

The Effectiveness of Installation Art in Humanizing Public Spaces

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ABSTRACT:

In the complex context of urban life, public spaces serve as a framework narrative in which human interaction, cultural expression, and community identity are woven. Amidst the ebb and flow of everyday existence, installation art emerges as an essential intervention that goes beyond mere aesthetics, embodying the integration of conceptual depth with human interaction. Artists invite passersby to engage in spatial dialectic, where the physical presence of art provokes metaphysical reflections on identity, community, and existence. This dynamic interplay between art, people, and the environment cultivates a shared sense of belonging, nurturing the social fabric. Installation art, whether permanent or ephemeral performances, acts as a mediator between the built environment and its inhabitants; It is not a static objects to be passively observed but dynamic entities that provoke interaction, contemplation, and emotional response. Hence, the research problem lies in the confinement of the display of installation art to exhibitions and interior spaces in Egypt, and the lack of contemporary design thought in public spaces through installation art. The study employed a mixed-method analysis, including case studies of international installation artworks and a spatial analysis using Depth Map software, applied to the urban context of New Damietta, Egypt. The findings highlight that installation art revitalizes neglected areas and enhances community engagement, sustainability, and technological integration. It concluded that installation art is an effective strategy for comprehensive and sustainable urban development, particularly in emerging cities.

Introduction

With the loss of aesthetic appreciation for the meaning of public space, the sense of its humanity and the criteria for its evaluation have also diminished. These qualities, however, were once clear, evident in traditional cities through the embedded language of space and its cultural expressions. In this context, Roger T. Trancik built his theory of place on the premise that "space" does not become "place" unless it carries meaning derived from cultural and regional context. He emphasized that the core of place-making in public space design lies in understanding humanistic and cultural characteristics [1]. According to Radbourne and Johanson (2019), public art installations serve as focal points that enhance the aesthetic appeal and cultural identity of urban spaces, thereby fostering a sense of place and community connection. Furthermore, in urban public spaces, installation art has the capacity to transform mundane and underutilized environments into dynamic, visually engaging settings that engage visitors and encourage social interaction [2]. Public installation art not only enriches the visual landscape but also acts as catalysts for cultural dialogue and exchange. As Harvey (2017) observed, public art projects often reflect local history, values, and collective aspirations, serving as platforms for storytelling and memory-making [3]. The impact of installation art on public spaces can be examined through the lenses of environmental psychology, neuroscience, and urban studies. Empirical research has shown that these artistic interventions significantly improve the aesthetic quality of urban environments, thus contributing to the overall quality of life for residents and visitors. The presence of installation art in public spaces has been associated with increased social interaction, reduced stress levels, and enhanced cognitive engagement. These findings underscore the potential of installation art not merely as a decorative element, but as an essential component of urban design that supports human well-being and fosters inclusive, meaningful public experience.

1- The Concept of Humanization in Public Spaces:

The term *humanization* is derived from the Latin word *Humanistas*, which refers to a human commitment to science and knowledge [4]. In the context of urban planning, the concept of humanization emerged and gained prominence in the late twentieth century, reflecting a shift toward designing environments that prioritize human experience. It refers to the aspiration to make public spaces more human-centric by integrating both

tangible and intangible features that enhance the user experience, while eliminating elements that hinder the functional and emotional performance of space [5]. In this regard, humanization involves reorienting design strategies, functions, and services to prioritize pedestrians over vehicles-ensuring that public spaces respond to human scale, comfort, and accessibility. Several scholars have contributed to this discourse. For example, Persson (2014) explored the humanizing qualities of space and emphasized the application of human scale in the design of public areas. Other studies have examined how spatial design influences patterns of human behavior [6]. Furthermore, Bosselman and Gehl (2008) highlighted that public behavior is fundamentally linked to universal human needs [7]. Such insights underline the importance of humanizing strategies in promoting psychological well-being and improving overall quality of life in urban environments. Humanization strategies can be classified into three main categories social strategies, which focus on enhancing social connection, inclusiveness, identity, and the overall attractiveness of public spaces. Technological strategies, which aim to serve users through improved accessibility, functionality, and efficiency.

Finally, Spatial strategies, which enhance both the physical and symbolic qualities of public space through design interventions [8]. Importantly, applying social strategies aligns with the idea that social cohesion contributes to healthier, more resilient communities-both mentally and physically. While it may appear paradoxical, technological strategies can also support humanization when applied thoughtfully. Rather than dehumanizing space, appropriate technologies can enhance safety, serviceability, and accessibility, making urban spaces more responsive to human needs and experiences [9].

2- The Place-making Theory:

The theory of place-making initially proposed by urbanist Jane Jacobs and later developed by Jan Gehl and William H. Whyte, emphasizes the creation of vibrant and inclusive public spaces that foster social interaction, cultural expression, and a sense of belonging [2]. Pierce and Murphy (2011) argue that place-making is inherently a networked process, forming a framework for place through the accumulation of diverse socio-spatial relationships that connect people to their physical surroundings. Moreira (2021) further expands that placemaking goes beyond physical dimensions and includes aspects such as social interaction, access, communication, comfort uses, and visual identity to create a sense of place

among users [10]. Artistic and cultural activities serve as essential connectors within this process. The subjective quality of art and its tendency towards open interpretations create a universality that allows people to develop connections with public spaces through their experiences.

3- Installation Art as a Place-Making Tool:

Installation art is a spatially oriented art form characterized by inclusivity and interaction. Unlike traditional art forms, it relies on the viewer's physical presence and movement, transforming perception into a participatory and immersive artistic experience. According to art historian and theorist Claire Bishop, installation art requires the viewer to physically engage with the work, describing it as "theatrical, immersive, and experimental." It heightens one's spatial awareness, drawing attention to the relationship between objects and the viewer's body as they move through space [11]. The artwork's surroundings- both its physical structures and social context- serve as the catalyst for the artist's aesthetic dialogue. In this way, Installation art bridges the gap between the artwork, the audience, and the space it inhabits, forming a triadic relationship that deepens engagement [12]. By placing the individual's perception at the center of the aesthetic experience, installation art has the potential to help people perceive the city in an unusual way. Through new physical experiences, it is possible to offer new narratives of the city.

3.1 Create an innovative visual narrative:

Over time, many public spaces experience functional obsolescence, which results in decreased activity. Traditional spatial experiences tend to lose their appeal, leading to a gradual decline in public engagement. This deterioration, however, also opens opportunities for creative intervention- specifically through the development of impactful spatial imagery that allows individuals to transcend conventional perceptions of space and question the limitations of traditional public space design [13]. an example of this can be seen in the "Love Continuum" installation at Duke of York Square in London (Fig. 1). The role of installation art in urban public spaces thus extends far beyond aesthetic enhancement. Much like a script, installation art possesses an intrinsic capacity for self-expression and spatial storytelling [14]. Revitalizing public spaces should not be limited to superficial physical or functional changes; rather, it calls for a reimagining of the conceptual frameworks that define space and its relationship with the community. To achieve this, installation art leverages multimedia,

cutting-edge technologies, and scientific innovation to convey narratives and disseminate information relevant to the urban context [15]. This strategy encourages the public to understand the socio-cultural and environmental factors shaping the current condition of a space, fosters critical reflection on its challenges, and ultimately invites active participation in envisioning and shaping its future.



Figure (1) "Love Continuum" Installation, By "Yoni Alter", 7.5 Meters, "Duke of York" Square, London, 2024.

