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TELLING HISTORICAL STORIES THROUGH ARCHITECTURAL DESIGN

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Abstract:

Narrative in architecture (NA) places a premium on human experiences and the necessity of transforming them into stories. It prioritizes a building's meaning over its functionality. A common perception of architecture is that of art and an opportunity for imaginative expression. However, it also has a major effect on how cultural identity is shaped. Buildings and structures can serve as markers of the heritage, values, and beliefs of a community, and a virtual spaces' (VS) design via using the developed Virtual Reality Modelling Language (VRML); that can capture its distinctive personality. This paper clarifies how the relationships in buildings and Scenario-Based Design (SBD) came to be associated with the stories and events that took place in these cities or within the structures themselves using Story-Telling of Design (STD) concept, in addition to their function and social connection. People's memories or historical events serve as the source material for architectural projects, therefore; the narrative approach in architecture is connected to events and memories of places through Story-Telling (ST) approaches. This paper exposed two of the most important narrative architectural buildings; as iconic case-studies for (NA) indoor and abroad; to adopt historical buildings' identity in the neoteric architectural era; to tackle a framework for buildings and structures to settle its identity and telling history.

Keywords: Narrative Architecture (NA), Storytelling (ST), Virtual Spaces (VS) Virtual Reality Modelling Language (VRML), Scenario-Based Design (SBD), Storytelling of Design (STD).

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Introduction

Story-telling of Design (STD) is a term commonly used to describe various methods of presenting or conveying a story. Architecture that uses its material or non-material features to tell a story or narrate an event in the context of this study. Similar to a narrative, architecture aims to elicit feelings from the viewer and record a particular past or occasion through the addition of features like architectural form, material selection, space planning, lighting design, and embellishments. An architectural piece can intentionally tell a story and encourage communication between the site and its visitors through achieving the above. Architecture is a means of achieving meaning, and buildings are used to tell stories about history. Without using words, the user is taken on an interactive journey of the building.

As a result, Narrative Architecture (NA) evaluates the possibilities of using narrative to interpret buildings from antiquity to the present. It covers the history, theory, and practice of architecture as well as potential directions for future research. This paper promotes new perspectives on architecture, the visual and social aspects of architectural space, and the concept of employing stories as an innovative source of architectural inspiration through virtual spaces.

Subsequently this paper attempts to accomplish the primary objective, which is the integration of narrative into architectural spaces, identifying the tools required for accomplishing the above, investigating the processes and strategies for incorporating historical identity into design, and emphasizing the significance of incorporating those spaces into future development plans.

1-methodolgy

Research methods employed in this research vary considerably depending on the particular aspect of analytical approach, deductive and applied methods. The analytical approach in order to review the justifications for the need to go to narrative architecture, which led improves comprehension of historical identity. In particular, to assist users in order to understanding the story's characters' intentions and deeds, as well as how they fit into the larger narrative.

Following that; the deductive method discusses the concept of Narrative Architecture (NA) and its requirements and needs, ways to meet the historical identity challenges in virtual spaces using designs and technologies possibilities offered by Story-Telling of Design (STD) to create smart cities. Finally the applied method settled the Barons Resort in North-Coast in Egypt and the Frame Dubai in United Arab Emirates as two of the most important narrative resorts not only in Egypt; but in the Middle-East region. Thus, the importance and recommendations for the application of narrative architecture in buildings and structures.

2-1- -dimensions of narrative in architecture

Considering that this aspect of memory is one of the most important criteria in architecture, explaining how memory and storytelling relates to historical identity and how memory and narrative relates to architecture. The most general definition of memory, which can be found in historical spaces identified as memory and recollection and which also incorporates certain observations; making the absent thing present, in particular, and the observation that there are two types of absence that we can distinguish between: the absent that is just the imaginary or the unreal, and the absent that was once the previous, the before, or the neoteric (1).

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2-2- Narrative in architecture flow-chart:

Architects characterize design as a mental process involving the organization of materials, forms, spaces, and programs. When they talk about a building, they frequently use narrative language to refer to it, implying a viewer and a travel across space. Therefore, a building is perceived as something to be experienced, even though design is described as an intellectual process. This is a journey that takes time to unfold. For certain architects, the use of spatial narrative is essential to both how they describe and design buildings (2).

