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Title Developing the interior design for the Academy of Arts in Giza.

ABSTRACT : It is a building consisting of a variety of artistic and cultural activities, offering numerous services that cater to individuals. It reflects culture in all its stages, providing a suitable environment for engaging in artistic activities.

العنوان:
تطوير التصميم الداخلي لأكاديمية الفنون بالجيزة.

الخلاصة : هو مبني يتكون من مجموعة من الانشطة الفنية والثقافية، حيث يقدم العديد من الخدمات المختلفة التي تخدم الفرد، ويعكس الثقافة بكل مراحلها حيث يوفر بيئة مناسبة لمزاولة النشاطات الفنية.

Introduction:

The Art Center is a building that encompasses a variety of artistic and cultural activities, offering numerous services that benefit individuals and reflect culture in all its stages. It provides a suitable environment for engaging in artistic activities. These centers are institutions dedicated to developing creative and artistic industries in the country while encouraging artists and creators to produce artistic and creative works. They include training and education centers for the arts, as well as centers for artistic and creative production.

Art centers play a significant role in promoting arts and culture, encouraging cultural interaction, and facilitating artistic exchange between artists and the audience. These centers serve as hubs for learning, education, and social communication among individuals. They are spaces dedicated to expressing art in its broadest sense and promoting artistic and cultural creativity. Furthermore, they contribute to enriching and enhancing the cultural and artistic landscape in the local community. Arts and culture are considered the foundation of a nation's identity and its civilizational essence, with cultural centers forming the core of cultural identity.

Art centers act as bridges connecting the past and present, elevating society culturally and artistically. They provide various artistic activities and cultural services in a civilized manner to create opportunities for creative individuals. They also organize numerous cultural seminars and conferences.

Additionally, art centers have adopted the motto "Art in the Service of Humanity." Artistic endeavors may range from individual expressions (painting, photography, sculpture, handicrafts, etc.) to collective efforts (composition, music, performance, singing, television, cinema, or theatrical acting), extending to limitless possibilities in the field of art to address pressing cultural needs and align with rapid global developments.

The concept of the art center has evolved over the ages. However, it can be said that one of the earliest cultural landmarks considered an art center in the world is the "Academy of Athens" in ancient times.

المقدمة :

المركز الفني هو مبني يتكون من مجموعة من الانشطة الفنية والثقافية، حيث يقدم العديد من الخدمات المختلفة التي تخدم الفرد، ويعكس الثقافة بكل مراحلها حيث يوفر بيئة مناسبة لمزاولة النشاطات الفنية. وهي عبارة عن مؤسسات تقوم علي تطوير الصناعات الابداعية والفنية في البلاد وتشجيع الفنانين والمبدعين علي الانتاج الفني والابداعي. وتتضمن هذه المؤسسات مراكز للتدريب والتعليم الفني، ومراكز للإنتاج الفني والإبداع.

تلعب مراكز الفنون دوراً مهماً في تعزيز الفنون والثقافة وتشجيع التفاعل الثقافي والتبادل الفني بين الفنانين والجمهور. وتعتبر هذه المراكز مواقع للتعليم والتعلم والتواصل الاجتماعي بين الافراد. ويعتبر مركز مخصص للتعبير عن الفنون بمفهومها الواسع والترويج للابداع الفني الثقافي والفني كما يساهم في تطوير واثراء المشهد الثقافي والفني في المجتمع المحلي. وتعد الثقافة والفنون محور بنيه الامم وكيانها الحضاري , و ان المراكز الثقافية تشكل محور الهوية الثقافية.

ان المراكز الفنية تعمل علي الربط بين الماضي والحاضر كما تقوم علي رفع المجتمع ثقافيًا وفنيًا ويعمل علي تقديم العديد من الانشطة الفنية والخدمات الثقافية بصورة حضارية حتي تتيح المجال امام المبدعين، ويقوم بتقديم العديد من الندوات والمؤتمرات الثقافية.

كما ان المراكز الفنية اتخذت شعارا لها يؤكد فكره "الفن في خدمة الإنسانية". فكانت المحاولات اما فردية (رسم, تصوير, نحت, اعمال يدوية,) او جماعية (تأليف, موسيقى, عزف, غناء, تمثيل تلفزيوني, سينمائي او مسرحي) وصولا الى ما لا حدود له في مجال الفن للتاثير على الحاجه الثقافيه الملحه في اطار مواكبه التطورات العالميه السريعه.

أن مفهوم المركز الفني قد تطور على مر العصور. ومع ذلك، يمكن القول أن أحد أقدم المعالم الثقافية التي كانت تُعتبر مركزاً للفنون في العالم هو "مدرسة أثينا" (Academia) في العصور القديمة.

Research Sample:

The research sample focuses on presenting designs for the redevelopment of art centers and their optimal utilization, with an emphasis on reviving the concept of sustainability in the materials and resources used.

The Scientific Methodology of the Research: Descriptive-analytical approach.

Research Problem:

Most cultural and artistic buildings have adopted a fixed and unchanging character, lacking the incorporation of modern technologies and failing to sufficiently benefit from contemporary advancements in the design of such centers globally. This has hindered the ability to measure their effectiveness in serving our cultural establishments within our community. The scarcity of centers that foster individual artistic development has led to the loss of cultural and artistic heritage. Additionally, there is insufficient knowledge and understanding of this type of building, as well as a lack of clear design principles for artistic centers.