(<https://www.designboom.com/art/yonni-alterclimbable-looping-sculpture-london-love-continuum-07-01-2024/>)

3.2 Create a Dynamic Interactive Platform:

Installation art significantly redefined interaction within traditional public spaces by shifting the public's role from passive observers to active participants. Through the integration of multimedia technologies, these installations captivate audiences with immediate sensory stimuli, encouraging dynamic engagement and enhancing the overall spatial experience. Rather than simply observing, individuals are now prompted to interact directly with the artwork, attributing meaning through personal involvement [16]. This shift reconfigures their role transforming them from mere spectators into co-creators or interpreters of the spatial narrative. Beyond facilitating physical interaction, installation art also establishes a dialogic relationship between individuals and their urban environment, fostering a psychological sense of accessibility through role transformation [17]. Such dynamic engagement reflects a fundamental human desire to actively contribute to the shaping and evolution of the urban fabric (Fig. 2).



Figure (2) "Pipelines" Installation, by "Coryn Kempster", Denver 's Plaza of the Americas, United States, 2024.

(<https://www.designboom.com/art/pipelines-coryn-kempster-julia-jamrozik-social-infra-structure-denver-03-22-2024/>)

In response to the stagnation and neglect of aging public spaces installation art offers a revitalizing

intervention that reanimates the environment and reawakens public awareness of its latent potential. The infusion of novel visual stimuli compels individuals to reinterpret these spaces, breaking the inertia and encouraging broader public engagement. Through its interactive framework, installation art promotes exploration and immersive experience, allowing audiences to absorb information within a dynamic and evolving spatial context. This stands in sharp contrast to the passive reception often associated with traditional static spaces, instead fostering deeper involvement, emotional resonance, and stimulating meaningful communal discourse.

3.3 Create an Iconic Landmark and Spatial Memory:

As a medium for artistic intervention in space, Installation art functions not only as a visual focal point in public spaces but as an iconic spatial landmark that enhances the distinct identity of urban spaces. It captures public attention and reinforces spatial recognition, leaving a lasting impression on people (Fig.3), while emphasizing the individuality of urban public space renovation [15]. The intervention of installation art in urban public spaces serves a dual purpose: it enriches visual experience, creates iconic landscapes, and deepens collective memory, while also conveying meaning through interaction and subtle cues. These symbolic gestures can highlight spatial challenges, narrate historical or contemporary stories, or evoke culturally significant memories. Such evoked meanings reinforce the emotional connection between people and place. As Anthony Johnson notes, installation art possesses the ability to generate new environments, amplify audience memory, and shape experiential narratives through the medium of recollection [18]. By engaging with memory and experience, installation art fosters a deeper understanding of public space and cultivates a more meaningful relationship between individuals and their surroundings.



Figure (3) Cloud Gate “The Bean”, by Anish Kapoor, Millennium Park, Chicago, 2004. <https://www.choosechicago.com/the-bean->

3.4 Create an Interactive Art Installation Event:

When installation art is introduced as a form of public art within urban spaces, it initially evokes a sense of

novelty and curiosity, transforming static or underutilized areas into a dynamic and engaging environment. This spatial transformation heightens sensory awareness and serves as catalyst for public discourse and interaction. Through this intervention, both artists and the public become active participants in a shared dialogue about the evolving role and meaning of space. This engagement often leads to collective interest and the organization of public art events, which draw attention from both the art community and the broader public, generating a ripple effect that extends beyond the immediate site [19]. By altering the natural state of space, installation art produces a gradual yet profound impact, encouraging reflection on the symbolic and emotional dimensions of place. A compelling example is the *Moving Visions* installation, which featured hundreds of suspended text messages to commemorate the 30th anniversary of the fall of the Berlin Wall (Fig. 4).



Figure (4) “Visions in Motion” installation, designed by “Poetic Kinetics”, Brandenburg Gate, Berlin, Germany, 2019.

<https://www.thelocal.de/20191104/how-berlin-will-mark-30th-anniversary-of-the-fall-of-the-wall>)

The positive significance of installation art lies in its ability to provoke critical thought and meaningful dialogue about the challenges and potential of public spaces. Through public art events, individuals become more attuned to spatial issues, deepening their understanding of the cultural and functional dimensions of space, and beginning to envision future needs for its development and use. This approach aligns with Henri Lefebvre’s theory of the production of space, which emphasizes that space is not a neutral container, but a social construct shaped through practices, perceptions, and representations. In this context, installation art emerges as a powerful medium for reimagining and reclaiming urban environments [20]. Thus, installation art functions not merely as an aesthetic intervention, but as a catalyst for social awareness and participatory engagement, enabling communities to reflect on their environment.

3.5 Elevating Utility and Functionality in Spatial Design:

Limiting installation art to expressive forms, interactive methods, and novel effects is insufficient

for achieving sustainable spatial renewal, as it risks creating the illusion of temporary transformation. Public spaces are not merely platforms for artistic display; they serve as essential arenas for civic engagement and communal life. As such, they must provide functional services that meet the diverse needs of their users. Only by addressing these practical requirements can public spaces attract consistent use and undergo meaningful renewal. While installation art alters the phenomenological experience of space, it also fulfills a functional role by enhancing and updating public environments to meet evolving social and spatial demands. It stimulates sensory perception, fosters emotional engagement, and facilitates a stronger connection between individuals and their surroundings [21]. In doing so, installation art contributes to the revitalization and functional enhancement of urban public spaces, transforming them into vibrant hubs of activity. By improving the overall quality of the spatial environment, it enables more effective use of public services and draws a wider audience eager to engage with civic life. Installation art thus acts as a catalyst for spatial renewal, activating urban nodes and generating a ripple effect that extends into surrounding areas. This activation stimulates commercial, residential, and social interactions, improving the overall quality of life and creating new opportunities for urban development. This outcome aligns with Jane Jacobs' concept of urban vitality, in which lively public spaces serve as dynamic engines for broader community and economic growth. [22]. In this context, installation art transcends its aesthetic function to become a transformative force that redefines both the utility and the experiential richness of urban spaces (Fig.5).

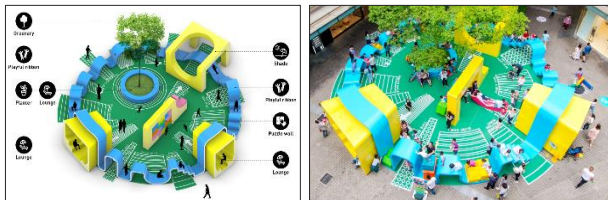


Figure (5) "Blue Ribbon", By "Architects100", Shanghai, China, 2019. (<https://100architects.com/project/blue->)

Urban public space development has evolved from an incremental growth model to a stock-based approach, prompting cities to adopt bottom-up renewal strategies that address spatial characteristics and localized challenges [17]. This paradigm shift calls for innovative and adaptive forms of intervention, such as installation art, which aligns effectively with micro-

update strategies for urban regeneration. An illustrative example is the *Impulse* installation in Montreal (Fig. 6), where thirty giant illuminated teeter-totters, accompanied by synchronized music and video projections on nearby building facades, transform the public square into an interactive and immersive playground. Rather than imposing large-scale overhauls, this type of artistic intervention facilitates targeted updates that preserve the original spatial character and rhythms of daily life while addressing specific functional or experiential shortcomings. This approach retains the historical and cultural identity of the site, optimizes the use of resources by reducing financial costs and construction timelines, and minimizes environmental impact. At the same time, it introduces unconventional, visually compelling elements into familiar spaces [23], achieving the dual objective of spatial renewal and the activation of latent urban potential. By attracting diverse audiences and encouraging meaningful public engagement, installations foster a renewed connection between citizens and the urban environment.



