Interaction of Digital Art, Space and Memory: The Case of Alkazar Movie Theater

Muteber Erbay

Department of Interior Architecture, Faculty of Architecture, Karadeniz Technical University, 61080 Trabzon/Turkey
E-mail: merbay@ktu.edu.tr

Abstract. The pursuit of new art formed by the integration of digital technologies with art is used in many areas of architecture, such as facades, surfaces, showcases, and interiors. The use of art together with the technological infrastructure, especially on interior surfaces, has enabled artists to develop their limits of creativity. In this sense, one dimension of creativity is the designs made through the memory of space. This study focused on how digital artworks produced through the memory of space are applied in the Alkazar Movie Theater in Beyoğlu, Istanbul and their effect on the user. At the point of transferring social memory, Refik Anadol's work titled *Alkazar Dream*, renowned for its visualization of memory through digital art, has been effective. The study examined how this interaction was achieved, using a descriptive-analytical and qualitative data analysis method. As a result of the study, the effect of experiencing space and social memory through digital art on the user was revealed. It was found that the interaction of the user with digital art as a viewer and participant is an effective method for the preservation and transfer of social memory into the future.

Keywords: *architectural memory; digital art; digital art and space interaction; experiential architecture; interior space and memory.*

1 Introduction

Digital art and architecture are two disciplines that have become increasingly intertwined in recent years. The rise of digital technology has enabled new forms of expression and experimentation in both fields, leading to a range of innovative and exciting works that challenge traditional notions of what art and architecture can be.

Architecture and memory, on the other hand, are closely linked; buildings and spaces often play a powerful role in shaping our memories and perceptions of the world around us. From childhood homes to iconic landmarks, architecture can evoke a wide range of emotions and associations, acting as a tangible link to our personal and collective history. At its core, architecture is a physical

Received June 7th, 2023, Revised August 3rd, 2023, Accepted for publication October 10th, 2023.
 ISSN: 2337-5795, DOI: 10.5614/j.vad.2024.16.1.3

manifestation of human experience and culture, reflecting the values, beliefs and aspirations of the societies that created it. Buildings and structures serve as tangible symbols of the past, embodying the stories and memories of those who lived in and interacted with them over time. In turn, our experiences in these spaces leave an indelible mark on our memories and identities. A particular building or place can evoke a range of emotions, from nostalgia and joy to fear and sadness, depending on the events and memories associated with it.

Overall, the relationship between architecture and memory is a rich and complex one, with buildings and spaces serving as powerful vehicles for personal and collective experiences and memories. The study and exploration of this relationship therefore offers a fascinating insight into the ways in which architecture shapes and reflects our understanding of the world around us.

2 Digital Art, Space and Social Memory

Digital art refers to any art created using digital technology, such as computer graphics, digital painting, or video art. This type of art often involves the use of software programs, algorithms and other digital tools to create unique and complex visual experiences [1,2]. Unlike traditional art forms, digital art offers artists a high degree of flexibility and control over their creative process, allowing the creation of complex and layered works that can be easily manipulated and altered. This has led to the emergence of new forms of expression and experimentation in this field, with artists exploring the possibilities of technology and digital media to create innovative and boundary-pushing artworks.

Interior architecture encompasses the design and planning of interior spaces, taking into account factors such as layout, circulation, lighting, materials, acoustics and ergonomics. It involves an in-depth understanding of the interactions between people and their environment in order to create spaces that are not only visually appealing but also functional and conducive to the well-being and comfort of building occupants.

Digital art offers a range of media and techniques that can be seamlessly integrated into interiors, enabling the creation of immersive and visually captivating environments. From digital projections and interactive installations to LED screens and augmented reality experiences, digital art brings a new dimension of sensory engagement and storytelling to interior design. The integration of digital art into interior design not only adds aesthetic value but also serves as a means of personal expression and communication. It enables designers to transform spaces into dynamic, ever-changing canvases that adapt to users' needs and desires [3].

Memory acts as a bridge between our past and present selves, allowing us to carry forward our personal histories, experiences, and knowledge. It shapes our perceptions, influences our decision-making and informs our interactions with others. Our memories help form the basis of our individual identities, as they contain the stories, events and emotions that have shaped us over time. Beyond its individual importance, memory also plays an important role in our collective experience as human beings. Cultural memory, for example, refers to shared knowledge, traditions and historical narratives passed down through generations. It forms the basis of cultural identity, helps communities understand their heritage and provides a sense of continuity and belonging [4].