The interior design of artistic centers in Egypt, with their spatial divisions, is incapable of accommodating multiple spaces for diverse purposes and meeting various needs, such as artistic performances, cultural activities, and workshops. Furthermore, there is a lack of modern educational tools and facilities. Designers often overlook environmental and social determinants when designing artistic centers or focus on a single factor at the expense of others.

Research Objectives:

1. Introducing the concept of the art center as a cultural service type, defining its roles and functions, and studying it in detail.
2. Promoting cultural and artistic awareness among community members.
3. Providing an appropriate space for creators and intellectuals to showcase their works.
4. Providing a practical model that can be implemented in reality.
5. Restoring the site by addressing shortcomings and reusing activities.
6. Integrating modern technologies into interior design.

Research Hypotheses:

The study is based on the hypothesis that the design of an art center contributes to enhancing communication between creators and the public, while promoting cultural exchange. Providing a multifunctional space within the center helps diversify cultural and artistic activities, increasing community interaction. Integrating modern technologies into the center's design enhances the effectiveness of artistic performances and provides an inspiring environment for creators. Additionally, rehabilitating old buildings and repurposing them as cultural centers contributes to preserving local heritage and strengthening cultural identity.

Expected Research Outcomes:

1. Providing multifunctional spaces that can be used for workshops, art exhibitions, and galleries.
2. Using eco-friendly materials to make the academy environmentally friendly, ensuring it does not impact future generations.
3. Integrating modern technology such as interactive screens and smart spaces to stimulate the learning and creativity process.
4. Providing a practical model that can be applied in real life.

The Road Under Study :

The Academy of Arts is located on Gamal El-Din Al-Afghani Street, Al-Haram Road, Giza Governorate, Egypt. It is situated within a large complex of art buildings in the heart of Giza city.



Figure (1) illustrates the study area of of Al-Haram Road, Giza Governorate, Egypt.

Geographical Location:

Giza Governorate is located in the northern part of Egypt and is part of the Greater Cairo area. In relation to the capital, Giza is one of the neighboring governorates of Cairo, situated on the western bank of the Nile River, directly opposite Cairo.

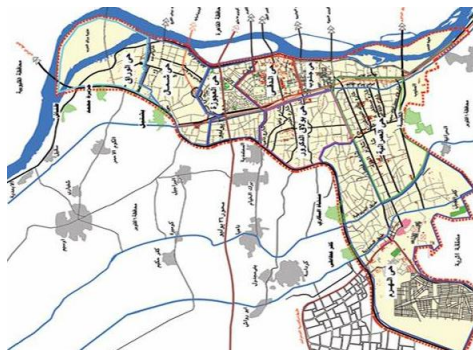


Figure (2) illustrates the geographical location of Giza Governorate in the Arab Republic of Egypt.

Giza overlooks the Nile River and contains many famous landmarks such as the Pyramids of Giza, the Sphinx, and other museums related to ancient Egyptian civilization. It is bordered to the north by Cairo Governorate, to the east by the Nile River, to the west by the Western Desert, and to the south by October 6 Governorate. **Coordinates:** 30.033°N (latitude) and 31.212°E (longitude).

History of the Academy of Arts:

The Academy of Arts was established by the Ministry of Culture of Egypt in 1959. It is one of the higher education institutions specializing in teaching the expressive arts. The aim of the academy was to raise the level of art and direct the arts towards a national path to preserve Arab heritage and strengthen local and global connections. The academy initially began with institutes for cinema, music, and ballet, and then it developed and expanded the scope of its mission.

Nature of Activity:

The Arts Center is a platform for various artistic styles, supporting young people's artistic talents through training and workshops. It aims to nurture and refine youth talents, offering opportunities to learn arts, crafts, acting, and music. The center also promotes cultural exchange through international collaborations, supports traditional arts and crafts, and organizes lectures to enhance the public's understanding of the arts. Additionally, it provides opportunities for local artists to showcase their work and organizes theatrical performances, including musical, ballet, and music events.

Nature of the Buildings Surrounding the Site:

The Academy of Arts is located within a large complex of artistic buildings in the center of Giza city. This includes the Higher Institute of Dramatic Arts, the Higher Institute of Arab Music, and the Higher Institute of Art Criticism. Many government buildings, commercial establishments, and residential buildings are also located in the vicinity.



Figure (3) illustrates the surrounding environment.

Documentation of the Location:



Figure (4) illustrates The Arts Academy in Giza.



Figure (5) illustrates The exterior views surrounding the building.

History of the site:

Giza Governorate is one of Egypt's governorates and among the oldest urban areas in the world. The history of Giza spans thousands of years and has witnessed numerous events and developments throughout the ages. The city of Giza is located in northern Egypt, bordered by the Nile River to the east and the Western Desert to the west. It is adjacent to Cairo, the capital of Egypt. Giza is one of the largest Egyptian cities in terms of area and population. It is an ancient city that was established during the Muslim conquest of Egypt.

Topography of the Site:

The terrain is flat, meaning the area lacks significant elevations, mountains, or complex landforms. This makes construction and infrastructure development easier compared to mountainous regions or areas with complex terrain.

- **Elevation:** The site is located at an elevation of approximately 200 meters above sea level.
- **Slope:** The site features a gentle slope, making it suitable for walking and hiking.
- **Soil:** The soil in the area consists of a mixture of sand and silt, providing a favorable environment for agriculture.