Figure (٦) "Impulse", by Lateral Office and CS Design, Montreal, Canada, 2015. (<https://www.archdaily.com/778680/impulseinstall>)

3.6 Sustainable Material Utilization:

Artistic practices, through their innovative use of materials -often incorporating everyday objects and reclaimed waste imbued with traces of human life-enhance the public's emotional and perceptual connection to space. In the context of urban development, underutilized public areas frequently become repositories for discarded materials. However, artists reimagine these remnants as valuable resources, transforming them into meaningful expressions through installation art. This practice contributes not only to urban waste management but also promotes the principles of recycling and material reuse, assigning new functional and aesthetic value to discarded objects [24]. In doing so, installation art aligns closely with the goals of sustainable urban development by utilizing limited resources, preserving the historical texture of the city, and maintaining the spatial and environmental continuity of urban spaces, as illustrated in (Fig. 7). The diversity of expressive forms, the innovative use of materials, and the

openness of conceptual frameworks in installation art deliver profound visual and emotional impact. It redefines the relationship between space, art, and the public, challenging conventional modes of spatial perception and fostering a more dynamic, participatory engagement with the urban environment.



Figure (Y) "Living Pavilion", by Behn Ha, "Plastic Crates-Liriope" plant, Place Notre Dame, France, 2019.

<https://www.archdaily.com/931181/living-pavilion-behn-ha>

In summary, the impact of installation art in public spaces is multifaceted and far-reaching (Fig. 8). By engaging the public in immersive experiences, installation art fosters a sense of collective identity and encourages cultural reflection, shaping societal values and shared narratives. Its influence extends beyond aesthetics into urban planning and renewal, where it acts as a catalyst for transforming neglected or underutilized areas into vibrant, human-centered environments.



Figure (8) Impact indicators of public art installations.

Additionally, installation art drives artistic innovation by incorporating unconventional materials and technologies, pushing the boundaries of traditional art forms. It also serves as a platform for community engagement, generating media attention and sparking dialogue around local social, cultural, or environmental issues. Importantly, installation art aligns with sustainability goals by repurposing materials and promoting environmental awareness. Together, these contributions underscore the

transformative potential of installation art in the humanization of public spaces, reinforcing its role as both a cultural medium for social and spatial renewal.

4- Emotional responses in installation art:

Despite the growing integration of advanced technologies in interactive installation art, a critical gap persists in understanding the specific emotional responses these installations provoke. The complex relationship between sensory stimuli, participant engagement, multi-dimensional interaction, and resulting emotional outcomes remains underexplored. This lack of insight limits the ability of artists and designers to create experiences that are both emotionally resonant and meaningfully immersive.

Moreover, the increasing sophistication of interactive art generates large and complex datasets that surpass the analytical capacity of traditional research methods. Addressing this challenge requires innovative approaches capable of revealing subtle patterns and nuanced insights. In this context, Artificial Intelligence (AI) algorithms present a promising solution - enabling advanced data analysis, pattern recognition, and predictive modeling to decode the underlying factors that influence emotional responses in interactive installations [25].

The integration of Artificial Intelligence (AI) in interactive installation art has opened new possibilities for enhancing emotional depth and responsiveness. AI technologies enable installations to detect and respond to gestures, movements, facial expressions, and even spoken or written language through techniques such as Neuro-Linguistic Programming (NLP). Countries like the United States and Germany have made significant progress in this field, leveraging AI to deepen audience engagement and interactivity within artistic experiences [26]. AI algorithms allow for real-time processing and analysis of large datasets, capturing and interpreting emotional cues to enable installations to dynamically adapt to participants' behaviors.

This capability empowers artists and designers to create emotionally resonant environments that respond intelligently and intuitively to individual inputs. Advancements in computing power, big data, and machine learning have further facilitated this integration, allowing the development of interactive environments that respond in real time to physical and verbal cues. Techniques such as computer vision track audience behavior and trigger corresponding visual or auditory effects, making the experience both immersive and personalized. A key application of AI in this context is the use of machine learning

algorithms to drive real-time responsiveness. For instance, NLP enables installations to interpret spoken or written language, enriching interactivity and user engagement. A notable example is *Molten Memories*, an installation that uses NLP to transform wall surfaces into dynamic displays of light and sound, responding to language input in real time (Fig. 9) [27].



Figure (9) “Molten Memories”, by “Refik Anadol”, Istanbul, 2018.
<https://www.thisiscolossal.com/2018/04/melting-memories/>

The interactive installation *Ripple* utilizes light, sound, and movement to create a soothing, meditative experience for users. Participants can move within the installation and interact with the light and sound waves, generating ripple-like patterns in real time (Fig. 10). Through the strategic use of sensory cues, the installation evokes emotional responses, encouraging a state of reflection, calmness, and engagement.



Figure (10) “Ripple”, by “Roelof Knoll”, 6*3 meters, 2024.
<https://www.reddit.com/r/TouchDesigner/comments/onvmkl/rippleinteractiveinstallation>





Interactive installations have the capacity to evoke a wide range of emotional responses-both positive and negative. To create impactful experiences, it is essential to understand the role of emotion in the aesthetic experience, recognize the environmental and contextual factors that influence emotional responses, and develop strategies that intentionally shape these experiences [28]. Emotional engagement is a core component of user experience in interactive art. These responses are shaped by various factors, including the physical setting, individual audience experiences, and the design of the installation itself. Key design elements that contribute to emotional resonance include storytelling, personalization, interactivity, and sensitivity to users’ prior knowledge, cultural background, and social expectations.

A comparative study by Chen Xiaowei and Zainuddin Ibrahim, conducted across four countries-the United States, Germany, the United Kingdom, and China-examines the emotional dynamics of interactive installations. Table 1 presents a comparison of

installations in these countries, identifying critical design features that significantly influence emotional experience. These features include:

- Sensory stimulation.
- Multi-dimensional interaction
- Active participation

The study highlights how these elements function as emotional triggers, shaping the depth and quality of audience engagement across cultural and contextual settings.

	Artist	Theme & Concept	Expressed Emotion
United States (USA)	Rafael Lozano-Hemmer	perception, deception and surveillance	Curiosity and intrigue
	 <p>Rafael Lozano-Hemmer: “Common Measures” At the Crystal Bridges Museum of American Art,2022.</p>		
UK	Anish Kapoor	Identity, spirituality, space.	awe, Transcendent.
	 <p>Anish Kapoor: Symphony for A Beloved Sun, At the Hayward Gallery,2013.</p>		
United Kingdom (UK)	Antony Gormley	Human existence, space, body.	Introspective, Contemplative.
	 <p>Antony Gormley: Time Horizon Dates: Houghton Hall, Norfolk ,2024.</p>		
Germany	Anselm Kiefer	Identity, history, memory.	Contemplative, evocative.
	 <p>Anselm Kiefer: For Louis-Ferdinand Céline, At the Royal Academy of Art,2011.</p>		

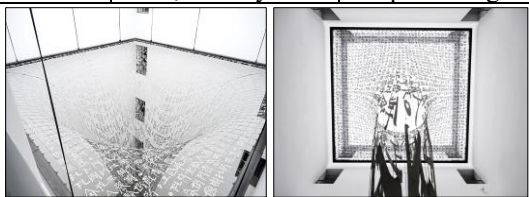

China	Xu Bing	Language, globalization, identity.	Questioning, thought-provoking
	 Xu Bing: Gravitational Arena , Museum of Art Pudong, Shanghai, 2023.		

Table 1: Comparative Analysis of Installations and the resulting emotional responses in the USA, UK, Germany, and China. (DOI: [10.20944/preprints202307.1792.v1](https://doi.org/10.20944/preprints202307.1792.v1))

5- Human scale installation art:

The concept of human scale refers to the design of physical elements and spatial dimensions that correspond to the proportions, capabilities, and needs of the human body. It involves arranging objects, surfaces, and structures in a manner that is ergonomically appropriate and functionally convenient for human interaction [29]. This principle is evident in everyday design standards-for example, the commonly accepted stair dimensions of 15 x 30 cm- which are based on anthropometric measurements and ergonomic considerations. When applied to installation art, adherence to human scale ensures that the spatial experience is accessible, comfortable, and intuitive. By integrating human scale into interactive installations, designers enhance usability while fostering a deeper emotional and physical connection between individuals and space. (Table 2) illustrates how anthropometric data and ergonomic principles are embedded in the spatial design of human-centered installations.