The full experience of the space is realized when there is contact between the user and the memory of the space. Memory is considered in psychology as the ability to store, retain, and recall learned information. When this information is examined in terms of interior space, it comes to the forefront with its physical characteristics and sensory qualities such as form, texture, color, light, sound, smell and material during the storage phase when it is first encountered together with the space. However, in order for this experience to be stored and recalled, memories must be formed over time. In this way, it is crucial to pass on the architectural memory to new occupants in addition to updating the space's physical elements [5,6]. A bridge that enables the user to perceive the space through memory can now be provided by digital art.

Architecture has the power to rouse emotions, stimulate communal memory, and bind people to their shared histories. People can feel nostalgic, connected to their cultural heritage, and reinforced a sense of belonging by taking a stroll through a historic neighborhood or visiting an important structure. Additionally, by creating areas for group gatherings, cultural activities, and public conversation, architecture can support social memory [7,8]. Communities are able to transmit their stories and traditions from one generation to the next because it serves as a venue for social interactions, rituals, and traditions. Examples include places of worship, community centers, and open spaces that offer cultural events and act as gathering places for the community.

The preservation and renovation of architectural structures with social and historical relevance has drawn more attention in recent years. A realization of the significance of architectural history in sustaining social memory and fostering a feeling of continuity can be shown in the preservation and adaptive reuse of historic structures or the incorporation of memory-oriented design aspects into contemporary architecture.

This study investigates the issues of 'Can a space mediate the transfer of social memory?' and 'Can the memory of space be transferred through digital art?' in

the historical Alkazar Cinema, which was renovated and made functioning on Beyolu Street in Istanbul, through the work *Alkazar Dream*. A descriptive-analytical research approach with qualitative data analysis was employed. The significance of this study is that it demonstrates how digital art may be utilized as a medium to transmit to a new generation with their own stories the locations that have occurred in social memory.

3 Metodology

In this study, unstructured observation was used as a descriptive qualitative research method. The most important advantage of descriptive research is that the subject being analyzed is examined completely in its natural environment. Structured observation is divided into two parts, with the researcher as non-participant and participant, respectively. In both, the observer focuses not only on the behaviors observed but also on the context in which the behaviors take place and thus tries to understand the reasons for the behaviors [9,10]. Participant observation is a type of observation in which the researcher is involved in the community he/she observes to a certain extent and observes the subject of the research from the inside by participating in the culture he/she analyzes. Participant observation not only improves the quality of the data collected but also provides a more qualified interpretation of these data and therefore it is considered as both a data collection tool and an analytical tool [11].

The research universe is the Alkazar Movie Theater in Istanbul, and the sample is the interactive work titled *Alkazar Dreams* shown in this venue. In this research activity, which lasted 20 minutes in total, the researcher took part as a participant observer. The researcher participated in 4 events consecutively during one day and observed the other participants. The data obtained were then analyzed analytically.

4 Alkazar Movie Theater and *Alkazar Dreams*

Beyoglu, located in Istanbul, Turkey, has a rich history and a vibrant cultural scene, including an important location for cinema. Beyoglu has been a hub for film screenings, theatres and film-related events for decades, making it an important cultural district for cinema enthusiasts. One of Beyoglu's key cinema-related landmarks is Istiklal Street, a bustling pedestrian street known for its historic buildings, shops, and entertainment venues. The street has become a center of cinema culture with several iconic movie theatres lining its streets [12-15].

One of these cinemas, the Alkazar Movie Teather, is one of the most important buildings in the history of cinema since the 1920s. Until 2010, the building continued to serve this function, and after the restoration works started in 2016, it started to serve as a venue for sports and cultural events in 2021 under the name ‘Hope Alkazar’ [16] (Figure 1).

Figure 1 Alkazar Movie Theater external and internal appearance.

The historical venue, which hosted many films in the past, was reopened with an interactive work called *Alkazar Dream*. Refik Anadol is a contemporary Turkish media artist who has gained international recognition for his pioneering work in digital art. He is known for his immersive, large-scale installations that explore the relationship between memory, space and technology, using cutting-edge software tools and technologies to create striking visual experiences. Based on the question ‘Can a space dream?’, the artist transformed the data obtained from more than 150 film archives shown in the Alkazar cinema into a physical experience by combining it with artificial intelligence [17].

5 *Alkazar Dreams*, Space and Memory Interaction

Digital art and artificial intelligence algorithms were used in the Alkazar cinema as a way of recalling the memory of the place. *Alkazar Dreams* offers the opportunity to experience the space and feel this dream with a 20-channel projector, 28-channel sound, and 4 artificial intelligence cameras with artificial

intelligence interpreting the data of 150 Turkish films shown in this cinema as memories of a place. The study consisted of two parts, of 12 minutes and 8 minutes [18], respectively (Figure 2).