Climate:

The climate of Giza is arid and desert-like, similar to that of Cairo due to their proximity. Giza experiences a dry desert climate with minimal rainfall, averaging 18 millimeters annually. The average temperature during summer days is 22.1°C. August is the hottest month of the year, with temperatures reaching up to 29.2°C, while January is the coldest month, with temperatures dropping to 13.4°C. December is the most humid month, with

humidity levels at 55.29%, whereas May is the driest and least humid month, with humidity at 36.44%.

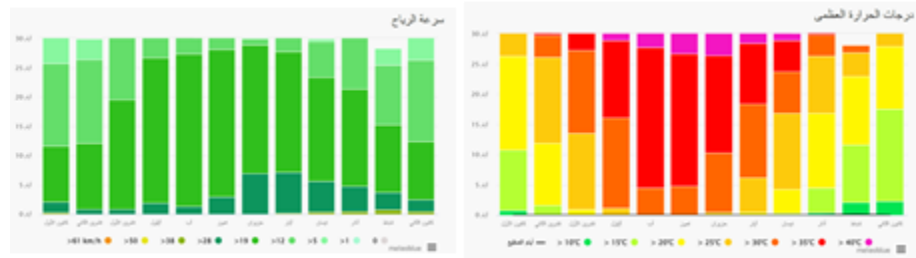


Figure (6) illustrates the climate of Giza, Egypt.

Building Issues:

- 1- The building's location near busy streets, theaters, other art institutes, and residential buildings creates a significant source of noise and disturbance.
- 2- Limited main entrances and exits, leading to several issues:
 - **Congestion:** In emergencies, a lack of sufficient exits could result in people crowding or getting stuck in corridors, potentially causing injuries.
 - **Accessibility Issues:** Insufficient entrances and exits may make it difficult for individuals, especially those with special needs, to access or leave the building efficiently.
- 3- Repetition of spaces without optimizing the building's area to accommodate diverse art-related functions.
- 4- Narrow corridors that hinder the flow of traffic and movement within the building.

Zoning :

The current spaces are:

- Atelier Design
- Lecture Hall
- Storage Room
- Electrical Room
- Side Theater
- Men's Restroom
- Electrical Room (Duplicate)
- Storage Room (Duplicate)
- Puppet Theater Hall
- Atelier for Puppet and Mask Making

- Preparation Rooms
- Sculpting Atelier
- Atelier for Scenery Construction
- Hall
- Students' Entrance
- Carpentry Workshop
- Photography Equipment
- Lighting Equipment
- Program Recording Studio
- General Storage for Costumes
- Actors' Dressing Rooms
- Service Entrance

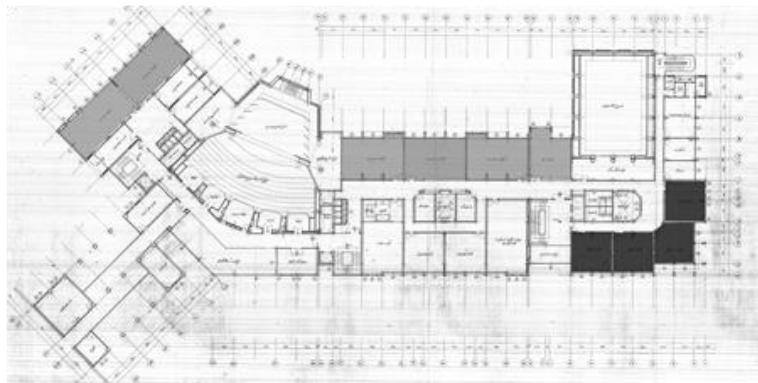


Figure (7) The floor plan of the Academy of Arts illustrates the spaces.

Architectural Details:

The Design: The building is characterized by its simple and comfortable form, featuring straight lines and sharp angles. The structures consist of simple geometric blocks harmoniously arranged together.

Materials: The building utilizes modern construction materials such as reinforced concrete, steel, and glass. These materials contribute to creating a durable and robust structure that reflects the academy's commitment to global quality standards.

Colors: The exterior façades of the buildings are characterized by light colors, such as white and cream. These colors reflect sunlight and create an atmosphere of tranquility and comfort.

Openings: The building façades are distinguished by large openings that provide natural lighting. These openings also contribute to a sense of spaciousness and a connection with the external environment.

Units that must be available at the Performing Arts Center :

The Performing Arts Center requires the provision of a variety of units and facilities that support artistic performance and contribute to providing exceptional experiences for both artists and the audience. These units include:

1. Exhibition Halls (Theatre)
2. Training Studios
3. Changing and Rest Areas
4. Sound and Lighting Facilities
5. Audience Area
6. Educational Spaces and Workshops
7. Administrative Facilities
8. Library/Archive
9. Food and Beverage Facilities
10. Media and Technology Facilities
11. Storage Rooms
12. Display Spaces

Impact of Sun Movement on the Interior Space:

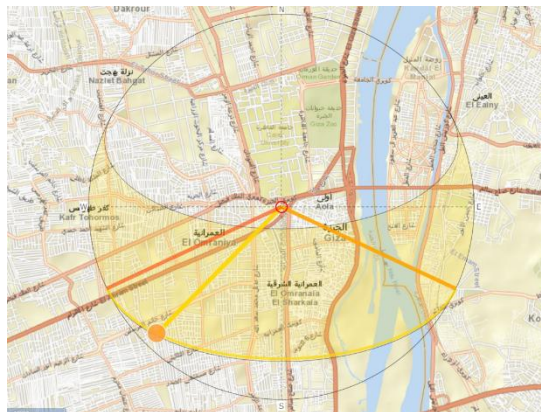


Figure (8) illustrates the effect of the sun's cycles on the Academy of Arts in Giza, Egypt.