The process of narrative in architecture could be defined by several steps as shown in the following figure 1; which states the main criteria to identify the concept of architectural narrative as following:

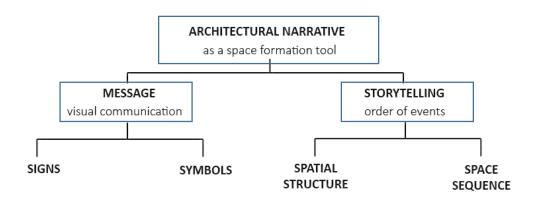


Figure 1: Narrative in architecture flow, By: Joan Ikonomi, Year: 2022.

While architecture has been shown to improve mnemonic orientation, it has also been used as an example of how to become lost in a story. Thus, the two main concepts of message and story-telling are the most identical issues. The signs and symbols could transform the historical message in the building spaces; while the spatial structure leads the spaces sequence to complete the main goal of the spaces (3).

2-2-Narrative architecture definitions and typology:

Throughout history, various interpretations of what a narrative is have emerged, have been put forth. While they all share certain characteristics, they generally diverge from one another when the focus is set on literary aspects. Although not going away, this work literature and artistic behaviour apart, is centred on a more general conceptualization of narrative, more in line with structures (4). In short, according to this definition, a narrative could be defined as following:

- 1. A series of occurrences,
- 2. Have a causal connection.
- 3. Involving specific characters and times,
- 4. Displays a certain level of organization beyond the fundamental consistency (5).

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In the real world, the designer must be aware of whether rules apply to the perception of meaning and, if so, what those rules are, in order to control the degree to which the meaning or aesthetic meaning embodied in a design is understood and directed toward engaging the observer. The designer must pose the right questions before it is reasonable to expect a cognitive scientist or perceptual psychologist to try to provide an explanation if an understanding of the pertinent aspects of meaning perception is to be developed (6).

2-3-Key-factors affecting Story-Telling of Design (STD):

The factors impacting the adoption of Story-telling Design (STD) in architecture, the field of interpretation design is becoming more and more important as museums and other cultural and historical buildings aim to engage, educate, and draw in visitors. However, there is still a lack of research on the field's practices, administration, and results. The role of interpretation design has frequently not been kept up with by institutional practices outside of the mainstream museum sector, and historical buildings frequently lack design knowledge and management experience (7).

In architecture, stories also known as narratives concern how structures symbolize concepts, ideas, archetypes, and messages. Millions of people can be reached by the architect's narratives, which are articulated and written during the pre-design stage. The following figure 2; showing that an architect with exceptional storytelling skills can create and maintain narratives that elevate their projects to timeless status (8).



Figure 2: The architecture of Story-Telling, By: Bahram H Yousefi, Year: 2023.

As a result, adoption of design of visual storytelling is timeless and transcends decades. You can think creatively and to capture the essence and past of any place when you are designing a project (9).

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2-4- Scenario-Based Design (SBD) and structures:

To ensure building quality, designers must envision the post-occupancy functionality and performance of these structures in use. Early in the design process, it is also important to consider the internal and external interactions that will occur between the buildings and the anticipated end users. Understanding the various scenarios and settings of dynamic space utilization, as well as the sequences and outcomes of human-environment interface and interactions, is necessary for such a visualization (10).

Within this framework, a Scenario-Based Design (SBD) representation serves as a tool for designers to clarify use cases from various angles to handle resolving anticipated issues and weighing the pros and cons of potential solutions in order to generate the best products and attain successful design results.

Towards more effectively leverage (STD); the structure configuration promotes in revealing not only the features of the product under consideration but also the experiences and interactions users will have in the future with them (11).

3 Examples of telling historical stories through architectural projects

3.1 Barons Court Sports leisure and Tourist Resort

Based on previous; that's dynamic story-telling constantly evolving lives they lead. As such, traditional design approaches that treat buildings as immobile entities are not always the best way to create buildings that are easy to use. The purpose of a scenario structure in the Barons court sports leisure and tourist resort is to increase understanding of how each setting aligns with a set of expectations. Examples are provided in the project that shows the suggested method in operation. The method's application and reflections seem to support its adoption as a substitute design processing tool that works well with emerging typologies like responsive, kinetic, interactive, and metamorphic architectures in order to settle an iconic historical project in the North Coast Region in Egypt possesses the ability to meet all the criteria of narrative architecture (12).