Figure 2 Projection and sound systems in Alkazar Movie Theater.

In the first part, the use of the historical memory of cinema and its transfer to the space took place in 4 stages;

- In the first stage, 150 works of Turkish cinema that have a place in the social memory of Turkish cinema representing the memories of the Alkazar cinema between 1947 and 2010 were examined with artificial intelligence algorithms. Each of the 150 films was created as a data pool with two frames per second.

- In the second stage, these films were watched one by one. Among the artificial intelligence algorithms, especially image recognition algorithms detected these scenes one by one and had the chance to understand the objects in them, where and in which direction the characters looked, and even their emotions. Among the artificial intelligence algorithms, Nvidia's StyleGANZ Ada algorithm was trained in two different ways to examine both the characters and the places in the cinema films. A data planet emerged from these materials.

- The third stage focused on the script and dialogues. In 150 films, a data pool representing half a million original words and sentences was created and the focus was on audio memory. Approximately 300 hours of audio data were analyzed in this section. A data explorer was obtained by passing the 10-second audio clips of each film through 3 different artificial intelligence algorithms to understand the information in them.

- In the fourth stage, for the sound design, an artificial intelligence algorithm was trained from all the sound recordings in 150 films, close to 300 hours. With this sound composition prepared by Kerim Karaoğlu, *Alkazar Dream* was recreated and experienced both visually and audibly in the mind of an artificial intelligence.

As a result, a story that takes place in four different data planets emerged. Thus, for the first time in the world, the historical memory of a historical cinema came together with artificial intelligence. The form of video and 28 channels of sound that completely surrounds the audience is defined as the cinema of the future (Figure 3).

Figure 3 Images from the first section.

The second part is the viewer's interactive experience of the space. New spatial experiences are made possible thanks to a software in which the data obtained are transformed into pigments and different algorithms specific to this space are redefined within the scope of the project. This interactive section turns the space into an experience that surrounds the viewer with systems that define the speed, direction and movement of the viewer by simultaneous sensors and artificial intelligence algorithms. The simultaneous movement of millions of data particles from 150 films with the viewer and the redefinition of movement is a first in the world (Figure 4).

Figure 4 Images from the second section.

Alkazar Dreams, the interaction between space and memory involves a dynamic relationship in which digital art, architectural space and collective memory intersect and influence each other. The work utilizes technologies such as projections, lights, sounds and interactive elements to evoke emotions, stimulate the senses and provoke thought. The combination between the physical surroundings and the digital artwork produces a distinctive environment that draws people in and takes them to a different world.

Of course, the architectural setting in which *Alkazar Dreams* is shown has a significant impact on how the audience experiences and interprets the piece of art. The ambience, spatial perception, and general atmosphere of the installation are influenced by the design, arrangement, and features of the space. Walls, ceilings, columns, and other architectural components as well as particular qualities of the location are incorporated into the digital artwork and added to the visual and narrative composition. The symbiotic interaction that results from the blending of digital and physical elements improves the overall impact of the artwork and molds the memory linked with the place. *Alkazar Dreams* also has the power to alter and mold the memory connected to the actual architectural area. Viewers may be left with a lasting impression due to the immersive and compelling quality of the digital artwork since they will be able to connect the location with their transforming experience. The memory of the location and the memory of the artwork are intertwined, forming a special fusion that will influence how people view and remember the location in the future.

In conclusion, there are many different ways in which *Alkazar Dreams*, the space, and memories interact. The immersive experience the digital artwork generates in the architectural setting affects how viewers experience and engage with the artwork. The artwork's atmosphere and spatial perception are shaped by the architectural space, which also shapes the entire experience and memory of the space. The architectural setting and the context of the digital art installation stimulate, connect, and reinterpret both individual and collective memories. *Alkazar Dreams'* connection with the environment and viewers' memories results in a deep, transforming experience that alters the viewers' perspectives of the artwork and the environment.

6 Conclusion and Discussions

Architecture, literature, music, art, and other cultural expressions play an important role in preserving and transmitting social and cultural memory. They serve as tangible and symbolic artefacts that embody and represent the values, beliefs and historical narratives of a society. For example, monuments, museums and cultural institutions serve as repositories of collective experiences and historical knowledge, becoming spaces where social and cultural memory converge. In this study, the interaction of digital art, space and memory is examined through the Alkazar cinema and *Alkazar Dreams*. Especially in the re-functionalization of historical buildings, digital art can be used as an alternative form of reminder at the point of transferring spatial memory.