Impact of Wind Movement on Interior Spaces:

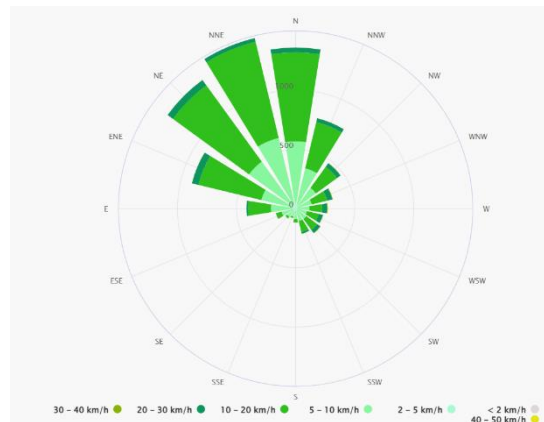


Figure (9) illustrates the effect of wind movement on the Academy of Arts in Giza, Egypt.

Levels:

The levels within the space are divided into several types, including:

- The Ground Level: This is the primary level of the space.
- The First and Second Levels: These are levels above the ground level.
- The Third and Fourth Levels: These are levels above the first and second levels.

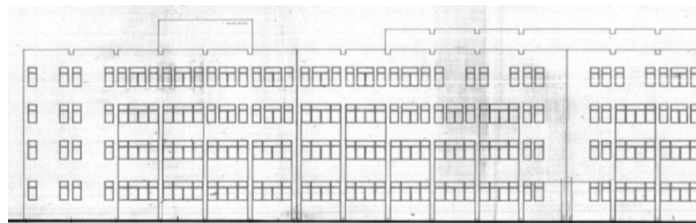


Figure (10) illustrates the levels of the Academy of Arts in Giza, Egypt.

Exterior Views:



Figure (11) Exterior shot (1) of the Academy of Arts in Giza



Figure (12) Exterior shot (2) of the Academy of Arts in Giza



Figure (13) Exterior shot (3) of the Academy of Arts in Giza

Case study: MÉCA Cultural Center

The project covers an area of 18,000 m² and is located in Bordeaux, France. The design is created by Bjarke Ingels Group.



Figure (14) MÉCA Cultural Center

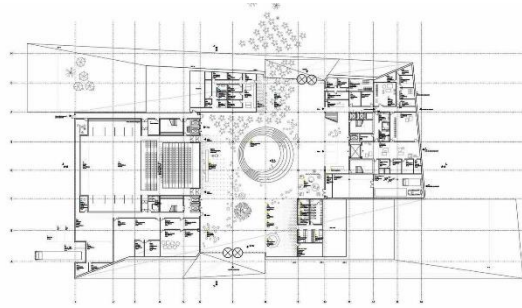


Figure (15) illustrates the floor plan of the MÉCA Cultural Center

The Design Concept:

The design concept is inspired by the art of **Origami**, the traditional Japanese art of paper folding, which is often associated with Japanese culture. This idea was adopted to symbolize culture and art, as Origami represents Japanese heritage and serves as an artistic expression.



Figure (16) illustrates the Design Concept of the MÉCA Cultural Center

Lighting:

The **perforated façade** provides excellent natural lighting, complemented by the use of light colors that enhance brightness within the space.



Figure (17) illustrates the perforated façade

Zoning:

The cultural center **MÉCA** is divided into three main zones: **public, semi-public, and private.**

1. Public Zone:

- Entrance
- Outdoor urban living room
- Public rooftop terrace
- Restaurant

2. Semi-Public Zone:

- Urban living room
- Contemporary arts space
- Literature center

3. Private Zone:

- Cinema
- Audiovisual center
- Theater area

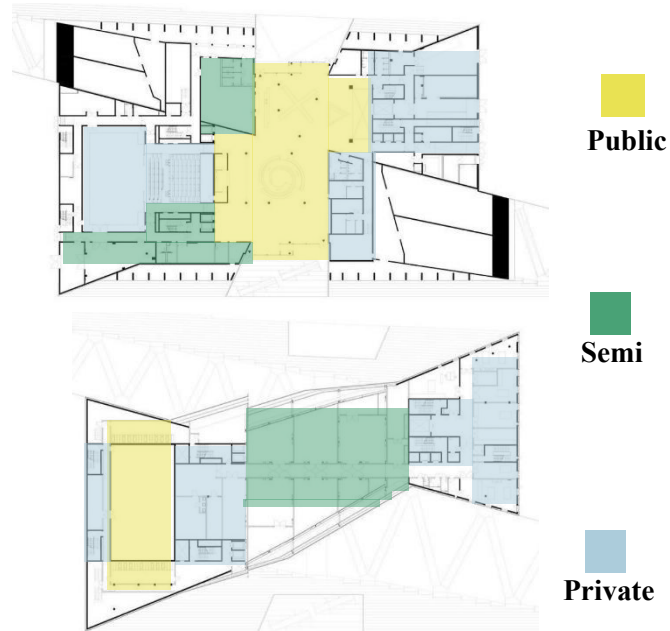


Figure (18) illustrates the Zoning of the MÉCA Cultural Center

Artistic Touches:

Reception Area Design:

The reception area is designed with a **red color theme**, symbolizing the region's renowned wine heritage. This bold choice of color not only pays homage to the area's identity but also creates a striking visual impact, making the reception both welcoming and culturally significant. The red tones are harmonized with complementary materials and lighting to enhance the space's warmth and elegance.



