ENHANCEMENT OF SOCIALIZATION IN URBAN PUBLIC SPACE THROUGH DIGITAL MEDIA

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ABSTRACT

ENHANCEMENT OF SOCIALIZATION IN URBAN PUBLIC SPACE THROUGH DIGITAL MEDIA

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Urban public spaces exist with their social benefits in which the community gathers and coheres, involves organizations that are appealing to society, and exchanges experiences with others.

Aligned with the digitalization that starts to appear and been practiced on the stage over the last few decades, public spaces so are the experiences within have been affected, and even potentially reconstructed enough to alter human life, perception, and action. In this sense, digital media, which offer various experiences with diverse application methods, have the potential to augment and strengthen the experience of public space with its components. The society participates in digital exhibitions and installations stimulating conversation, witnesses data displaying through screens bringing people together, gain interactive experience through digital media triggering the senses, and establishes a connection with the context utilizing the technologies that are situated in physical public spaces. Examining social activities, that are transformed in the digital era, is important to explore what kind of effects such activities have, in public spaces in primarily defining social dimensions, which also influence physical and meaning dimensions.

The study elaborates on examples of diversified digital activities in public spaces for the evaluation of these dimensions enhancing the experience in urban public spaces. In this context, among the properties for the provision of an appealing public space, passive, active engagement, and discovery, gain importance as being the relevant components of digital activities. Categorizing the digital activity types as art, information, games, and group actions the study indicates that participating in digital activities in public urban spaces introduces new ways of socializing in public spaces, thus expanding the scope of publicness for further possibilities.

Keywords: Digital Activities, Digital Media, Public Space, Public Space Experience, Social Interaction

ÖZ

DİJİTAL MEDYA ARACILIĞIYLA KENT KAMUSAL ALANINDA SOSYALLEŞMENİN ARTIŞI

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Kent kamusal alanları, insan topluluklarının bir araya gelip bütünleştiği, topluma hitap eden organizasyonlara dahil olduğu ve başkalarıyla deneyim alışverişinde bulunduğu sosyal faydalarıyla var olur.

Son birkaç on yıldır mekanlarda görünür olan ve uygulanmaya başlayan dijitalleşme ile beraber, kamusal alan ve deneyimleri etkilendi hatta insan hayatını, algısını ve eylemini değiştirecek ölçüde yeniden yapılandı. Farklı uygulama yöntemleriyle çeşitli deneyimler sunan dijitalleşmiş etkinlikler, bileşenleriyle kamusal alan deneyimini artırma ve güçlendirme potansiyeline sahiptir. Toplum, diyaloğu teşvik eden dijital sergilere ve enstalasyonlara katılır, insanları bir araya getiren ekranlar aracılığıyla verilere tanık olur, duyuları tetikleyen dijital araçlarla etkileşimli deneyimler kazanır ve yerleşik teknolojilerden yararlanarak bağlamla ilişki kurar. Dijital çağda dönüşüme uğrayan sosyal aktivitelerin incelenmesi; bu tür aktivitelerin fiziksel ve anlamsal boyutları da etkileyen özellikle sosyal boyutlarının tanımlanmasında ne tür etkileri olduğunu keşfetmek açısından önemlidir.

Çalışma, kent kamusal alanlardaki deneyimi artıran dijital ile ilgili boyutların değerlendirilmesi amacıyla çeşitli dijital aktivite örneklerini ayrıntılı olarak inceler.

Bu bağlamda, dijital etkinliklerin bileşenleri olarak pasif, aktif katılım ve keşif, dijitalleşme bağlamında önem kazanır. Dijital etkinlik türlerini sanat, bilgi, oyun ve grup eylemleri olarak kategorize eden çalışma, kamusal kentsel alanlarda dijital etkinliklere katılmanın kamusal alanlarda sosyalleşmenin yeni yollarını tanıttığını ve böylece daha fazla olasılık için kamusallığın kapsamını genişlettiğini göstermektedir.

Anahtar Kelimeler: Dijital Aktiviteler, Dijitalleşme, Kamusal Alan, Kamusal Alan Deneyimi, Sosyal Etkileşim

To my parents.

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INTRODUCTION

1.1 Problem Definition

Urban public spaces have a tremendous impact on a city's image and are vital to urban culture and city life. Besides standing out with their cultural and spatial benefits to society, they take on the task of providing socializing and generating a meeting point harboring urban life and community involvement. The experiences in which the society gathers and coheres involve activities appealing to needs and expectations, and exchanging ideas and experiences with others offered to the public within the urban context. The social benefits include the making encourage people to speak, see, hear, meet, engage, and live together in harmony with others and participate in activities.

Over the last few decades, the spread of technology brought about a great change and a new era in which state-of-the-art digital practices revolutionize both the urban public space and the way people live, perceive, and experience it. As the new digital era starts to appear and is practiced on the stage, public spaces and public life has been challenged, affected, and even potentially reconstructed enough to alter human life, perception, and action.

Now is a time that the physical and digital universes are blending. The new digital practices appear and practically run the urban context to display itself. Digital activities, which offer various experiences with diverse application methods, have already the potential to augment and strengthen the experience of public space with their components.

The urban texture may gain new meanings while undertaking new compositions. A city's density and spatial arrangement may vary whereas public spaces can adopt new roles or take on different characters. The society participates in public exhibitions and installations stimulating conversation, witnesses data displaying through screens bringing people together, gain interactive experience through digital tools triggering the senses, and establishes a connection with the context utilizing the situated technologies.

All these new formations inevitably affect the characteristics of physical public space and public life. Public spaces for art exist as a stage for these practices. In this sense, it is important to uncover the potential of developments and their empowering physical and social properties

1.2 Aim of The Study

Architecture is a responsive discipline that can reinvent itself and catch what is new by utilizing the tools, methods, and theories of the disciplines it is connected and related to. Architecture constantly introduces ideas and practices from the disciplines, that develop 'outside' the architecture into its cumulative knowledge.[1] Therefore, it is inevitable that the term *digital* has become a current paradigm for architecture. While the *digital* has been added to the existing urban landscape as a new layer, it is valuable that the relevant aspects of digitalized urban public experience be revealed, through the review of a successful model of public spaces by different authors with varying aspects. In this sense, the principal concepts are digital, effects, urban public space, activities, and experience. This study explores

[1] Teresa Stoppani, Giorgio Ponzo and George Themistokleous, *This Thing Called Theory*. (London: Routledge, 2016), 1.

digitalized activities, their respective content, and how they affect the experience of space.