In the case of the work titled *Alkazar Dreams* exhibited in the Alkazar cinema, digital art was used in two ways while transferring the memory of the space.

- The first use is the display of 100 years of memories of the space on all surfaces of the hall through digital art. With this 12-minute-long installation, a connection between the viewer and the space is established with the past. For those who have memories of the place, who have experienced the place before, the memories come alive before their eyes. For those who have never experienced the place before, they have the opportunity to recall the film archive that has taken place in social memory in the place where it was first shown. For a younger audience, who have never experienced the venue and have never seen these films before, this installation turns into a show that will remain in their memory. For all three audiences, there is a connection with the past through the memories of the place.

- The second way of use is that the viewer interactively creates a connection between the space and the future by creating their own memories with their own movements within the 8-minute data particle created with the memory

of the space. In this way, a strong memory is formed with that space and the space continues to create its own memory.

As can be seen, the use of space, people and memory are activated in both sections. The memory of the users and the space before the interaction starts is transformed after the event. Thanks to digital art, it causes a new memory of the past and the future to form in the memory of users as viewers and participants. This opens the doors to a new experience in terms of preserving and transferring social memory to the future. The graphic expression showing the results of the study is given in Figure 5.

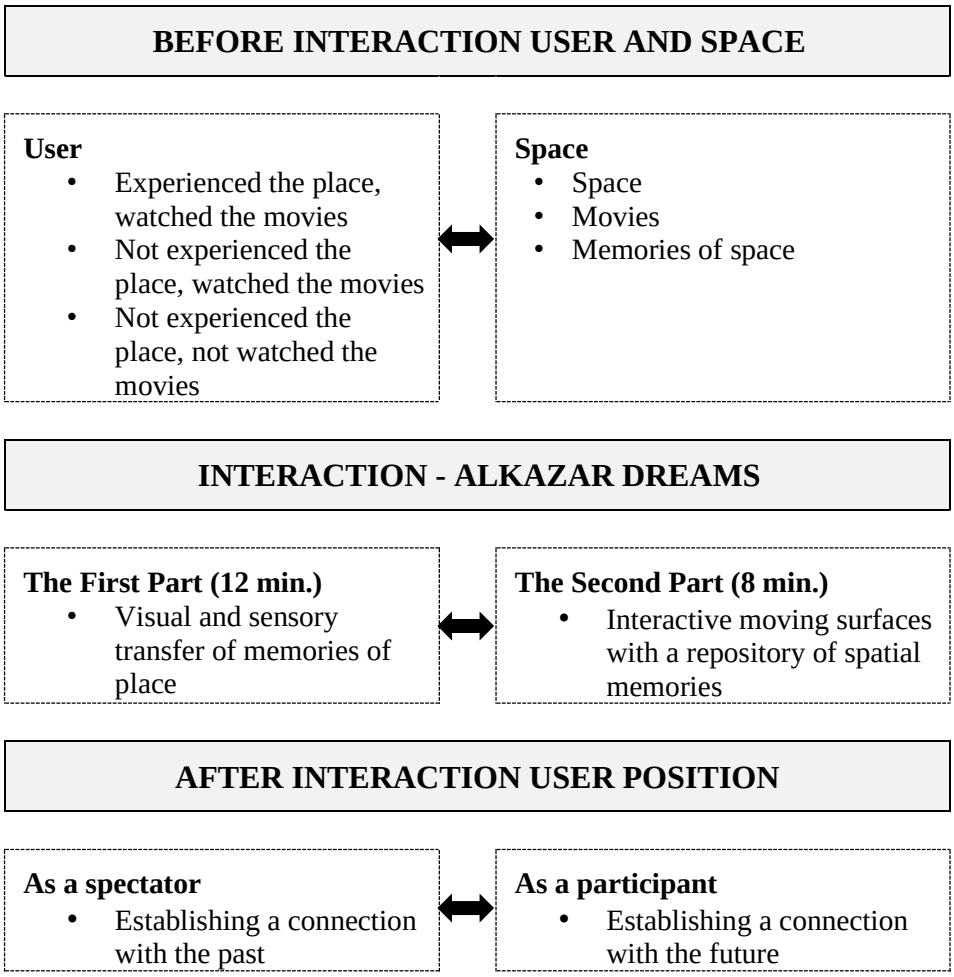

Figure 5 *Alkazar Dreams*, space, and user interaction.

