings of these signs and their association with a set of cultural and intellectual determinants that form the culture of people, such as (decorative, heritage, symbols, signs, etc.) elements. Thus, the visual image of the spaces of the buildings is completed accordingly, and the human perception of the external world is not a simple process that is not only link a conscious self and a conscious subject within a direct relationship that does not require media, on the contrary, it is a very complex process, and the analysis of the image must be distinguished, between two levels,

What comes to perception (how do we realize the picture?)

- What is meant by the creation of indication (how does the meaning related to the picture?)



**Figure 5**



**Figure 6**

Our understanding and realization of objects in terms of complexity or simplicity depends on two main factors that affect the ease or difficulty of our perception of objects, which are

1. The extent to which the viewer sees the object.
2. The amount of visual information provided by the object to the viewer.

To illustrate this, we notice in figure ( 7 ) that we recognize the upper and lower sides of the front facade more quickly than the middle part of it, due to its complexity and overlapping lines.



**Figure 7**

**The way people understand the image of the building visually the upper and lower sides of the front facade more quickly than the middle part of it, due to its complexity and overlapping lines**

Architectural design is considered as a mirror reflecting the designer's ideas and interests, either it was internal or external, It is the expression of the inside-out relationship to reach the user through the design of the idea Within the mind of the designer to the outside world, while the reverse relationship is reflected in the Semiotic, where it is taught Human communication and user culture and understanding the meaning of the building (Sanaa Eissa, 2012).The movement has believed that the external form must accurately reflect the internal structure in accordance with functional theory, which is close to the semantics, and in the 1181s, when the diagrams were published in the use of signs Figures 7,8,9.



Figure 8



Figure 7

**Human communication and user culture, how to understanding the meaning of the building**

### 1.3 Environmental Graphic Design Standards

1. Interest in the language and signs of the forms in the design of the environmental graphic of the important factors and their relationship to the function in architectural buildings, and their relationship to the environment of the building to create an interactive relationship between the building and human.

2 - Use of graphic design in the environment to express the meanings of the General Authority of different surfaces to lead to the realization of the function in various forms of design, preserving the value and content and the message.



Figure 9



Figure 10



Figure 11

**Relationship to the function in architectural buildings, and their relationship to the environment of the building to create an interactive relationship between the building and human.**

3. The process of producing new symbols in environmental graphics will continue as long as the lifestyle, technology and culture are subject to change, as each culture has its own data, figure 7,8,9.



Using Environmental Graphic design (EGD ) in interior Space;  
 Figure 12



Figure 13

### 1.4 Solutions for unsuccessful design spaces in Egypt;

In this part, a group of scenes representing different type of space will be reviewed in some public places, such as the underground station, the parking, cinema, waiting areas before and after the application of environment graphic design;



Figure 15  
 Underground Metro station, before solution with environmental graphic design



Figure 14  
 Underground station After idea of space solutions with environmental graphic design



Figure 16  
 Bus waiting area before applying EGD environmental graphic design



Figure 17  
 After APPLYING EGD environmental graphic design





Figure 18

Public space (W.C) before applying the design idea



Figure 19

(W.C) after applying the design idea



Figure 20

Travelling bus station Before applying the design idea



Figure 21

After applying the design idea

## Results and Recommendations

1. Attention to the design of public spaces in the Arab city is necessary, especially aesthetic and visual, in order to confirm the local cultural identity.

The designer should employ colors in the elements of building spaces based on their scientifically proven psychological and physiological impact.

2. The designer should take advantage of the scientific experiments and learn about the latest technology, raw materials, and technical trends in this field, and employ them to serve our civilization, our culture, and our Arab identity.

The architectural style of the buildings surrounding the building spaces should be taken into consideration, especially the heritage, in order to achieve visual and aesthetic harmony with the proposed graphic design to deal with these spaces.

3. The need to include the components of the design of the environmental graphic of the space, especially the aesthetic elements with cultural and national meanings and connotations.

8. Include the components of the design of the environmental graphics of the space, stalls, barriers, parking umbrellas, transportation ... etc) in the units of folkloric and Islamic

decoration, because of the meanings and signs that distinguish the Arab and Islamic identity from others, and reflect on those elements and then on achieving the identity required for the space.

## References

(n.d.).

Sanaa Eissa, s. y. (2012, December). The Semiotic Concept as a Foundation for Architecture facades design and Interior Design. Conference: the second Conference, faculty of applied arts , At Egypt, Volume: 2, p. 8.

Giedion, S.(1967). Space, Time and Architecture, Cambridge, Massachussts Harvard University Press.

Kaufmann, E. & Ben Raeburn. (1960). Frank Lloyd Wright, Writings & Buildings, Horizon Press, INC, U.S.A.

Norberg-Schulz C.(1974). Meaning in Western Architecture, Studio Vista, London.