3.1.1Barons resort identity:

In this project, scenarios are made up of the same elements both separately and collectively. Additionally, they are connected to function in accordance with a story within a certain order and period. Scenarios separate based on their goals, settings, arrangements, and involvement of historical eras. As a result of this, there are various kinds of scenarios according to their focus; as shown in the following figure 3:

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Figure 3: Barons resort conceptual scenario. By: Space Consultants. Year: 2002.

Furthermore; the story-board of the Barons' hotel depends on several historical identities; the resort with a hotel, theatre and social club attached to it, and each part has an architectural identity that belongs to a specific time period, following the architectural style specific to the history of this era. The project's main idea revolved around the existence of a massive lake of water that encompasses all of the buildings, resembling Cleopatra's eye and regarded as one of the most significant and original symbols of the time. The Pharaonic woman who additionally visited the North Coast region of Egypt (13).

3.1.2Barons resort conceptual scenarios:

Based on previous; it is preferred that the modifications made to a building be simple and minimal to meet performance goals. The reasoning behind choosing which design options to pursue and which to reject can be found in the analysis of potential future modifications. Hence, scenarios serve as sequential representations that can be used to close any gaps in our understanding of how buildings develop, change, and inspire user interactions over the course of their lifetimes; as shown in the following figure 6:

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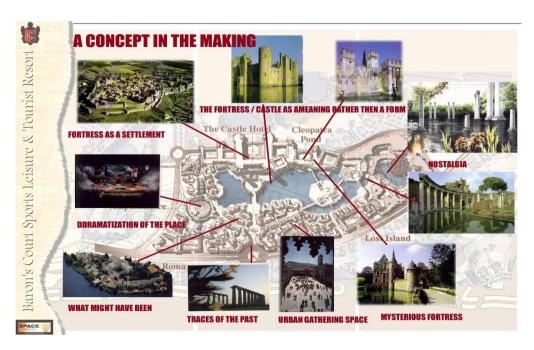


Figure 4: Barons resort story-board of story-telling design (STD), By: Space Consultants, Year: 2002

Furthermore, rather than being an inanimate record of a system's operation, a scenario is a comprehensive and dynamic description of a user's interaction with a system. It depicts a portion of a larger image that is limited by a certain time frame and objective and scoped for a particular environment. Usually, it narrates a tale of the system in action. In dedication to the inaugural Greek tournament hosted in the Greek city of Athens, the social club's design reflected the characteristics of Greek architecture. As a result, by going there, guests can comprehend the historical period that the resort is located into it (13).

In order to demonstrate how opulent European streets are for entertainment and shopping, the architecture of the buildings and stores also adopted the European style. The Roman theatre is the source of the architectural style. In order to emphasize its significance, the hotel was designed in the style of a castle. Ultimately, the project's urban design and landscape brought the story of the various architectural eras and styles to a close, fulfilling the purpose of narrative architecture and its influence on the project's identity (13).

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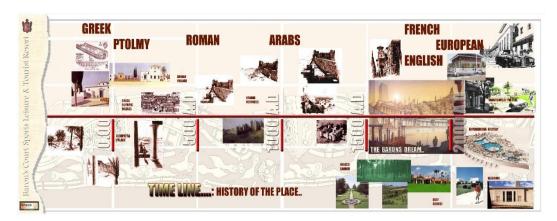


Figure 5: Timeline for telling Historical stories in Barons resort by: Space Consultants, Year: 2002

3.2 the frame dubai frame hotel, united arab emirates

The majority of literary instances link a scenario to stories that take place in Dubai's heart. This Frame is truly worthy, The Dubai skyline has been adorned with a golden frame since 2017. Easily fitting into the list of Dubai's must-see sights, the Dubai Frame in Zabeel Park is currently one of the most magnificent structures in the entire city. The building is meant to represent the blending of tradition and modernity in the city, so the location between the old city centre and the young city districts was chosen with purpose. However, the identity with a strong cultural component represents the preservation and development of the narrative architecture (14).