Figure (19) illustrates the reception area

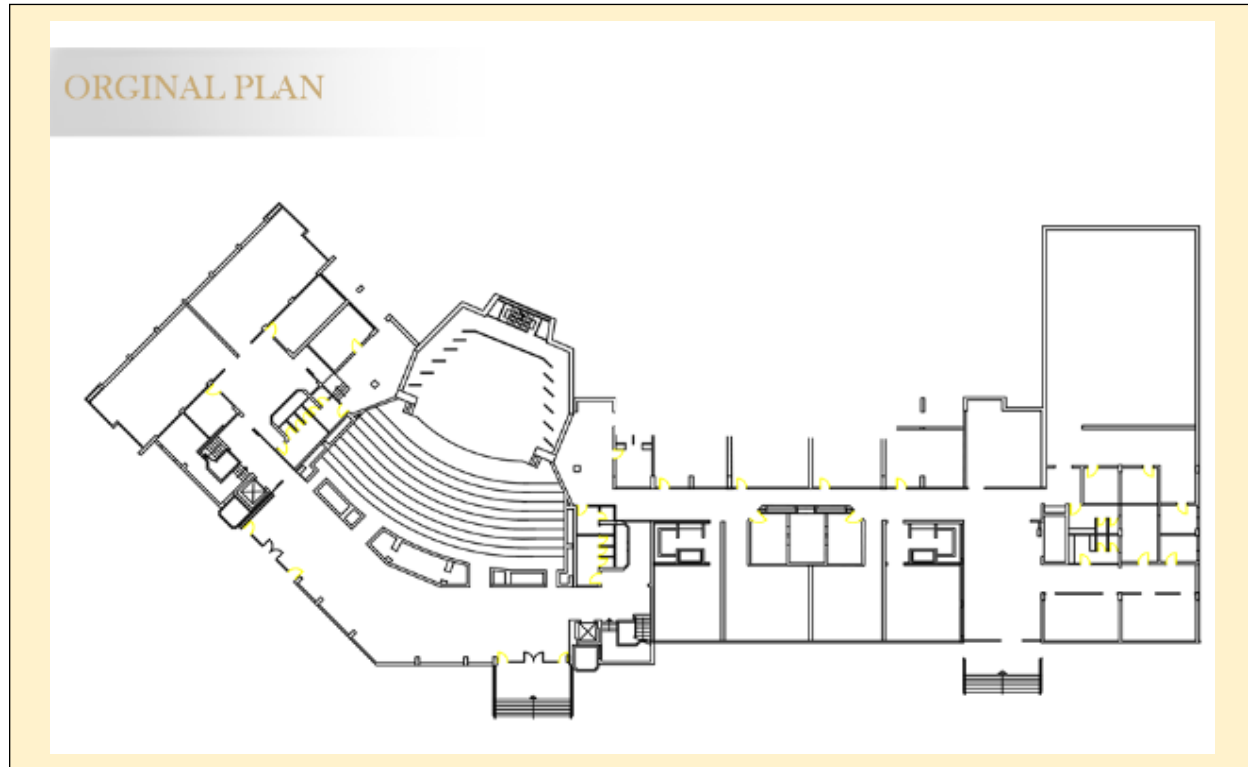


Figure (20) illustrates the original floor plan of the Academy of Arts in Giza, Egypt.