There is a consensus on the negative impacts of the *digitalization* paradigm driving a wedge between society and public spaces. Considering this situation, the urge to discover and discuss the positive alterations and contributions of recent digital practices emerging in urban public spaces is the main trigger of this study. The motivation is to understand how the kind of society and environment in which we live is characterized thoroughly from the first decade of the twenty-first century.

The exhibited, applied, and built new digital activities within the urban public spaces, might conduct as a tool for expanding, strengthening, augmenting, and altering public life and social interactions. Humans get involved in public art exhibitions and active installations that enliven the urban fabric and memory; witness data displaying through screens on façades; gain interactive experience utilizing digital tools and senses; establish a connection with the context by making use of the situated technologies; act and play for participatory projects projected on the surfaces.

Herein, the study explores whether the state of digital activities being performative, participatory, and interactive within the exact physical space of the public could ever impact the understanding of public spaces. Furthermore, it investigates how a public space promotes participation and dialogue among different social and cultural groups through its activities. In this context, the main focus is centered on social interaction and social activities affected by digitalization and explores whether it is better or worse or non-effective social activities to be digitalized. Then, the digital activities' potential to impact the human experience of urban public spaces, is uncovered.

1.3 Methodology

It is worthwhile to touch upon the contextualized digital practices that appear in, use and transform physical public spaces. Therefore, the discussion of the study stresses the potential of recent digital tools as a means of reviving social life and transforming communities and physical public spaces. The current situation throughout the world, where digital activities and their practices are being implicated to rebuild the image of cities as well as essential public areas, will be examined.

Firstly, the theoretical framework of digital is constructed to concretize the growing relationship between the digital revolution (information technology paradigm) and the current state of the city and urban context. At its core, the literature is reviewed to define the essential topic of public space embracing the interrelated dimensions. Since one of the reflections of digital in the public space manifests itself with the transformation in activities, among the three main dimensions of public space, the social dimension, which covers human use and activity within, is put on the table to grasp human experience. Transformation of digital activities that appear in, use, and transform physical public space are examined.

Secondly, among the five components of the public space suggested by Carr et.al, those that can be associated with digitalization were investigated. It also examined how they manifested themselves in the digital era. In the end, a layout was structured thanks to the literature that feeds this part.

Thirdly, based on the literature and influenced by many examples from all over the world, the impact and contribution of wide-ranging digital technologies, that are installed, within the context of urban public spaces of cities, is examined. Thanks to these digital activities, that are associated with the context, to provide foresight, the

reflections of the physical presence of digital activities in physical public spaces in society are reviewed.

A set of components and aspects derived from examples, such as appealing to the senses, bringing people together, triggering speech and socialization, diversifying the experience, and intensifying the reflections of urban identity, is included in the discussion**.** Herein, how and in what ways the digital activities affect the context spatially, functionally, meaning-wise, and perspectively is c into sight with the heedfully selected examples.

Consequently, the study gives a comprehensive proposal on how digital activities contribute to the public space in all dimensions.

1.4 Structure of The Thesis

This paper will approach public space as not a tool but a medium changing the way humans act and interact with others and, the text will strengthen its arguments and literature with a review of examples. Examples of the extension of the urban experience of digital practices, which become more fluid and dynamic with current technologies, and the changing perception of urban public space will be examined.

The examples have been chosen among the ones, which are occupying public spaces, in global and local contexts, that are open to the public, and that people can watch or participate in without any restrictions or prerequisites. Selected examples will display the potentials of digitalization, which reflect on public life through physical space, to make cities more open, efficient, and engaging through different methods used: Sometimes reflecting the data on surfaces, sometimes through an application, sometimes with headphones, sometimes with the use of digital tools. The main intention is to reveal the content, methods of the examples, and which dimensions contribute to the public space.

The present study is composed of four chapters. In the first chapter, after the definition of the problem, the aim of the study, methodology, and the structure of the thesis is introduced, and the theoretical basis for public space is proposed, to initiate and set a basis for the main argument.

In the second chapter, which is about digital and urban public space experience, the paradigm of technology with its characteristics is introduced. This part reveals the effects on the formation and configuration of urban public space and elements of public interest, specifically focusing on the societal perspective. Then, the study discusses the transformation of urban public space experience and activities through activities in line with the emergence of technology paradigms in a city and an urban context. Here, the relevant components of digital activities within public space are investigated, and a comprehensive layout, based on the theoretical framework, is proposed for categorizing digitalized activities.

In the third chapter, regarding the constituted layout, the activities are assessed and inferences are put forward regarding sociability, human experience, and features of urban spaces. In the conclusion, what kind of reviews come out is reviewed. Considering public space has to provide its lasting physical characteristics at all times, some situations, in which recent digitalized activities may be a trigger in the experience of public space, are emphasized. Since this is a topical issue, what could happen in further studies and what can be searched after, was mentioned.

1.5 Theoretical Basis for Public Space

It is important to form a theoretical basis for public space in favor of established arguments and definitions over years.

Public space is the product of the concepts of space and public. The term ‘public’ refers to common and open to all in the comprehensive sense. The public realm and the public sphere are abstract milieus that hold a network for publicness.

In The Human Condition, Hannah Arendt refers to the public realm as the realm of seeing, speaking, hearing, meeting, and engaging.[2]

Humans have the means to create a public realm wherever they can show themselves and act. Within the presence of others on the public scene, anything that *appears* is seen and heard by everyone.[3] The public realm as an open and shared space relates humans of different perspectives together to share a common, by regulating and controlling the distance between them.

Jürgen Habermas' public sphere is a broader medium all-encompassing, beyond a formation in physical space: It is "a realm of our social life" where private individuals can access and gather as public to shape a public opinion.[4] In this manner, public space is one of the sub-modes of the public sphere letting citizens develop a discourse on any topic freely.