	Scales of 3D installation art	The proportion of urban spaces
Macro Scale	At the macro level, installations function on a city-wide scale, often defining the urban landscape. Examples like the Vessel in New York (2019) illustrate how large-scale installation contributes to becoming an iconic element.	Key contributions include: -Creative Placemaking. -Mental Image Formation. - Visual Impression identity. - Cultural Expression. - Skyline & horizon Influence. 
Monume	It is large compared to the human scale and is usually found in large urban spaces or on the sides of wide roads	

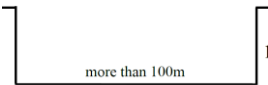
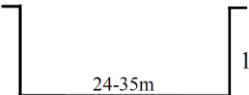

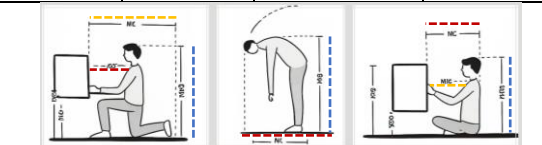
	like " Coachella", in New York (2022). (e.g., huge arches, city gates, monuments, huge bandstands).	 more than 100m 4 Monumental Scale
Human Scale	This level includes all types of installation art on a human scale; they are most used and found in urban spaces (urban sculptures, abstract art, utilitarian street equipment).	 24-35m 2 Human Scale
	The human scale in design requires ergonomic studies on the standard dimensions of the human body required for designing interaction with the installations in public space. The following are examples of some of these measurements:	
	 ● 1.90.m ● 0.70m ● 0.66m. ● 0.87 m ● 0.70m ● 1.9m ● 0.9m ● 1.75 m ● 1.5m. ● 1.5 m	
	 ● 1.4 m. ● 1.4 m. ● 1.02 m. ● 0.7 m. ● 0.87 m. ● 0.45 m. ● 0.9 m. ● 0.7 m.	
	Some of Anthropometric Measurements and Ergonomic Principles[30].	

Table 2: Scales of installation art and the proportion of urban spaces. (Source: researcher)

The following discussion explores the human scale as a fundamental factor in the design of installation art for public spaces, emphasizing its role in shaping both functional and aesthetic experiences. This exploration focuses on two key areas:

- Analyzing user experience with installation art in public spaces.
- Investigating aesthetic preferences through the lens of visual perception and neuroscience.

Central to this discussion is the mutual relationship between installation art and the human body, which serves as a primary criterion for evaluating the effectiveness of an artwork. Understanding how individuals physically and emotionally interact with installations allows designers to confirm the relevance, accessibility, and impact of the artistic intervention within public space.

5.1 user experience of public installation art:

The intersection of art and user experience (UX) has emerged as a critical area of inquiry, bridging the disciplines of aesthetics, psychology, and human-environment interaction. As contemporary artistic practices increasingly incorporate interactive and immersive components, understanding how users engage with and perceive these experiences becomes essential. This involves examining the interplay between artistic design, sensory stimuli, and the resulting cognitive, emotional, and behavioral responses elicited by installation art.

Architect Christopher Alexander, through his theory of the "phenomenon of life" and the concept of "living structures," emphasizes the importance of deep geometric relationships and natural disciplines in the creation of vibrant public spaces. He argues that humans can enliven spaces by forming strong centers at the human scale, making environments feel alive and responsive to human presence. This understanding aligns with the principles of existential phenomenology, which affirms that human experience is inherently unique and must be approached from the perspective of the lived, natural individual. Meaningful spatial design cannot rely solely on abstract knowledge or predetermined categories derived from laboratory-based or functionally isolated analysis. Rather, it must emerge from lived experience, perception, and use.

A compelling example of user-centered spatial behavior is the phenomenon of the "desire path"—an unplanned route formed by repeated pedestrian movement. These informal pathways, often etched into grass or dirt, reflect users' preferred ways of navigating space, rather than imposed or planned routes (Fig. 11). As defined by *Webster's Dictionary*, a desire path is "an unplanned path or route (such as one worn on a grass surface by frequent pedestrian traffic) used by pedestrians out of preference or in the absence of a specific alternative." In a more conceptual definition, *Reddit* describes them as "paths preferred by humans, rather than paths made by humans" [32][33]. Desire paths serve as physical manifestations of experiential priority -offering insights into how individuals respond instinctively to spatial design and reinforcing the value of aligning public art and space with human behavior and emotional intuition.

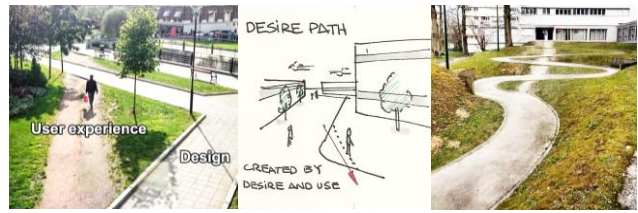


Figure 11. Desire path, the difference between user experience and design. (<https://sketchplanations.com/desire-path>)

5.2 The Case of Public installation Art Audiences in Hong Kong:

Public art integrated into urban life may does not always align with audience interpretations or the artist's intentions, potentially leading to misunderstandings. Owing to its complex, multi-layered nature, public art can produce unintended effects—particularly when it addresses sensitive themes such as environmental disasters or suicide, which may evoke negative emotional responses [34]. While artists may seek to raise awareness through such topics, inappropriate forms or contexts can unintentionally reinforce harmful psychological reactions. Therefore, understanding audience needs and cultural sensitivities is essential to ensure that public art is both meaningful and positively received. Notable example is Antony Gormley's *Event Horizon* (2007) in Hong Kong, which featured 31 life-sized fiberglass sculptures placed on rooftops of skyscrapers (Fig. 12). Intended to prompt reflection on the relationship between the human body and the built environment, the installation instead sparked confusion and concern, as some viewers mistook the figures for real people in distress [35]. This case highlights the importance of aligning artistic intent with audience perception to ensure effective and constructive public engagement.

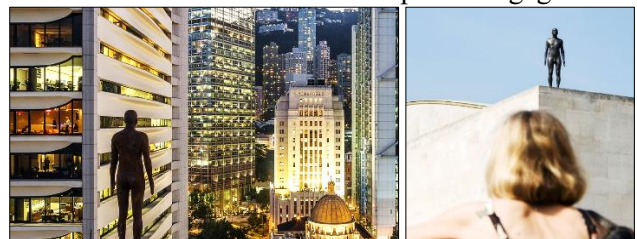


Figure 12. Event Horizon, by Antony Gormley, Hong Kong, 2007. (<https://www.antonygormley.com/works/exhibitions/eventhoriz>)

However, the artwork clashed with Hong Kong's social context, where building-related suicides are a serious concern, accounting for approximately 40–50% of local cases. This led to widespread public distress, fear, and anger, prompting police intervention due to reports of figures appearing to stand on skyscraper ledges. Additionally, one sculpture installed on a pedestrian walkway was viewed as an obstruction and was barricaded following public

complaints [36]. The unintended consequences of *Event Horizon* underscore the critical importance of considering social and cultural contexts in public art. Balancing artistic intent with audience sensitivity is essential to avoid negative impacts and ensure that installation art resonates positively within its environment.