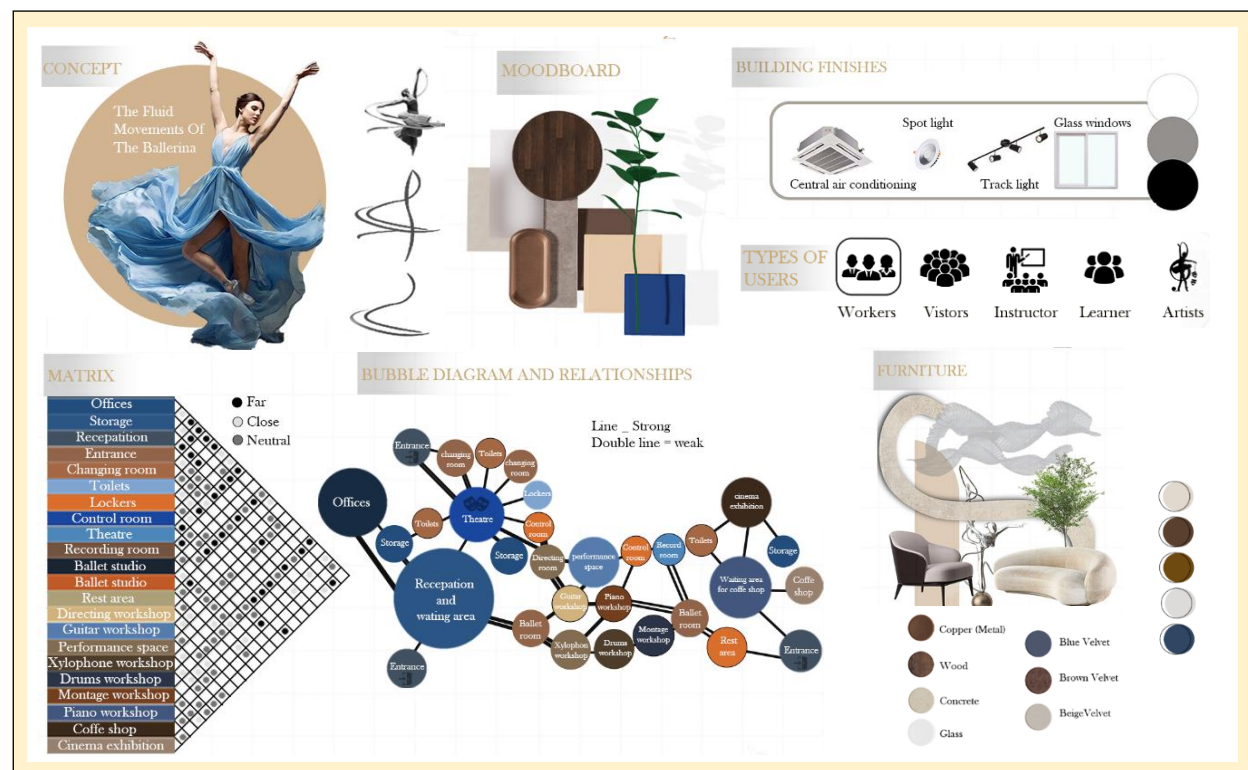


Figure (21) illustrates the mood board, materials used, and furniture and concept and bubble diagram in the Academy of Arts in Giza, Egypt. Designed by authors.

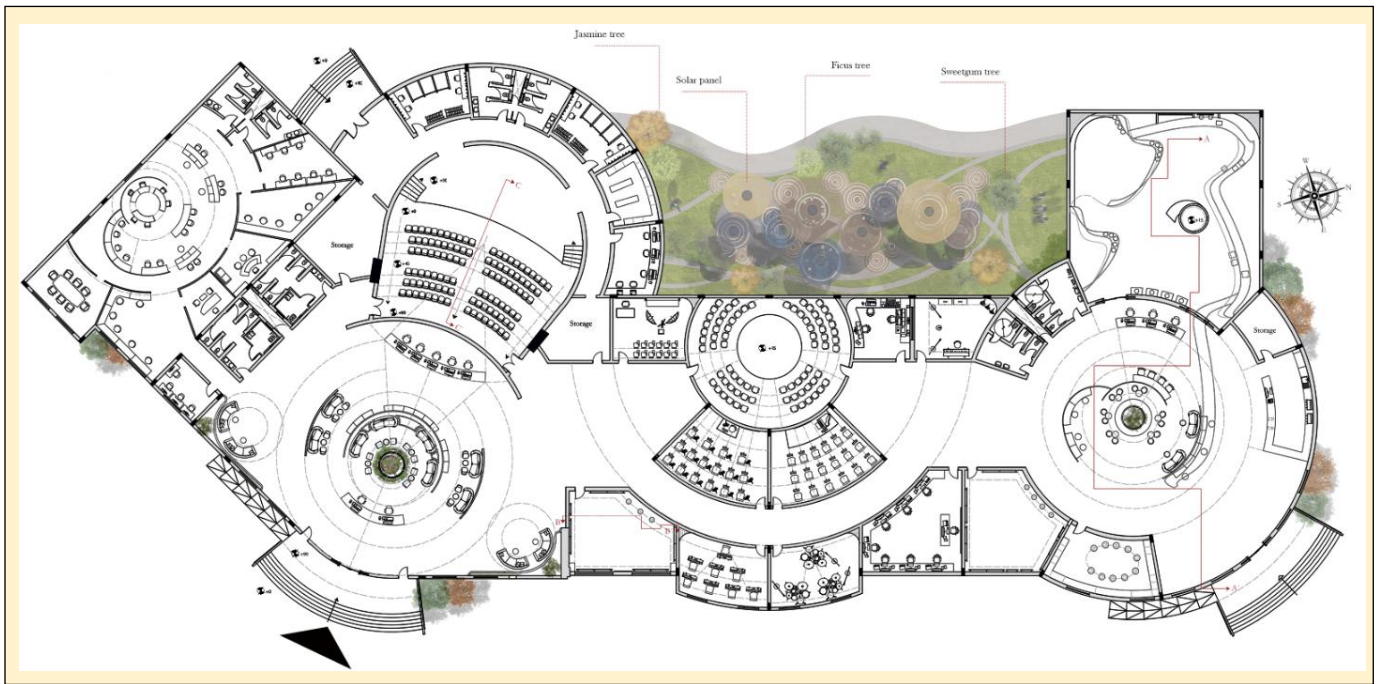


Figure (22) illustrates the horizontal section of the Academy of Arts in Giza, Egypt, after modification by the researcher.