Within the broad sense of the public realm, Carmona et al. expresses that the dimensions of physical and social emerge as two interrelated concepts that define and complement each other.[5] Public space becomes concrete as a physical space that is set to the public realm. They are settled into the cities as accessible living spaces that invite and involve a wide variety of people, strangers, and groups actively participating in public life. The socio-functional basis of successful public spaces is based on people's need to come together for purposes including access to other people, engaging with different cultural groups, and participating in community

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[2] Hannah Arendt, *The Human Condition*, 2nd ed. (Chicago: The University of Chicago press, 1958), 58.
[3] Hannah Arendt, *The Human Condition*, 58.
[4] Jürgen Habermas et al., "The Public Sphere: An Encyclopedia Article," New German Critique, no.3 (1974): 49-55, https://doi.org/10.2307/487737; Jürgen Habermas, *The Structural Transformation of The Public Sphere: An Inquiry into a Category of Bourgeois Society*. (Cambridge, Mass: MIT Press, 1989), 176.
[5] Matthew Carmona et al., *Public Places Urban Spaces: The Dimensions of Urban Design*. (Oxford: Architectural Press, 2010).

activities.[6] In a way to support people's desires to be active, Jane Jacobs remarks that urban vitality produced by cities that offer a wide variety meets the needs of humans and brings them onto the streets to connect socially.[7]

Therefore, an authentic and successful city responds to the changing demands of various humans and proposes alternatives to let them be a part of the course of life.

Space and society are inevitably linked to each other. Society and social relations are established through space while at the same time, space is embodied through society. According to Habermas, public space refers to "any medium, occasion, or event" that arouses public communication among strangers.[8] Parks, squares and plazas, markets, streets, sidewalks, playgrounds, waterfronts, neighborhoods, urban gardens, and natural areas are types of urban public spaces where activities are effective in providing communal life and social interaction. A well-functioning public space stimulates people and many senses with its diversified mixture of activities. A sunny day brings people to a marketplace for socializing, a street performance in a street acts as a junction enhancing public life, an interactive art installation greets and encourages viewers to exchange nice remarks, festivals support community involvement, and parks meet people's social needs. If an urban space does not appeal to humans, density decreases, and people are drawn away. Then, the city radically falls.

In this thesis, the digital activities in public urban spaces of cities were evaluated within the framework of being situated in the physical environment. The examples were selected and discussed specifically in the case of their presence in public spaces.

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[6] Stephen Carr et al., *Public Space*. (England: Cambridge University Press, 1992); Tridib Banerjee and Anastasia Loukaitou-Sideris. *Companion to Urban Design*. (London: Routledge, 2011).
[7] Jane Jacobs. *The Death and Life of Great American Cities*. (New York: Vantage, 1961).
[8] Jürgen Habermas, *The Structural Transformation of The Public Sphere: An Inquiry into a Category of Bourgeois Society*. (Cambridge, Mass: MIT Press, 1989), quoted in Richard Sennett, 'The Public Realm'. in *The Blackwell City Reader*, ed. Gary Bridge and Sophie Watson. (Chichester, West Sussex, U.K.: Wiley-Blackwell, 2010), 262.

The ones that are not accessible via only being in a physical public context and their effects are left out of the discussion. Public space definition is kept within a limited range by prioritizing socialization rather than political ground. The indoor locations of privately owned public spaces are, however, not considered in this study.

CHAPTER 2

DIGITAL AND URBAN PUBLIC SPACE EXPERIENCE

In this part of the study, the aim is first to develop a relatable understanding of the digital revolution narrowing from the comprehensive city scale to the urban scale. Exploring the interaction between the digital period and urban public space experience to review the effects of digitalization on urban public space experience, provides a foresight for what is next.

2.1 Digital Revolution Paradigm

The first, second, third, and fourth industrial revolution, which is witnessed today, have altered and continue to alter the society and environment in many respects. In the previous industrial revolutions, daily life, and the relationship of man with space have changed, and individuals have developed new behaviors. In addition to changing social, cultural, economic, and political balances of society, new situations have led to extraordinary rapid transformations.

The late 1900s corresponds to a time when the digital as a notion comes into sight. Two complementary revolutions have started the era of digitalization: The third and Fourth Industrial Revolutions. The increasing automation and *digitization* of production through electronics and information technologies and the invention of the

Internet technology in the 1970s have been shined by the Third Industrial Revolution, also known as Digital Revolution. [9]

2.1.1 The Societal Perspective

Scott indicates that "the social relations of space and time (is) generated in the distinctive nexus of technology, architecture, and emergent social relationships which characterizes the modern city."[10] "All major social changes are ultimately characterized by a transformation of *space and time* in the human experience."[11] Therefore, in such a timeline, where physical and digital converge and the lines between them intersect, it is valuable to touch on society and human factors.

Communication is a distinctive feature of humans. The need for people to come together to communicate creates society. Society has been thoroughly modified in time following the digital revolution (third industrial revolution) that is experienced since the second half of the 20th century. The constitution of a new culture has been derived from the revolution in communication and information technologies. The most apparent social change taking place has been coming with the *transformation of communication*, asserts Castells.[12]

In the progress of new communication, information technologies (IT) are being present and noticeable in every realm of human activity. For Castells, social and technology intertwined, "technology is society, and society cannot be understood or represented without its technological tools."[13] In this sense, Castells considers the

[9] To digitize information means to turn it into a form that can be read easily by a computer.
[10] McQuire, Scott. Preface to *The Media City: Media, Architecture and Urban Space* (London: SAGE Publications Ltd, 2008). https://dx.doi.org/10.4135/9781446269572.
[11] Castells Manuel, preface to *The Rise of the Network Society* (version 2nd ed. with a new pref) (Chichester West Sussex: Wiley-Blackwell, 2010).
[12] Castells, *The Rise of the Network Society*.
[13] Bijker et al., *The Social Construction of Technological Systems*. (Cambridge, MA: MIT Press, 1987). **quoted in** Castells, *The Rise of the Network Society*, 5.

technology revolution as a starting point to analyze the new society in the making because, in a sense, they are characteristic of social order.[14]

This does not mean that technologies determine society, but it can serve as a vision for examining how social order is produced and reproduced through communication technologies. In addition to IT, Information and Communication Technologies (ICT) involve and use digital technologies to communicate and access information. ICT includes the Internet, software, cloud technologies, wireless networks, websites cell phones, and other communication mediums.

The twenty-first-century progressive era namely The Fourth Industrial Revolution (4IR) adds the 'digital' a new wrinkle. The progressive and significant beginning of digitalization is marked by 4IR. There cannot be a profound digital transformation without digitalization.