5.3 Aesthetic preference for installation art based on visual perception:

Human aesthetic preferences in the visual domain are explored through definitional, methodological, and experimental approaches, focusing on elements such as color, spatial composition, and artistic style. Aesthetic appreciation involves cognitive processes - including perception, memory, and evaluation - shaped by personal experiences, emotions, and visual features like color, form, and texture. However, these dynamic and subjective factors make scientific measurement challenging. A notable contribution in this area is Yue Cheng's (2023) study, which employed event-related potentials (ERPs) to investigate the neuroaesthetic mechanisms involved in public landscape installation art (Fig. 13) [37].

By integrating art theory, urban design, and neuroscience, this research demonstrates how ERPs offer a valuable method for examining aesthetic responses through analysis of tracking brain activity [38]. Researchers have used ERPs to measure neural responses to visual stimuli influencing aesthetic judgment. Specific ERP components are associated with distinct stages of aesthetic processing [39]:

- **N100:** Related to attentional processing, peaking at 100–200 ms.
- **P200:** Linked to visual aesthetic evaluation, peaking around 200 ms.
- **N200:** Reflects higher-order cognitive activity, peaking between 200–350 ms.

For instance, art experts typically exhibit greater N100 amplitudes, indicating heightened attention, while P200 increases with visually appealing stimuli, reflecting stronger aesthetic evaluation.

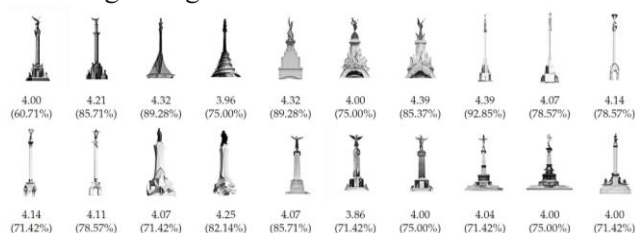
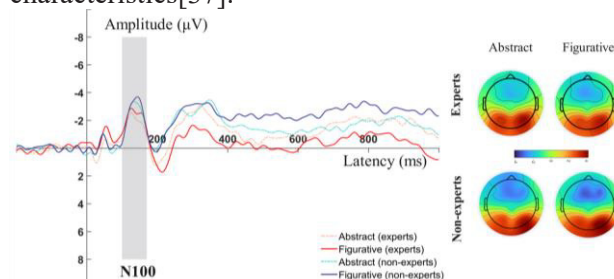


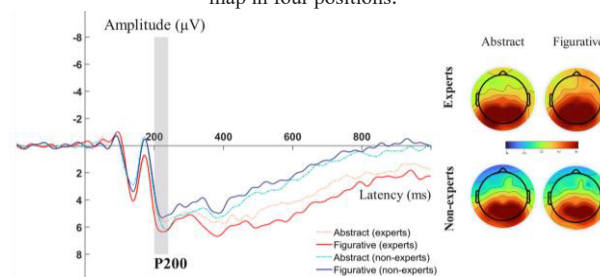
Figure 13. Assessing the level of abstraction and conceptualization of experimental stimuli . <https://doi.org/10.3390/land12101883>

Yue Cheng's study investigated aesthetic preferences for urban public installation art using event-related

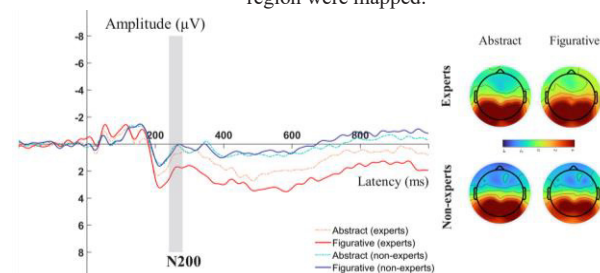
potentials (ERPs), with data collected from 36 participants. EEG recordings were taken while participants viewed 11 figurative and 11 abstract installations under controlled conditions, allowing for analysis of neural responses to different artistic characteristics[37].



The grand averages of the N100 for the parietal region and the topographic map in four positions.



In four cases, the topography and P200 averages in the parietal region were mapped.



Averages of the N200 energy resources and topography map under four conditions in the central region.


Figure.14. Brainwave data recording in Yue Cheng's study. <https://doi.org/10.3390/land12101883>



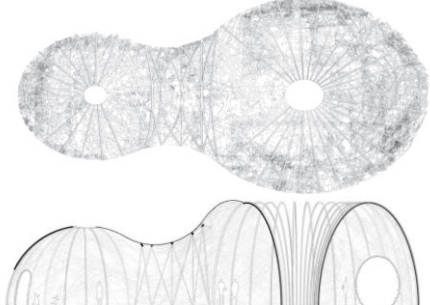
Reaction time analysis revealed no significant differences between experts and non-experts when viewing public installation art. However, ERP components (N100, P200, N200) reflected a sequential cognitive process: participants first registered basic features such as shape and color, then identified stylistic elements, leading to emotional responses. Easily recognizable, representational artworks tended to elicit more positive emotions. The findings also highlighted differences in aesthetic preferences: experts favored abstract forms, while non-experts showed a preference for figurative representations. These preferences were shaped by artistic experience rather than differences in cognitive processing speed [37].

The researcher views this type of study as a valuable approach to examining visual perception through neurophysiological methods, offering an objective means of assessing aesthetic preferences. These insights can guide urban designers in creating installation art that aligns with viewers' attention and responses. By analyzing preferences for abstract and figurative features, designers can better understand stylistic tendencies while also addressing the public's capacity for art interpretation. Such research establishes a framework for public art grounded in visual perception and aesthetic evaluation. Although the study focuses on memorials, it provides a foundational model for exploring contemporary installation art and encourages future research informed by broader perspectives and methodologies.



6- Analysis of examples of installation art in public spaces:

Examples of installation art in public spaces		
6.1 Installation.1		
Artwork description	Name	Green Skyline.
	Designer	Architectural Office "100Architects".
	Location	Hongqi Island, Zhuhai, China.
	Date	May 2024.
	Materials	Cement - paint and insulation materials - wood panels - metal.
	Area	651m ² .
Artwork Model		
		

Working drawings		
spatial dynamics	<p><i>Green Skyline</i> transforms the coastal promenade into a delightful and stimulating public space for the entire local community, transforming an underutilized circulation space into an urban attraction for staying and socializing. Overlooking Macau from the waterfront of Hongqi Island, the project adds much-needed amenities and attractive platforms that promote outdoor lifestyle and social interaction among citizens, while creating a strong visual identity for the island.</p>	
Conceptual aspect	The concept	Abstracting the exterior line of the ancient traditional Chinese houses and symbols of the island's cultural heritage and formulating them in the form of gates and canopies with attached places for rest, movement, and recreational activities.
	Artwork Philosophy	Creating a human-scale urban landmark that provides comfort and luxury, immerses people in community experiences and participation, satisfies basic needs, creates a strong visual identity for the island, and revives neglected public spaces.
Community Participation	<p>The project features a series of Capsules designed in vibrant colors, serving as attractive barriers with functional elements like telescopes, selfie spots, children's games, and seating arrangements. The warm wooden interiors create a cozy atmosphere for leisure, while some capsules cater to social gatherings and others include playful features like swings, teeter-totters, and slides, offering entertainment for all age groups.</p>	
Art criticism	<p>The researcher argues that the <i>Green Skyline</i> installation introduces a philosophy of humanizing installation art in public spaces, prioritizing human-centered design that aligns with human scale. It transcends being a standalone artwork, integrating into the urban fabric to meet both aesthetic and utilitarian needs while considering cultural and environmental compatibility. However, the researcher suggests the design could better reflect the city's heritage and culture, as the color scheme and lack of symbolic elements diminish its visual connection to the local identity.</p>	

6.2 Installation.2		
Artwork description	Name	Chrysalis Entrance.
	Designer	Architectural Office ‘Cave Urban’.
	Location	Woodford, Australia.
	Date	۲۰۲۴.
	Materials	Bamboo Sticks.
	Area	450 M².
Model		
		
Working drawings		
spatial -temporal	<p><i>Chrysalis</i>, located at the entrance to the Woodford Folk Festival, was designed as a welcoming, shaded gathering space. Constructed entirely from locally harvested bamboo, the woven structure offers relief from daytime heat and invites visitors to engage with an organic form shaped by community participation. Under the technical direction of Juan Pablo Pinto, the Cave Urban team trained volunteers in harvesting, preparing, and building with bamboo using simple, sustainable techniques.</p>	
Conceptual aspect	The concept	The project embodies environmental sustainability by utilizing untreated natural materials to construct a temporary structure that fosters social interaction while adding an aesthetic quality harmonious with the surrounding landscape.
	Artwork Philosophy	Involving the local community in building an artistic structure for gatherings confirms the spirit of belonging and the active participation of the public in a national event that they unite to build together.