3.2.1The Frame Dubai conceptual design identity:

The famous Dubai Frame building frames breath-taking views of both the old and new parts of the emirate and acts as a metaphorical link between them the magnificent present and the remarkable past. The icon, which looks like a picture frame, represents a trip through Dubai's past, present, and future. Dubai's narrative is embodied in the Frame; as shown in the following figure 5; which reflecting the evolution of Dubai from a fishing village to a metropolis, it unites the past, present, and future. The sky bridge beckons tomorrow, while the towers echo history today (15).

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Figure 5: The Frame Dubai, By: Tourism sector in Dubai, News Alain, Year: 2023

The building's architecture reflects Dubai Frame's dynamic past and bears witness to the city's extraordinary historical evolution. Using the most recent technological advancements, the history of the city is presented starting in the past. Aromatic smells and traditional music are used in conjunction with holographic effects and animations (16); as shown in the following figure 6:





Figure 6: The Frame Dubai, By: Royal Arabian Destination Management (RADMCC), Year: 2019

The Frame Dubai building tells the story of the history of ancient Dubai, its development, and the transition in time that reaches modernity and technological development, and it appears here in the interior design of the beginning of the building, which shows the Bedouin historical heritage, primitive design, the use of clay, primitive materials, and the Bedouin style. Passing through a glass corridor to transport the visitor to the new era and modern technology that Dubai has achieved in recent times.

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The Dubai Frame is a design that constitutes exploration and combines innovation and tradition in a seamless way to tell the story of the city. That provokes the main six challenges of story-telling design in narrative architecture as following:

- 1- Configurations: Every setting provides an explicit description of the scene's initial state along with a list of the objects that are part of the scenario.
- 2- Performers: personas or characters that actively participate in the situation.
- 3- The agent's objectives: These outline the modifications that the agent hopes to bring about through participation in the anticipated scenario's conditions (17).
- 4- The aim of the scenario: This part provides an explanation for the scenario's occurrence.
- 5- The plot: It narrates the events and activities in the chronological order that the actors performed them.
- 6- Duration: This section describes how the scene's scope or boundaries are determined by its duration as well as the beginning and ending points of each station along the story's timeline (18).

3.2.2The narrative story-telling main hall design:

The space was made brighter by a strip of colourful lighting that ran the length of the ceiling; as shown in the following figure 7, as windows on both sides provided expansive views of Dubai. The comparatively older Deira neighbourhood of the city is visible from one side of the low-rise view, which is dedicated to the past. On the other side the shiny skyscrapers to associate with Dubai (19).



Figure 7: The main hall inside Frame Dubai, By: Rachels Ruminations., Year: 2019

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4 virtual reality modelling languages (VRML) in architecture story-telling (ST)

Nowadays, the goal of architectural buildings is to make future historical spaces more efficient in terms of supply, the virtual narrative space consists of five main layers as a progress; the backstory, the narrative overlay, the environment, navigation and interaction. Thus, each of which is required for the first-person representation of the intended spatial experience. Together, these all create a whole immersive experience that tantalizes the senses and captures the imagination of the user. One could compare this to the essential elements of a play, such as the lighting, costumes, makeup, set, and script, which all work together to support the actors as they perform their roles (20).

4.1 Narrative and virtual architecture:

Based on previous; the ability to combine the feeling of being in this moment with the potential to provide a larger-than-life experience identical to science fiction movies allows architects to experiment with the creation of virtual architectural spaces.

However, one could argue for designing without regard to reality's boundaries and for producing spatial experiences that are unbound by physics and gravity, all the while depending on our brains to process sensory inputs from virtual experiences. The neurological system, as one of the earliest regions of the brain, is thought to be the source of emotion, mood, and emotional processes. The limbic system also known as the lizard brain responds to sensory input as though we were still in the distant past, when choosing to fight or flee could mean the difference between life and death (21).