2.1.2 Digitalization

Behind the term digitalization, lies a lot. Digitalization[15] is a term that has been used increasingly in public discourse regarding the latest developments and it "can be seen as a broader and long-term societal transition, affecting the way we work, how we communicate with friends, move in cities, shop, listen to music, do our banking, etc."[16]. From the societal perspective of digitalization, it means the integration of digital technologies into everyday life.[17] Within the large digitalization literature,

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[14] Scott W. Campbell, and Yong Jin Park, "Social Implications of Mobile Telephony: The Rise of Personal Communication Society," *Sociology Compass,* 2. (2008): 371-387.
[15] "To start to use digital technology such as computers and the internet to do something." "Digitalize." Cambridge Dictionary. Accessed November 12, 2022. https://dictionary.cambridge.org/dictionary/english/digitalize?q=digitalization.
[16] Willem van Winden and Luis de Carvalho, "Cities and Digitalization: How Digitalization Changes Cities - Innovation for The Urban Economy of Tomorrow," (2017), 1-24.
[17] "Digitalization." The IGI Global dictionary. Accessed November 12, 2022.

many discuss that digitalization gives rise to wide changes in the structures of society.

Wachal states that "digitalization has come to refer to the structuring of many and diverse domains of social life around digital communication and media infrastructures."[18]

Similarly, Brennen and Kreiss define digitalization as "the way many domains of social life are restructured around digital communication and media infrastructures."[19] The dominance of digitalization, the emerging technologies of the 4IR include large scale digitalization, the rise of the Internet of Things (IoT), which is a system of digital devices connected to both internet and each other in a big network. Augmented reality is one of the last technologies in this way of going digital. "Augmented reality is the projection of digital information into physical space via glasses or displays."[20] Today, AR is commonly based on smartphones and used for navigation, the projection, or visualization of content.[21]

The rise of technology in various fields from computers to new technologies paves the way for advances, thus affecting the human way of life.

Castell explains pervasiveness and networking are among the decisive qualities of the information technology paradigm.[22] These characteristics of information and communication technologies are contextualized in physical public space and create such a frame for a distinctive mode of social experience.

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[18] Robert Wachal. "Humanities and Computers: A Personal View," *The North American Review* 256, 1 (1971): 30–33. http://www.jstor.org/stable/25117163.
[19] Jensen Klaus Bruhn et al. eds., *The International Encyclopedia of Communication Theory and Philosophy* (Chichester UK: John Wiley & Sons, 2016), 1-11.
[20] Niklas Gudowsky-Blatakes, *Augmented Reality in Public Spaces.* (Austria: Institute of Technology Assessment, 2022).
[21] Gudowsky-Blatakes, *Augmented Reality in Public Spaces.*
[22] Castells, *The Rise of the Network Society*.

The pervasiveness of the information technology revolution brings about the 'pervasiveness of new technologies' throughout the whole realm of human activity.[23]

The spread of new technologies has started a real radical process that both affects and influences all human actions. "Because information is an integral part of all human activity, all processes of our individual and collective existence are directly shaped by the new technological medium."[24] The main thought leading this is that technologies take their base from the information and "information" is the core.

> "The historical record of technological revolutions, as compiled by Melvin Kranzberg and Carroll Pursell, shows that they are all characterized by their pervasiveness, that is by their penetration of all domains of human activity, not as an exogenous source of impact, but as the fabric in which such activity is woven."[25]

Castell gives the example of radio: It lost its centrality but gained prevalence and flexibility. He emphasizes that radio was revived by adapting its modes and themes based on people's daily life rhythm. This is all about adapting renovations to the situation rather than resisting what is past. The medium of human relations has changed, and forms of communication have been reshaped.

The use of digital technologies is becoming increasingly instantaneous and pervasive in urban city spaces. [26] "Its 'pervasive occupation' of the busiest streets and public transportation nodal points is a survival strategy destined to be present."[27] At the time, the main intention was likely to relate to the concern of existence and manifesting itself so that they can receive public attention. Indeed, the strategy seems

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[23] Castells, *The Rise of the Network Society*.
[24] Castells, *The Rise of the Network Society*.
[25] Castells, *The Rise of the Network Society*.
[26] McQuire, Preface to *The Media City: Media, Architecture and Urban Space*.
[27] Castells, *The Rise of the Network Society*, 433.

to be working in the right direction nowadays because the newest technologies potentially occupied every place at eye the level and the rest.

> "The digital network is pervasive in contemporary society".[28]

According to Manuel Castells and Jan Van Dijk, with the help of technology, the form of communication has transformed into an intricate network. "Networks constitute the new social morphology of our societies"[29] and "Social infrastructure is changing under the influence of communication networks"[30] Although the networking of society has inevitably existed in previous times and places, the new information technology paradigm has been a trigger for the pervasion of interpersonal communication network across all social structures. Networking has managed to keep pace with the power of complex human interaction and the effects of digital technologies on the social structure[31]

Digitalization and the network society are fundamentals constituting each other. Castell discusses the spread of digitalization has brought along the digitalization of social structure and paved the way for a "network society." For van Dijk, it is the "mutual shaping processes" between social structure and communication technology that "create the network society"[32] Castells described this pervasive shift in the social order as the rise of a new network society.[33] In such a period, the digital term has become a current paradigm in interdisciplinary works of architects, designers, and

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[28] Kazys Varnelis, and Anne Friedberg, "Place: The Networking of Public Space," in *Networked Publics*, (Cambridge, MA, 2008), 15-42. https://doi.org/10.7551/mitpress/9780262220859.003.0002
[29] Castells, *The Rise of the Network Society*.
[30] Dijk Jan Van, "Digital Divide Research, Achievements and Shortcomings," *Poetics* 34, no. 4-5 (2006): 156.
[31] Castells, *The Rise of the Network Society*.
[32] Dijk Jan Van. *The Network Society: Social Aspects of New Media (version 2nd ed).* (London: SAGE, 2006), 156.
[33] Castells, *The Rise of the Network Society*.

artists, revolutionizes ways of living, and leads activities to bring about changes in the city inevitably.

2.2 Digitalization in Urban

> "The city has been understood as a material setting assembling bodies and objects in time and space; medium forging connections between entities by acting as a platform for communication, memory-making, and exchange; and as a stage for performing and effectuating specific identities, subjectivities, and differences, and instigating transformations."[34]

Most cities are characterized by a mixture of the physical and the digital, by the development of technology Users interact with their physical environment through various technologies and digital mediums, so that the person-environment relationship changes.[35] "Digital technological lifestyles have shifted from being fully on the digital realm and are instead embedded in everyday objects, space, and place."[36] Indeed, the new digital technologies serve as a new medium that is making its way into the urban context. As the use of digital networks becomes an essential part of everyday life, a new digital layer is added to the existing urban landscape.[37] This eventuates in the overlapping of the digital world and the physical world.