Community Participation	Chrysalis features two woven domed spaces, a 5.5-meter-high dome embedded within a larger 7-meter-high ring-shaped space. The larger space features a crown of clustered bamboo arches that unfold from the ground like an inverted fig flower. The random weaving pattern diffuses light through it, like a bamboo forest, creating silhouette patterns that shift and change during the day. At night, the woven structure transforms into a giant amber lantern, inviting visitors to the festival’s nighttime events.
Art criticism	The researcher considers the artwork a model of sustainable environmental installation, employing bamboo construction techniques to create large-scale, temporary structures. The use of untreated natural materials embraces bamboo’s natural lifecycle of 2–5 years, aligning with its growth cycle and supporting ongoing landscape renewal. As the structure decomposes, new bamboo can be harvested, reinforcing ecological continuity. A defining aspect of the project is the active involvement of the local community in its construction, which fosters a sense of belonging and promotes long-term engagement with the artwork.

6.3 Installation.3		
Artwork description	Name	Hang Out.
	Designer	Architectural Office “\ • • Architects”.
	Location	Shanghai, China.
	Date	2019.
	Material	Stainless steel, PVC panels.
	Area	410 m².
Model		
		

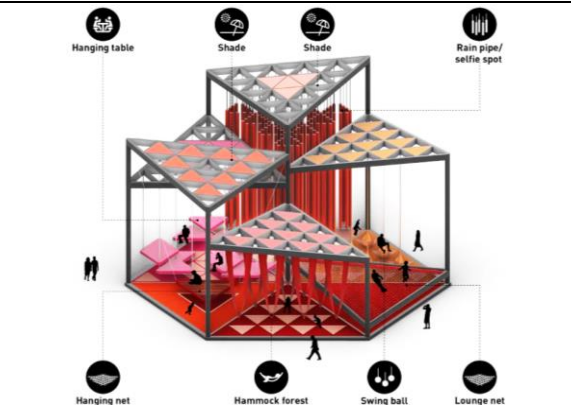
Working drawings		
spatial dynamics	<i>Hang Out</i> is a creative intervention located in the New Bund business district in Pudong, aiming to redefine public space within the context of contemporary urban life. Rather than offering a conventional open area, the project creates an interactive environment that fosters social connection and active public engagement.	
Conceptual aspect	The concept	It embodies the "suspended space" concept, with functional elements provided. This design fosters a sense of detachment from daily routines. It also enhances spatial flexibility, allowing users to engage with the environment on their own terms.
Conceptual aspect	ArtworkPhilosophy	The design draws inspiration from the triangular and hexagonal forms found in crystal structures, symbolizing order, harmony, balance, and stability. By adopting this geometric language, the project aims to evoke a sense of security and belonging, encouraging social interaction and collective engagement within the space.
Community Participation	The Hang Out project redefines public space through interactive art, featuring five equilateral triangles with unique suspension functions like swings, hammocks, and lounges. These elements encourage social interaction and sensory exploration, fostering positive emotions and strengthening social bonds. By engaging with diverse aesthetics and functionalities, users experience a rich sensory interaction that enhances their physical and emotional connection to space.	
Art criticism	The researcher contends that this installation offers a transformative approach to public space by fostering cohesive, interactive communities. It goes beyond aesthetics to create an environment conducive to social and intellectual exchange. The use of warm colors—particularly red—draws from traditional Chinese symbolism, representing happiness, passion, and good fortune. Functional elements further enhance interaction, providing both sensory and recreational value, and enriching the overall public experience.	

Table 3: Analysis of examples of installation art works in public spaces (Source: researcher) .

7- A case study of a public space in Damietta, Egypt:

This paper chooses a typical case named “New Damietta” community as the object of study to develop the community field research. Based on the Depth Map software simulation calculation, it makes quantitative analysis and research on the public space in modern communities and the actual use of public space by community residents.

7.1 Community Profile

It is a new city of the first-generation cities in Egypt, established within the framework of the 18 km² and accommodates state's plan to establish new cities to reduce population density in cities. It occupies an area of 233 thousand people in 2024, its coast overlooks the Mediterranean Sea for 5 km. The international coastal road extends from the north and is interspersed with an urban expressway. The city is surrounded from the east and south by green spaces in addition to the central green square. The residential blocks are distributed in four neighborhoods in addition to the industrial zone. The residential blocks are surrounded by public spaces as in (fig.15).

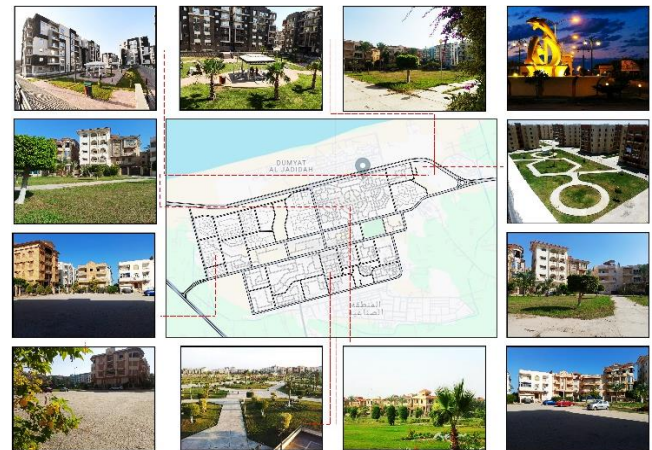


Figure.15. New Damietta Community scene condition.

(Source: researcher)

7.2 Quantitative Analysis of the Humanized Demand of Community Public Space:

Using the community map as the foundational layer, the spatial structure axis map is created in CAD. This map is then imported into Depth map to establish the axis model. Key metrics such as Mean Depth, Integration HH, Connectivity Value, and Choice are selected to quantitatively analyze and describe the human-centric demands of community public spaces.

- **Mean Depth:** it measures the convenience of nodes in a spatial system; lower values indicate easier access.
- **Integration HH:** it measures the connectivity and accessibility of a space within a spatial system.

Higher integration values indicate greater accessibility and ease of attracting and concentrating people flow.

- **Connectivity:** it refers to the number of spaces a given space intersects within a system. Higher connectivity increases people's flow direction and strengthens connections with other spaces.
- **Choice:** it measures a space's potential to attract crossing traffic; warmer colors on the axis indicate higher pedestrian crossing likelihood.

The results of the community analysis are shown based on the axis map in (fig.16).