4.2 (VRML) in future narrative architecture:

Based on previous; the ability to combine the feeling of being in this moment with the potential to In order to create more realistic virtual spaces, virtual reality modelling language (VRML) systems are using an increasing amount of input and output media. Additionally, developers of VRML these days focus on rich behaviour and interaction. This makes a new kind of narrative architecture for development systems necessary. Support for new input and output media, device independence, and quick behavioural prototyping are some of its primary characteristics. It has already demonstrated its value in a number of historical settings as a potential narrative architecture (22); as shown in the following figure 8 for a (VRML) space:

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Figure 8: Architecture Story-Telling (ST) for virtual spaces By: John Marx, Year: 2023.

It is becoming clear that space visualization is a useful tool for architects and designers. Architects can assess alternatives more quickly, more thoroughly, and more affordably than they could with more conventional analysis because they can see possible alterations to the historic spaces and experience these changes in their real context. Additionally, it makes the narrative process' outcomes apparent, giving the general public a realistic perspective on the suggested alterations to their surroundings. VRML showed to be helpful throughout multiple stages of enhancing the space designs. However, knowledge gained from reconstructing the research site would aid in formulating policies and creating strategies to deal with less difficult circumstances that arise in other narrative architectural spaces (23).

5 NARRATIVES in architecture goals and benfits

The concept of architectural narratives can express a vast variety of concepts and meanings in a variety of ways. It is crucial for architects and designers to comprehend these stories in order to design structures that are not just practical and aesthetically beautiful but also significant and lasting (24).

5.1 Narrative in architecture goals:

- 1- Functional Narratives: Homes, hospitals, museums, and office buildings are just a few examples of the diverse purposes of architectural spaces. A well-written architectural narrative guarantees that a space's use and meaning are compatible.
- 2- Community Engagement: Participation of the community is an essential step in many architectural projects. By incorporating the community in the narrative of their project, architects can help to foster this kind of interaction. The voices of those who will use the space can help architects tell more meaningful stories (25).

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- 3- Context and History: Whether it's a quiet rural area or a busy urban centre, every architectural project has a specific context. Architects can incorporate stories into their designs that respect and improve the surrounding area by researching the history and culture of the location (26).
- 4- Adaptability: In addition, do stories have a beginning, a middle, and a conclusion, nevertheless they also change over time. Likewise, designers of spaces ought to create ones that are flexible enough to accommodate evolving demands and fads. A well-designed structure or area should be adaptable, able to house any emerging future stories.
- 5- Sustainability: The concept of sustainability is essential to contemporary architecture the tale of a sustainable building is one of a dedication to the health of the planet rather than merely one of cutting carbon footprints. Architects that use a narrative style can use their designs to tell the story of sustainability, enlightening and motivating others to do the same (27)

5.2 Story-Telling Design (STD) benefits:

Great narratives have the ability to uplift. Future generations of designers and innovators can be inspired by architects who approach their work as storytellers. They can leave a legacy of imaginative, revolutionary, and powerful architecture. Storytelling in architecture serves purposes beyond aesthetics. It may also significantly affect how well the building functions and how users experience it (28).

5.3 Inspiration and innovation:

The ideal story lines have the ability to uplift. Future generations of designers and innovators can be inspired by architects who approach their work as storytellers. They can leave a legacy of imaginative, revolutionary, and powerful architecture. Thus; it turns out that futurists and designers share a lot of similarities. When more people realize how much their individual traditions can contribute to the urgent need for change in the world and how much more so when combined this mutual recognition is approaching a narrative architecture (29).

6 **conclusions**:

This paper determined specifically on narrative architecture, highlighting the value of narrative storytelling in showcasing the distinctiveness of architectural structures in general; as the sequential developing of details as individuals travel across spaces linked to the act of perception. particularly those with unique and historical characteristics.

As a result, after outlining both domestic and global instances that fulfilled the objective of the narrative immersion principle and going over the fundamentals that must be used to emphasize its identity. The research study observed the fact that in spite of narrative architecture's obvious impact on visitors and users, a number of challenges had to be overcome in the processes for implementing its fundamental principles.

To tackle the previous required principles; the importance of taking into account subjective determinants, whether they are methodologies utilized during the architectural design process or implementation in structures and areas through the implementation of contemporary technology, emphasizes the significance of research. Consequently, it is advised to consider how crucial it is

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to appropriately meet the aforementioned requirements in order to accomplish its objective and emphasize the identity of architectural buildings.

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