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[34] Michiel de Lange et al., "Urban Interfaces: Between Object, Concept, and Cultural Practice," *Leonardo Electronic Almanac* 22, no. 4.
[35] Susan Drucker, and Gary Gumpert, "The Impact of Digitalization on Social Interaction and Public Space," *Open House International*, 37, no. 2 (2012): 92-99. https://doi.org/10.1108/OHI-02-2012-B0011
[36] Alessandro Aurigi, "New Technologies, Same Dilemmas: Policy and Design Issues for the Augmented City." Journal of Urban Technology 13, no. 3 (2006): 5-28. doi:10.1080/10630730601145989.
[37] Fatemeh Badel, and Jesús López Baeza, "Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age," *Journal of Architecture Engineering and Fine Arts*, 3, no. 2 (2021): 127-137.

Rather than digitalization in architectural design and practice processes, this study is going to mention the position and place of digital practices that appear in, use, and transform in the context of the city open public spaces.

By the means of digital in the present day, the way of looking at architecture and spaces multiplies. At a time in which digital and physical spaces are continuously merging, new digital developments offer interdisciplinary design perspectives, adapt to the spaces, and play an effective role in cities. The old patterns in urban fabric started to be replaced by new ones in the 90s, as "the pace of the information and communication technology revolution leads to fundamental changes in traditional notions of place and community, interests, identities, commerce, and social relations[38] and impacts cities accordingly.[39]

The Information Age is initiating a new urban form: the *'informational city.'*[40] Following the establishment of the term 'informational city', Scott explains that his "interest is more the transformation of spatial experience, rather than the economic forces shaping urbanism through corporate organization and workforce composition on which writers such as Castells, Harvey, and Sassen have concentrated"[41] Then he asserts the term of "media city" which highlights the critical role that media play in the creation of contemporary urban space.

Digitalization of public spaces is not just made up of free internet, giant screens, media sharing, and informational kiosks. As Mitchell elucidated, "the physical space and the technological developments are superimposed, intertwined, and

[38] Tridib Banerjee, *Companion to Urban Design*, 10.
[39] Rob Kitchin, "Reframing, Reimagining and Remaking Smart Cities," in Creating Smart Cities, eds. Claudio Coletta el al. (London: Routledge, 2018), 219-230.
[40] Castells, *The Rise of the Network Society*.
[41] Scott McQuire, "Preface," in *The Media City: Media Architecture and Urban Space* (London: SAGE Publications, 2008)

hybridized".[42] Now, in the current state of the urban context in which the physical and digital worlds are collaborating, if the city spaces are not adaptable, flexible, and enduring to meet the community's demands, then the monotonousness reduces the invitation capacity and diversity within the city.[43] They are a true reflection of the diversity of an urban community that acts as the heart of the city. The harmony of the physical and digital world brings about potential changes in human perceptions, preferences, and habits change over time. The digital revolution is reshaping how people perceive, interpret, and give meaning to spaces through digitalized navigation, signages, billboards, and façades.[44] In the years coming, this technology has the capability of changing the way we interrelate to urban space. Therefore, for the creation of active city spaces, that are familiar to contemporary human beings, the hybrid space should perform seamlessly.

Public spaces are vital organisms that live, evolve, transform, and circulate over time as a part of everyday life. Therefore, it is inevitable that public space's definers and mass are affected by digitalization. This study includes the technologies, that exist only in physical space and people can participate in or watch by being there.

"The public spaces of media cities are environments in which embedded technologies are present in the environment (e.g. big screen, building skins, etc.)" [45] Therefore, the digital revolution, which affects the world, inherently is starting to affect the urban tissue and therefore the social ground and context in which public life develops. However, in real life, with the involvement of the user, changing

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[42] William John Mitchell, *City of Bits: Space, Place and the Infobahn.* 6th ed. (Cambridge: MIT Press, 1999), 44.
[43] Kirralie Houghton, "Augmenting Public Urban Spaces: The Impact of The Digital Future on The Design of Public Urban Spaces," (paper presented at Utopia 2010 PIA Queensland State Planning Conference, Australia, November 2010), 19-23.
[44] Gudowsky-Blatakes, *Augmented Reality in Public Spaces*, 2022.
[45] Drucker and Gumpert, "The Impact of Digitalization on Social Interaction and Public Space," 92-99.

conditions, and the natural environment, they may be operating in a completely different way.

Professionals from varying disciplines: Architects, engineers, and designers collaborate to build pioneering structures and new digital façades, that may influence their surroundings via their forms, light, color, or content[46]. In this sense, digital façades influence the interaction between actions and structures, and thus they make a great contribution to the formation of public spaces.

Meanwhile, media architecture manifests a positive social and cultural impact on public life. "With screens and billboards being important in the routing of masses. Media architecture can make the static architecture more dynamic and responsive."[47] Besides their visuality and value of arts, a broader variety of content reaches more and more people. Media architecture is recognized as a perspective on transforming public space by inserting digital media into it, so that, *digital placemaking* is new-found for media architecture.[48]

In the middle of a spatial revolution in which virtual and real, online, and offline worlds are incorporated, Augmented reality emerges as an immersive technology that can attract users to interact with public space. Since AR technology has not come to light much and is not overly common in public spaces, people may find its practices very interesting. AR technology provides the implementation of events, that draw the attention of the audience, and invite passersby to join or make them

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[46] Alexander Jan Albrect, "Digital Media Façades for Lively Public Spaces: Promoting Dialogue, Participation and Social Innovation in Urban Environments," Paper presented at 8th Making Cities Liveable Conference, Melbourne, July 6-7, 2015.
[47] Jeroen Junte, "How Media Architecture Is Shaping Our Cities – And with It Our Lives," *ArchDaily*, March 26, 2021, https://www.archdaily.com/959178/how-media-architecture-is-shaping-our-cities-nil-and-with-it-our-lives (accessed December 12,2021)
[48] Luke Hespanhol et al. *Media Architecture Compendium: Digital Placemaking.* (Stuttgart: Avedition, 2017)

watch others involved in an activity.[49] For example, the integration of a design with the façade of buildings or other physical surfaces such as big screens attracts the audience both actively and passively. Currently, there is no permanent use in public spaces.