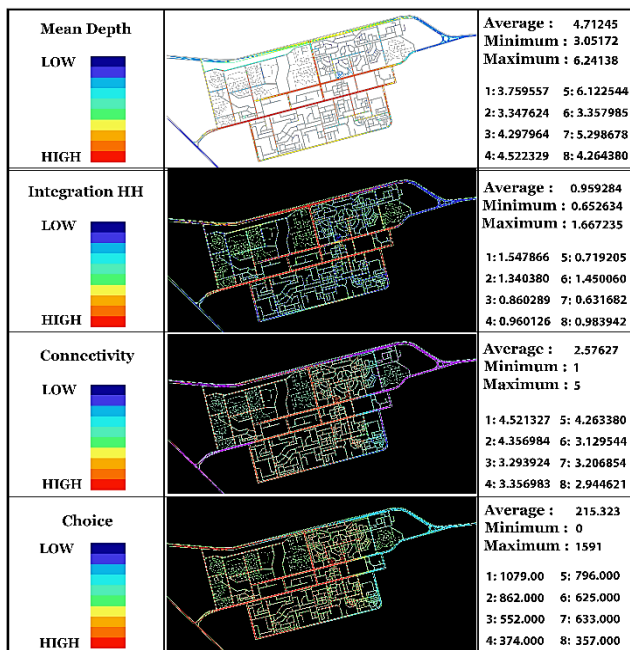


Figure.16. New Damietta Community analysis based on the axis map. (Source: researcher, by using depthmapX)

Depth map's analysis shows that the public plazas of "New Damietta Community" are highly integrated, have the potential to attract people and their activities, to the area. Community landscape design should integrate nature with resident activities, not just focus on green rates or exist independently. Avoid impractical, large landscapes by ensuring designs prioritize resident participation and functionality. Depth map analysis shows low integration of inter-group spaces, so breaking up impractical landscapes with paths and public installation arts with public supporting service facilities between buildings can create clear, functional spaces that encourage resident interaction and activity.

7.3 Design proposal:

Depth map analysis revealed that although the public spaces between residential units have the potential to attract users, they remain stagnant due to the lack of

basic services such as seating areas or artistic features that stimulate curiosity and engagement. The researcher proposed a functional installation art for coastal public areas and spaces between residential blocks. The proposed intervention aims to meet essential needs such as tranquility and movement, while drawing inspiration from the local coastal environment. The final concept features a shell-inspired installation structure that blends natural symbolism with functional spatial activation (Fig. 17.18). Using Google Maps, the researcher identified the proportions of green and underutilized spaces within the community layout (Fig. 19).

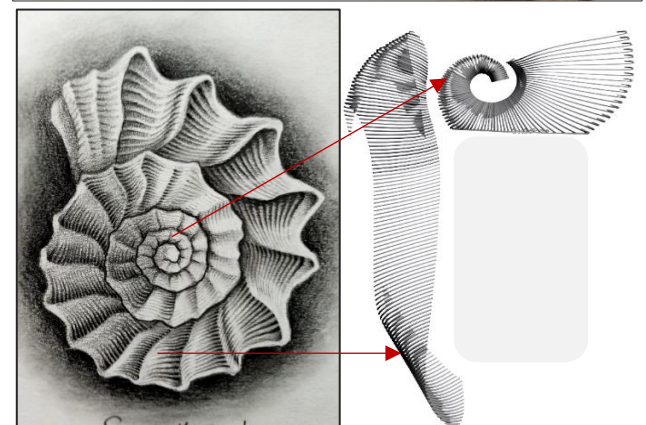


Figure.1V. Installation art structure inspired seashells.

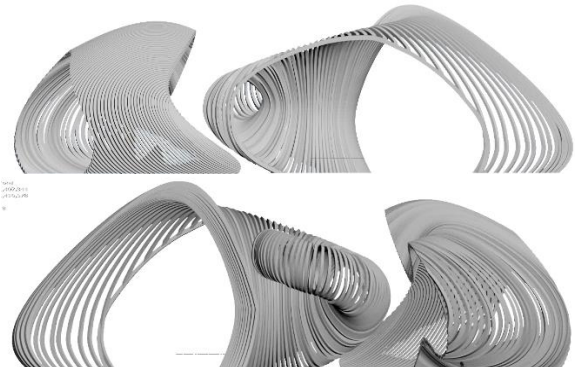


Figure.1A. Horizontal, vertical and 3D model of the structure.

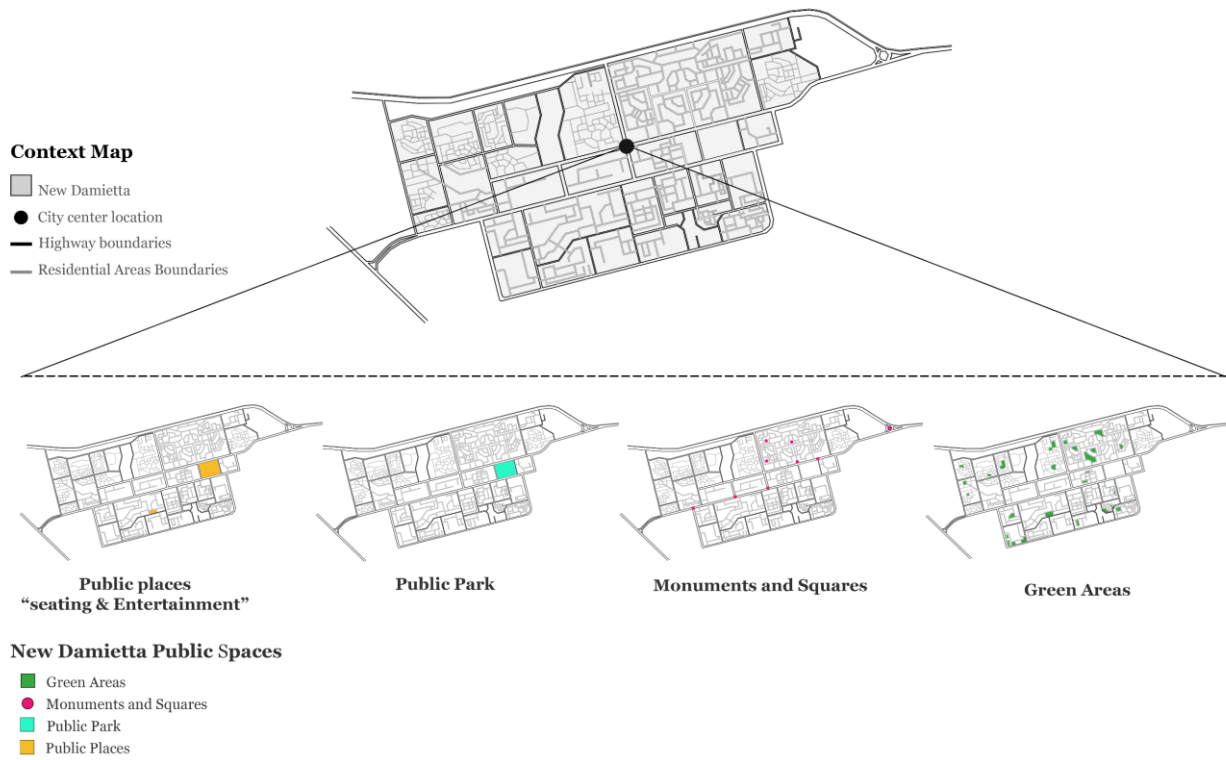


Figure.19. New Damietta Community analysis by public spaces.



Figure.20. 3D Simulation of the installation in a virtual coastal environment.

8- Conclusions:

Considering the theoretical foundations and practical applications examined throughout this research, the study concludes that installation art possesses a distinctive capacity to reshape and humanize public spaces. By integrating artistic, spatial, social, and technological dimensions, installation art offers a multifaceted design

strategy that responds to both the physical and emotional needs of urban users. The following key findings summarize the research outcomes:

- **Installation art is a powerful medium for humanizing public spaces**, as it enriches urban environments through emotional engagement, community interaction, and the reinforcement of cultural identity.
- **The incorporation of place-making theory and human-scale design principles** ensures that installation art remains accessible, relatable, and functionally integrated within the urban context.
- **Spatial analysis using Depth Map software revealed significant potential for revitalizing neglected public areas**, particularly within New Damietta, by using artistic interventions to activate community spaces.
- **Technological innovation and sustainable practices—such as AI integration and recycled materials—enhance the functional, emotional, and ecological impact** of installation artworks in public domains.
- **Community involvement and interdisciplinary collaboration** strengthen the social value of installation art, making it a strategic and inclusive approach to urban renewal and participatory design.