In conclusion, viewers in the first installation connect with the past, while participants in the second installation connect with the future. As the audience engage with *Alkazar Dreams* in the architectural space, it is evident that memory is at play. The artwork's visual and experiential cues elicit memories from both the individual and the collective. Additionally, the environment of the digital art installation may invoke, question, or reinterpret communal memory, including cultural, historical, or shared experiences. Memory is combined with spatial and digital elements to produce a multi-layered, complicated experience that weaves together individual and group narratives.

The built environment acts as a physical representation of societal experiences, values, and identities, and as a result, there is a close connection between architecture and social memory. Architecture has the power to shape and inspire social memory through its physical presence and its function as a social space by tying people to their pasts, reaffirming cultural identities, and encouraging a sense of belonging within a community or society. In this situation, digital art installations can inspire particular emotions, create focus points, and enhance the overall air of a room, giving its occupants a distinctive and unforgettable experience. As a result of people's daily interactions within a society, social memory plays a part in the continuing creation and modification of cultural memory. This is because communal narratives of history and legacy are shaped through the maintenance, transmission, and interpretation of social and cultural memory, all of which are essential for maintaining cultural identities.

References

[1] Johnson, H. & Shaw, J.S., *Glossary of Digital Art and Printmaking*, Digital Art Practices & Terminology Task Force (DAPTTF), 2005, http://www.bermangraphics.com/dapttf/GlosDigArt.pdf, (5 April 2023).

[2] Paul, C., *Digital Art: World of Art Series*, ed. 4, Thames & Hudson, 2023.

[3] Zarzo, E., *The Art of Memory in the Digital Age*, Procedia - Social and Behavioral Sciences, **178**, pp. 222-226, Apr. 2005.

[4] Halbwachs, M., *On Collective Memory*, University of Chicago Press, 1992.

[5] Crang, M. & Travlou, P.S., *The City and Topologies of Memory*, Environment and Planning D: Society and Space, **19**(2), pp. 161-177, Apr. 2001.

[6] Bastea, E., *Introduction*, Memory and Architecture, Eleni Bastea, eds., University on New Mexico Press, pp. 1-22, 2004.

[7] Eco, U., *Architecture and Memory*, William Weaver (trans.), Journal of the Graduate School of Fine Arts, University of Pennsylvania, VIA, **8**, pp. 88-94, 1986.

[8] Aslam, M., *Memory and Architecture,* Master thesis, School of Architecture, McGill University, Canada, 2016.
[9] Junker, B.H., *Fieldwork: An Introduction to the Social Sciences*, University of Chicago Press, 1960.
[10] Kümbetoğlu, B., *Qualitative Methods and Research in Sociology and Anthropology,* Bağlam Yayıncılık, 2005. (Text in Turkısh)
[11] DeWalt, K.M. & DeWalt, B.R., *Participant Observation: A Guide for Fieldworkers*, AltaMira Press, 2001.
[12] Kutun, B., *Alkazar Cinema*, Dünden Bugüne İstanbul Ansiklopedisi, İlhan Tekeli, ed., Cilt: I, Kültür Bakanlığı, pp. 205-206, 1993. (Text in Turkish)
[13] Evren, B., *Old Istanbul Cinemas Dream Castles,* Milliyet Yayınları, 1998. (Text in Turkısh)
[14] Öztürk, M., *Urban Crisis and Cinema in Istanbul,* Kentte Sinema Sinemada Kent, Nuray Türkoğlu, Mehmet Öztürk ve Göksel Aymaz, eds., Yenihayat Yayıncılık, pp. 45-54, 2004. (Text in Turkısh)
[15] Gökmen, M., *History of Turkish Cinema*, Denetim Ajans, 1989. (Text in Turkısh)
[16] Yıldırım, A.R., *Pop Up Spaces and Their Integration into the Pandemic Process,* Journal of Interior Design and Academy, **2**(1), pp. 57-76, Jul. 2022. (Text in Turkish and Abstract in English)
[17] Özkan Neğiş, A., *The Audience as Actor in Performance Based Art Practices*, Master thesis, Institute of Social Sciences, Necmettin Erbakan University, Konya, 2022. (Text in Turkish and Abstract in English)
[18] Anadol, R., *"Alkazar Dream" by Refik Anadol*, Teknolojiyle Sanat Arası, https://www.youtube.com/watch?v=xDpdqNjConk&t=77s, (17 April 2023). (Text in Turkısh)