2.3 Transformation of Urban Public Space Experience Through Activities

In this part, the study forms a comprehensive framework for the transformation of urban public space in the digital age, with a specific focus on a key feature that have been affect the human experience of public spaces and has been affected by digitalization: (public space) social activities.

The city can be considered as a pattern of connected spaces that take on a social meaning by constructing patterns of co-presence between people[50] The spatial experience of modern social life emerges through a complex process of co-constitution between architectural structures and urban territories, social practices, and media feedback".[51] Public spaces have an explicit impact on a person's experience of the city. In the life of contemporary practice of the city, where public spaces are instruments of communication, and *the key connector of experience*[52] the essential thing is how people experience the public space. How decent the variety of communal uses and activities, the solidity of interplay, street-level participation, the

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[49] Anton Nijholt, "Experiencing Social Augmented Reality in Public Spaces," Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2021 ACM International Symposium on Wearable Computers. ACM, September 21, 2021. https://doi.org/10.1145/3460418.3480157.

[50] Ava Fatah gen. Schieck et al., "The Urban Screen as A Socialising Platform: Exploring the Role of Place Within the Urban Space," in Frank Eckardt et al., eds., Mediacity: Situations, Practices and Encounters. (Berlin**,** Frank & Timme, 2008) 285-305

[51] Scott, McQuire, "Preface," in *The Media City: Media Architecture and Urban Space.*

[52] Manuel Castells, "Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age," *The City Reader* (7th ed.), ed. Richard T. LeGates, Frederic Stout (London: Routledge, 2020), 240-251.

freedom for expression, the physical configuration of design elements, the collective experience, the sense of meaning, and more are valuable concerns. Therefore, to have lively and vital public spaces, contemporary human beings would prefer to pursue the digital progress that is familiar to them.

Jan Gehl lists three types of outdoor activities: necessary activities, optional activities, and social activities.[53] The first type is necessary activities. Gehl claims that these activities would occur every time since people have no choice but to participate. It consists of daily life activities such as walking to work or school, walking a dog, or waiting at a subway station. The second type is optional activities. These activities are likely to occur when the time, place, and weather are pleasant enough to attract people to stay around. For example; taking a walk to have fresh air, standing and enjoying the vista, or sitting and sunbathing. The third type is social activities. These activities emerge when people assemble, others participate and socialize spontaneously in a variety of settings. Such activities include children playing games, friends gathering to chat, and passersby getting to know and greet each other. Gehl addresses that in cities, social activities make way to use and experience public spaces.[54]

2.3.1 Public Space Dimensions

Public space is a multilayered realm taking into account several dimensions that influence both human experience and each other.

Montgomery asserts the threefold dimension of public space; activity, form, and image -and their interrelationship, to investigate the use, provision, and meaning

[53] Jan Gehl, *Life Between Buildings: Using Public Space* (Washington DC: Island Press, 2011), 11-13.
[54] Jan Gehl, *Life Between Buildings*, 11-13.

within the space.[55] This is a cumulative figure by juxtapositioning the nature of places by Canter and components of a sense of place by Punter. In that sense, Carmona layers the six substantial dimensions of urban design as morphological, perceptual, social, visual, functional, and temporal.

A physical setting should be designed considering a better provision to stimulate social interaction through its use and thus, to form a meaning of the place. In this manner, the provision for being a public space is received in all its dimensions.

[55] John Montgomery, "Making a city: Urbanity, Vitality and Urban Design," *Journal of Urban Design*, 3. (1998): 98 http://dx.doi.org/10.1080/13574809808724418

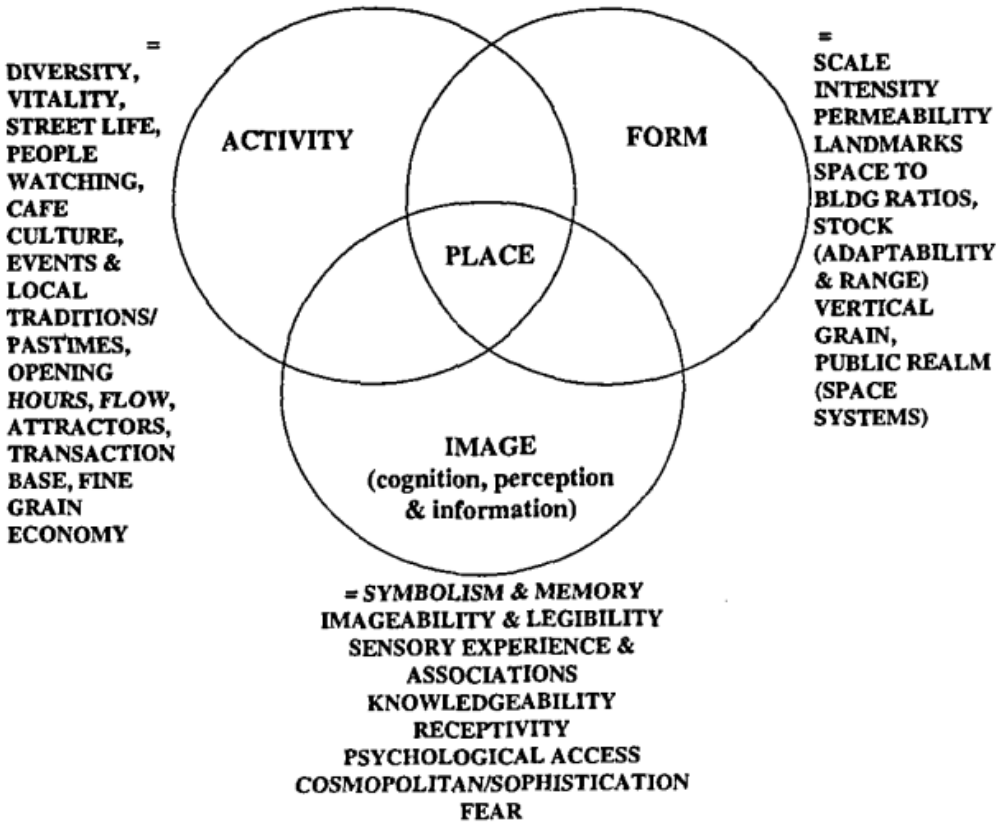

Figure 2.1 Three Interrelated Dimensions of Public Space[56]

First, the physical dimension concerns with the physical space or "provision" of the public environment in which typological and morphological configurations, physical settings, design elements, accessibility, ownership, control, and management are included. Second, the social dimension deals with the pattern of 'use' or *activities*, concerning public space that provides a setting for social interaction. Third, the meaning is a psychological dimension of public space and addresses how people perceive, interpret and give meaning to the space.