9- References:

- [1] Trancik, R., (1991): Finding Lost Space: Theories of Urban Design. Van Nostrand. New York.
- [2] Blessings, N. (2024): The Impact of Public Art Installations on Urban Recreation Spaces. *International Journal of Arts. Recreation and Sports*, 3 (2), 13-24.
- [3] Nguyen, T., & Tran, H., (2022): Art for health: Exploring the impact of public art installations on physical activity in urban recreation spaces. *Journal of Physical Activity and Health*, 19(2), 165-182.
- [4] Almahmood, M. et al., (2022): Human-centered public urban space: exploring how the re-humanization of cities as a universal concept has been adopted and is experienced within the socio-cultural context of Riyadh. *Urban Research and Practice*, 15(1), 1–24.
- [5] Genecon, LLP., (2011): Understanding High-Street performance. Department for Business, Innovation and Skills.
- [6] Abdelgadir, D.H., & Supervisor, A. H. (2019): The impact of public spaces design on human behavior. Available from: <http://repository.sustech.edu/handle/123456789>
- [7] UNESCO, (2012): Early Childhood Care and Education. UNESCO Bangkok, and UNICEF ROSA, Bangkok, P.14.
- [8] El Hama. N., & Helmy. M., (2024): Humanizing Commercial Streets as a Tool for Social Sustainability. IOP Conf. Series: Earth and Environmental Science, Visions for Future Cities.
- [9] Huang, Y., & Liu, Y., (2022): Assistive technology in smart cities: A case of Street crossing for the visually impaired. *Technology in Society*, 68, Available from: <https://doi.org/10.1016/j.techsoc.2021.101805>
- [10] Nursuliana. S., (2023): Installation Art in Public Spaces as Socio-Spatial Framing of Place: Case Study Luminous River Installation Art. *International Journal of Creative Multimedia*, 4 (1).
- [11] Yanling, Q., (2024): the Characteristics of Immersive Installation Art from the Perspective of Digital Media. *Frontiers in Art Research*, 6(9), 6-10.
- [12] Hamidianpour, F., & Vaziri, M. (2022): Transformation of a neglected urban area by implementing public art. A case study of Azadi underpass in Tehran, Iran. *Cities*, 121. 103426.
- [13] Julie. R., (2001): From Margin to Center: The Spaces of Installation Art. Cambridge, England: MIT Press.
- [14] János. G., (2016): Thoughts from the dynamically changing city, Shanghai. *Pollack Period*, 11(3). 27–42.
- [15] L. Huiyu, (2020): Analysis of the relationship between installation art, the masses, and the city in contemporary times. (in Chinese). *Mingrifengshang*, 12.184–185.
- [16] Jinsi. W., (2016): Research on the way of integrating installation art into landscape design of urban public space. (in Chinese), MSc Thesis, Chongqing University.
- [17] Honghao. H., (2021): Intervention and renewal – Interpretation of installation art in urban public space. *Pollack Periodica*, 16(3). 139–145.
- [18] Sun Sheng.y., (2010): Integration and compatibility: Interpreting the uncertainty and implication of device art. *Hundred Schools in Arts*, 3. 216–219.
- [19] Matthew. P., & Eva. S., (2020): Do you feel like I do? A study of spontaneous and deliberate emotion sharing and understanding between artists and perceivers of installation art. *Psychol. Aesthete. Creativity Arts*, 14(3), 276-293.
- [20] Ecem. S., (2014): Lefebvre's Production of Space and Urban Sociology. Middle East Technical University.
- [21] Zigui. C., (2014): Development of interactive installations in China public space. (in Chinese). MSc Thesis. China Academy of Art.
- [22] Omer. D., & Sugie. L., (2024): Jane Jacobs's urban vitality focusing on three-facet criteria and its confluence with urban physical complexity. *Cities*, 155.
- [23] Jun. Y., (2012): Study of landscape design's application from installation art (in Chinese), MSc Thesis, Beijing Forestry University.
- [24] Saverio. M., (2015): A direct deliberative evaluation method to choose a project for Via Giulia. *Pollack Period*, 10(1).143–153.
- [25] Chen. X., Zainuddin. I., (2023): Exploring Emotional Responses in Interactive Installation Art: A Convergence of Affective Computing and Artificial Intelligence.
- [26] Cao, Y., & Xie, Q. (2021): Technical Composition and Creation of Interactive Installation Art Works under the Background of Artificial Intelligence. *Math. Problem. Eng.*
- [27] Raptis, G. E., & Katsini, C. (2021): Mumia: Multimodal interactions to better understand art contexts. *Applied Sciences (Switzerland)*, 11(6).
- [28] Szubielska, K., & Szymańska, A. (2021): The influence of the physical context and knowledge of artworks on the aesthetic experience of interactive installations. *Current Psychology*, 40(8). 3702–3715.

- [29] Judy. Z.J., (2016): The human scale in public urban areas. Retrieved April 4, 2024, from <http://blogs.worldbank.org/sustainablecities/human-scale->
- [30] Ernest and Peter. N., (1971): NEUFERT. Third Edition. Retrieved February 19, 2025, from <https://archive.org/details/neufert-3>
- [31] David. S., (2024): A Hermeneutics of Restoration. *Environmental and Arch- Phenomenology*, 35(2). 8-10.
- [32] Desire lines or desire paths. Webster's Dictionary. <https://www.merriamwebster.com/dictionary/desire%20pat>
- [33] 50 Times City Architects Failed to Understand People's Needs, And It Resulted in These 'Desire Paths' Appearing Around the City. Retrieved February 19, 2025, from <https://www.boredpanda.com/desire-paths-pics/>
- [34] Hall, T. and Smith, C. (2005): Public art in the city: Meanings, values, attitudes and roles. *Interventions. Advances in art and urban futures*. 175-179.
- [35] Azzarello, N. (2015): Antony Gormley's controversial event horizon installation in Hong Kong. <https://www.designboom.com/art/antony-gormley-event->
- [36] Ross, M. (2016): Gallery Without Walls: The Case for Public Art in Hong Kong. <https://www.tatlerasia.com/lifestyle/arts/gallery-without->

- [37] Cheng, Y., Chen, J., & Xiao, X. (2023): The Preference of Public Art Design in Urban Landscapes: Evidence from an Event-Related Potential Study. *Land*, 12(10), 1883.
- [38] Sidhu, M.& Bodner, E., (2018): Prediction of Beauty and Liking Ratings for Abstract and Representational Paintings Using Subjective and Objective Measures.
- [39] Sun, X., & Jin, W., (2021): Elderly's Preferences towards Rehabilitation Robot Appearance Using Electroencephalogram Signal. *EURASIP J. Adv. Signal Process*, 35.

Web sites:

- 1- Hang Out, composed of 6 triangles equipped with different hanging functions. <https://100architects.com/project/hang-out/>
- 2- GREEN SKYLINE",100 Architects Street Architecture& Urban Interventions, 23May 2024, Hengqin, Accessed 13 Nov 2024, <https://100architects.Com/Project/Green-Skyline/>
- 3- Chrysalis Entrance Pavilion / Cave Urban" 27 Feb 2024. ArchDaily. Accessed 1 Sep 2024. <https://www.archdaily.com/1013786/chrysalis-entrance-pavilion-cave-urban> ISSN 0719-8884