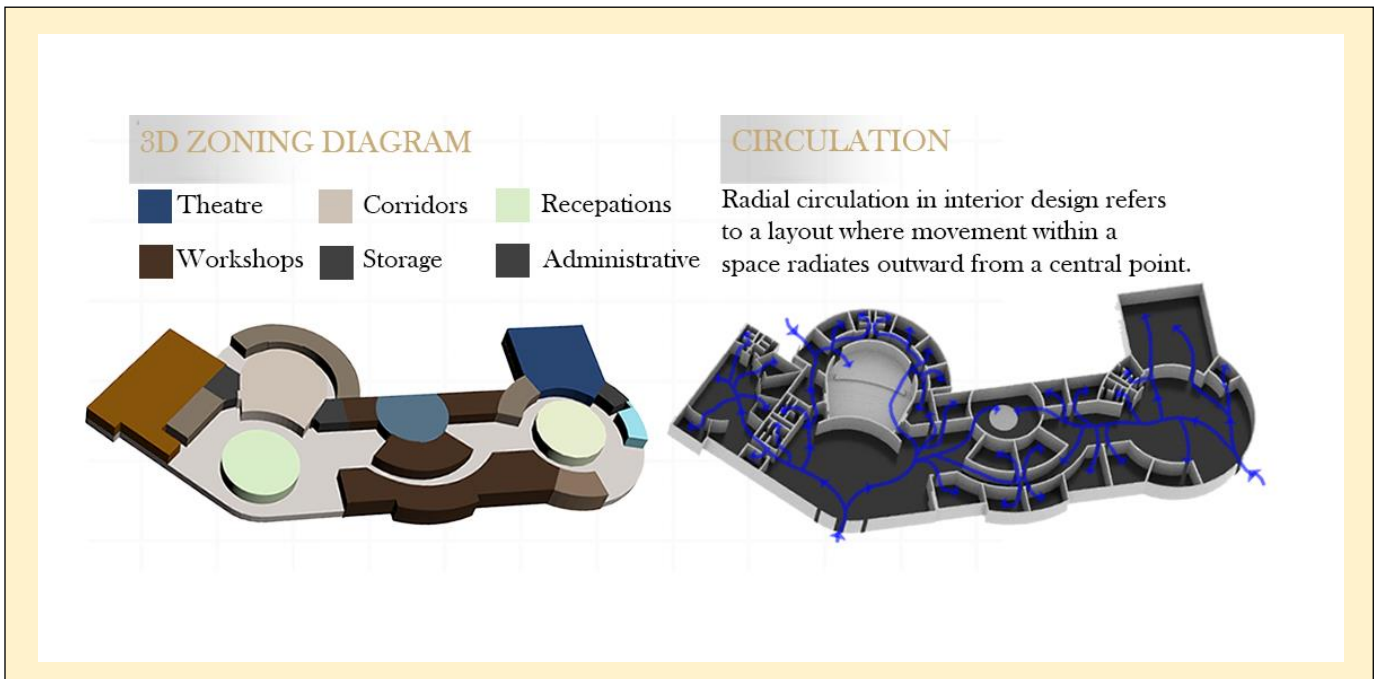


Figure (23) illustrates the movement paths and spaces in the Academy of Arts in Giza, Egypt. Designed by authors.



Figure (24) illustrates the longitudinal section of design A-A of the Academy of Arts in Giza, Egypt, after modification by the researcher.

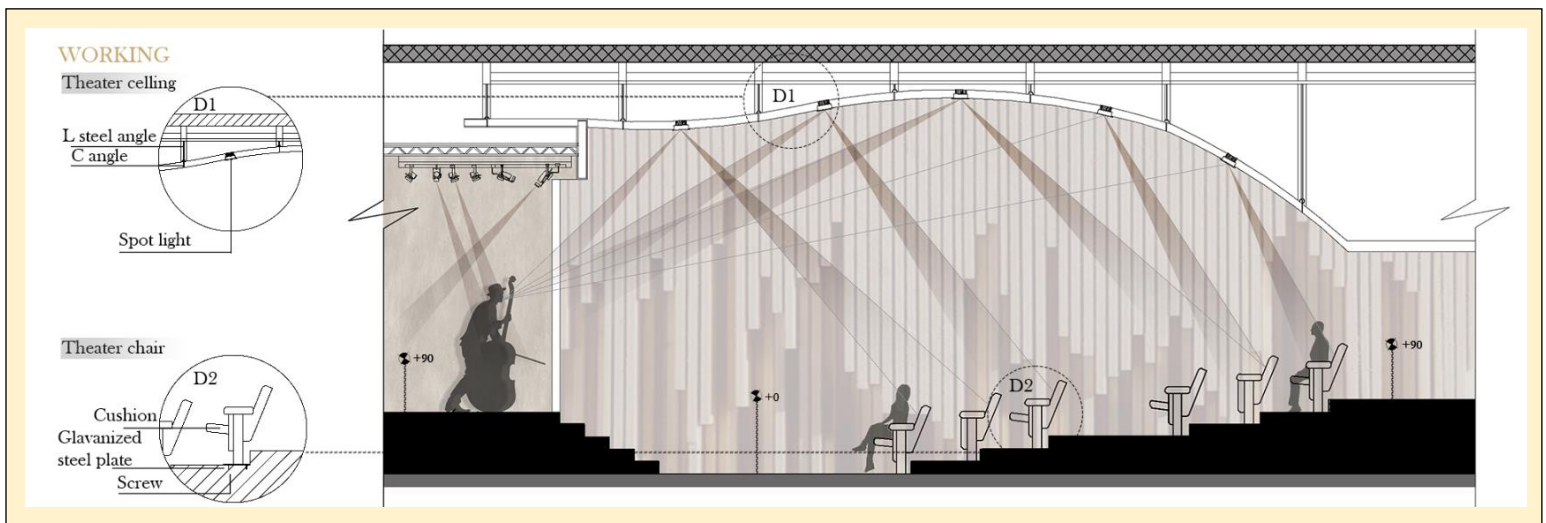


Figure (25) illustrates the longitudinal section of design C-C of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (26) illustrates the longitudinal section of design B-B of the Academy of Arts in Giza, Egypt, after modification by the researcher.