[56] Montgomery, "Making a city: Urbanity, Vitality and Urban Design," 98.

Transformation of urban public space experience through human activities (the social dimension) in a sense, takes a step forward supporting the main discussion.

In such a period, in which new tools and technologies are being implemented in several public spaces in several cities, from the perspective of the urban experience, the built environment is increasing including technological devices overall.[57] It is inevitable for the community to face and experience newly emerging technologies in a built environment of public space. In City of Bits, Mitchell considers technology and digital were added to urban infrastructures and the use of the Internet has arisen. Therefore, digital natives appeared as a new form of public sphere including communication and social structures and more.[58] In this manner, the characteristics that define and embody the spaces have transformed, and so are the experiences. Mitchell proposes that "the physical space and the technological developments are *superimposed, intertwined, and hybridized"* in diversified means, so that "the classical unities of architectural space and experience have shattered."[59] At the point of transforming places into experiences, digital technologies reshape the public space with their assets.

Community, which is the essential facet of urban experience, witnesses all aspects of the social life of cities. Public spaces are communicative environments where spontaneous social interaction occurs in our society. Castells argues that is the mission of urban design to connect local life, individuals, and communes through the sharing of public places.[60] The new tools open a world of possibilities for new or additional or unexpected uses of public space, with the ability to promote

[57] Castells, *Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age*, 240-251.
[58] Mitchell, *City of Bits*, 44.
[59] Mitchell, *City of Bits*, 44.
[60] Castells, *Space of Flows, Space of Places*, 240-251.

participation, interaction, communication, and a formation of a holistic community. In this light, social interactions have taken on a new meaning in this new era.

2.3.2 Transformation of Public Space Experience

In the discussion of contemporary public space, scholars indicate the loss of public space and the decline of the public realm[61] regarding technological changes[62]. Taking into consideration that there is a distinct connection between the loss of public space and sociability, an "increasingly individualistic and inwardly focused society" [63] has existed regarding the impact of the changing character of the public space on the way people socialize in modern cities.

In cities, Ahiska names the public spaces in metropolises as a "void" that is open to the public but does not merely exist to serve them, therefore they are not used by individuals but rather passed through.[64] Correspondingly, Sennett remarks the action of passing through urban spaces at high speed causes the decline of public life.[65] This outcome emerges as a personal reaction to the changing life and culture. People rightly do not want to be in environments where they cannot meet their needs, cannot reach their desires, and do not share a common. This constitutes an example of a public realm that has not fulfilled the understanding of being public. Even the situation arises to such a point that "social interaction no longer needs the support of, or to support (physical) public spaces … The digitalization of social interaction is driving the detachment of contemporary society from the use of their traditional

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[61] Banerjee, "The Future of Public Space: Beyond Invented Streets and Reinvented Places,"; Nan Ellin, *Postmodern Urbanism*, (Blackwells: Oxford, 1999), 149; Ali Madanipour, *Public and Private Spaces of The City*, (London: Routledge, 2003), 205; Sennett, *The End of Public Culture*, 259-269.
[62] Anthony M. Orum, and Zachary Neal, *Common Ground?: Readings and Reflections on Public Space* 2nd ed. (London: Routledge, 2009), 201.
[63] Orum, and Neal, *Common Ground?: Readings and Reflections on Public Space*, 202.
[64] Meltem Ahiska, "Metropol ve Korku [Metropolis and Fear]," *Defter* 19 (Winter 1992):118-129
[65] Richard Sennett, "The End of Public Culture," in *The Fall of Public Man* (New York: Norton, 1992), 259-269

urban public spaces."[66] The private and virtual realm has come to undertake the missions that the public realm –public space and public life once undertook. In other words, social interaction is digitalized and left the physical space with a local identity. On the other hand, in The Fall of Public Man, Sennett gives several aspects on the subject leading to the privatization of lives and the *end of public culture*. This is the situation in which users of public spaces become "passive viewers"[67] coinciding with the emergence of the digital era in the last few decades. Experiencing the public space is now "personal" and "passive" [68] because there is no one to share it with and no action to involve in together with the decrease or even extinction of human activity. Hence, urban spaces need to harmonize with the latest technological advances.

2.3.3 Transformation of Social Activities

Scholars argue that in more recent times, communication between people has started to break into pieces: Public life and a lot of activities once happening in public space lost their meanings as communication and information technologies gained currency.[69] The old order and habits in the urban fabric were replaced by new ones. Banerjee states that the recent communication and information technologies isolate people from traditional public spaces and social life so the decline is attributed to the privatization of leisure activities.[70] Therefore, contemporary public space is confronted with increasing privatization. Activities, that previously occurred in the

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[66] Badel and López Baeza, "Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age," 127-137.
[67] Sennett, *The End of Public Culture,* 259-269
[68] Ziya Gençel and Koray Velibeyoğlu, "Reconsidering the Planning and Design of Urban Public Spaces in the Information Age: Opportunities & Challenges" (paper presented at 42nd ISoCaRP Congress, Istanbul, 2006), 2
[69] Sennett, *The End of Public Culture,* 259-269; Banerjee, "The Future of Public Space: Beyond Invented Streets and Reinvented Places," 17; Nan Ellin, *Postmodern Urbanism*, (Blackwells: Oxford, 1999), 149
[70] Tridib Banerjee, "The Future of Public Space: Beyond Invented Streets and Reinvented Places," *Journal of the American Planning Association, 67,* 1 (2001): 17

public space, such as leisure, entertainment, gaining information, and consumption have been taken over in more individualized and private realms.[71] Within the scope of individualized and private realms, activities started to be taken over at home through television and the internet because public spaces were no longer attractive for these activities. Banerjee argues it is now likely that many everyday activities such as work, shopping, trade, business, and socializing are carried out through the internet.[72] In such a period, public spaces are vulnerable to losing their public function of offering pleasant activities to gather and satisfy people. So, at one point, a huge part of individuals in society almost began to live as solitary and single individuals. This eventuates in the decline of directly meeting someone in person in the same place, corresponding to what Hannah Arendt speaks of privatization moves individuals away from the reality of being seen and heard.[73] Digitalization potentially threats the need for a sense of face-to-face sharing and co-presence in the space, because people can communicate even though they are not in the same physical environment.