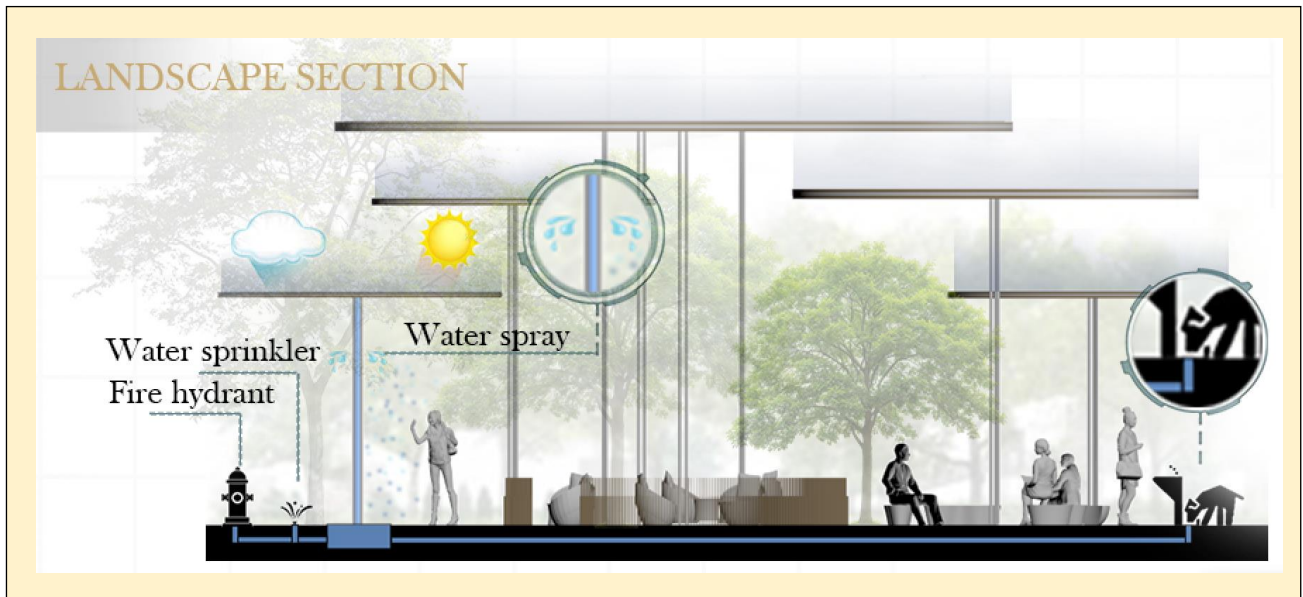


Figure (27) illustrates the longitudinal section of Landscape, after modification by the researcher.



Figure (28) illustrates the waiting area of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (29) illustrates the rest area of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (30) illustrates the coffe shop of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (31) illustrates the landscape of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (32) illustrates the ballet studio of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (33) illustrates the reception of the Academy of Arts in Giza, Egypt, after modification by the researcher.



Figure (34) illustrates the cinema exhibition of the Academy of Arts in Giza, Egypt, after modification by the researcher.

Design Standards for Achieving Sustainability through the Use of Natural Materials in Interior Design for Art Centers

1. Selection of Natural and Sustainable Materials:

- Use renewable resources such as **wood**, **bamboo**, and **cork**.
- Opt for durable materials like **natural stone** and **concrete** that require minimal maintenance and have a long lifespan.
- Incorporate **recycled or upcycled materials** to reduce waste and environmental impact.

2. Promoting Local Sourcing:

- Use materials sourced locally to reduce transportation emissions and support the local economy.
- Highlight regional craftsmanship and techniques to connect the design with the local culture.

3. Non-Toxic and Eco-Friendly Finishes:

- Avoid materials treated with harmful chemicals. Instead, use non-toxic finishes like **natural oils** or **water-based sealants**.

4. Energy Efficiency in Material Use:

- Utilize materials with high thermal mass, like **rammed earth** or **adobe**, to regulate indoor temperatures naturally.
- Integrate natural insulation materials such as **sheep wool** or **hemp** for enhanced energy efficiency.

5. Reusability and End-of-Life Considerations:

- Select modular and easily recyclable materials to ensure they can be reused or repurposed at the end of their lifecycle.
- Design with demountable systems that allow easy disassembly for future updates or renovations.

6. Maximizing Natural Lighting and Ventilation:

- Incorporate materials that enhance the use of natural light, such as **glass partitions** and **light-colored surfaces**.
- Pair natural materials with designs that support cross-ventilation, reducing reliance on artificial cooling systems.

7. Water-Resistant and Low-Maintenance Materials:

- Use materials like **treated natural wood** or **bamboo** in spaces prone to moisture.
- Opt for low-maintenance options such as **natural stone tiles** for durability in high-traffic areas.

8. Aesthetic and Functional Harmony:

- Ensure materials align with the artistic and functional goals of the center, maintaining a balance between beauty, sustainability, and practicality.

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