Meanwhile, activity relates to the two interrelated concepts of vitality and diversity.[74] Cities need to offer various uses to sustain their vitality. Varying and a mixture of uses point out a prospering diversity in cities. As Hannah Arendt brought up long ago, the activities animated within the public space must change the nature of the realm as well as itself.[75] That is, the activities should have this two-way potential and characteristic to alter both themselves and the environment. The subject of self-alteration is a phenomenon that can change with the demands and needs of society. Ultimately space and society are inevitably linked to each other. Society and social

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[71] Nan Ellin, *Postmodern Urbanism*, 149
[72] Banerjee, "The Future of Public Space: Beyond Invented Streets and Reinvented Places," 17
[73] Hannah Arendt, *The Human Condition*, 58.
[74] Montgomery, "Making a city: Urbanity, Vitality, and Urban Design," 97
[75] Hannah Arendt, *The Human Condition*, 58.

relations are established through space while at the same time, space is embodied through society.

Indeed, on the other side, urban environments in a city serve as a focal point that systematizes the social order by creating a series of random activities, now giving place to technological practices by gaining a new direction. This co-presence of technological practices and humans leads to new online formations New technological developments will inevitably lead to changes in the space people live in. "Because communication technology is not reversible, cannot be un-discovered, technology must be understood as a force with transformational influence on public space."[76] This digital inclusion opens the door to a new organization of everyday social and spatial experiences.

So far, scholars have mentioned: Some activities that previously occurred in public spaces have been taken over at more individualized and private realms; Some activities are carried out through the internet; Some activities once happening in public space lost their meanings; Some activities are no longer inviting. At this juncture, the debates on how public space activities are transformed and herewith how human experience is transformed after the digital revolution should be included in this discussion as well (Figure 2.2).

Public space activities have started to be grounded on public screens, mobile media, and interactive networks. Badel and Lopez have tabulated how public space activities are transformed under the perspectives of cultural, social, and political activities.[77] Moreover, activities themselves have transformed in the digital era as well.

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[76] Drucker and Gumpert, *The Impact of Digitalization on Social Interaction and Public Space*, 92-99.
[77] Badel and López Baeza, *Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age,* 127-137.

Cultural activities	Art	Digital public art
	Information	Data wall Digital signage
Social activities	Games	Digital facades Digital floors Digital playground
	Group actions	Watching movie, match, in public spaces
Political activities	Political meetings in the digital space Political support Political protests	

Figure 2.2 Activities' Transformation in Public Spaces After Digitalization[78]

In the table, cultural activities have been reviewed through two sub-heading of art and information. Public artworks began to be exhibited through digital screens. Society is started to experience a digitalized visual culture that is already taking over the city space. Indeed, regarding the human experience and engagement with the activity, it has not gone beyond being a passive observer in today's digitalized world as well. Today, information display is prominent through installed screens that are integrated into the public space. Accordingly, the presence of data walls and data signage is on the growing rise since screens can directly communicate with the database and show them publicly. Herein, signage refers to signs to suggest wayfinding, advertising, news streaming, and marketing. For example, people can find their route thanks to the wayfinding signage screen in the city square, or people can examine the menu over a displayed screen at the entrance of a restaurant. People can follow media streams and breaking news. Brands can use data screens to share marketing messages. People may encounter these screens either standing on the ground in a public space, or be mounted on a column, or located on the facade of a

[78] Badel and López Baeza, *Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age*, 127-137.

building. With digitalization, it has become easier to convey information to people, so more people can be reached in a short time. Moreover, the effect of dynamic screens rather than a fixed image is also great to attract people's attention.

Social activities provide the most to attract many people from children to adults to the public space. In daily life, social activities in public spaces, basically pursue to invite and socialize people. In time, along with digitalization, these social activities have also been oriented to online infrastructures. As exemplified in the table, digital facades, floors, and playgrounds have been adapted into public spaces and brought about new formations. Playful environments where children get fun have been confronted with the replacement of digitalized games as new elements of the public space. Gehl's type of social activities includes people assembling, participating, and socializing spontaneously. [People] tend to communicate with each other through group events and exercises, however, the digital era lets them form a relationship by watching movies and matches together.

After digitalization, political activities have changed their forms. Apart from the activities that continue to exist in the physical context, some activities have also been moved to virtual realms. For example, political activities are wrapped up by political meetings in digital space sometimes in the first place, sometimes completely. Some examples are organized and started in social environments in a political sense and then moved to the physical public space (e.g. Gezi Park protests, Arab Spring). Whether or not such activities engage with the physical space is another matter of debate.

At the basis of this study, the activities that are separated from the physical context and moved to the virtual environment are out of the subject, because the main agenda is the transformation of digital activities that appear in, use, and transform physical public space.

In a positive sense, digital technologies may have the ability to attract individualized people back to the streets. Optimistically, digital practices might be considered as an attempt to transform city spaces into more lively, vital, and ludic urban environments. Their potential to have a positive impact on urban space and public life cannot be ignored.

2.4 Relevant Components of Digital Activities

Investigating the situation of relevant dimensions for digitalized urban public space assists to form an insight into how society responds to digital culture on a certain scale. At this point, along with the transformation of social activities that are influenced by digitalization, the experience of people has also been transformed inherently. Therefore, this part, which deals with the reflection of digitalization on human experience in the context of urban, focuses on the social dimension of public space, leaving the physical and psychological dimensions aside, since public space social activities are present under the main dimension of social. Including human concerns, the transformation of social activities[79] along with digitalization and their response, perception, and interpretation are the root motives to be discussed.

Before focusing thoroughly on changing activity patterns over examples, it is important to touch upon, what components of these social activities form the basis for human experience. Based on Stephen Carr and Carmona's iconic, comprehensive, and still up-to-date explanation, which points out the provision of an appealing public space, someone essentially desires comfort, relaxation, active engagement, passive engagement, and discovery.[80] Some of these components of

[79] Jan Gehl, *Life Between Buildings*.

[80] Stephen Carr et al., *Public Space.* (Cambridge, England: Cambridge University Press, 1992); Matthew Carmona et al., Public Places Urban Spaces: The Dimensions of Urban Design (Oxford: Architectural Press, 2010).

public space are common to all digitalized activities. Regarding the previous foundations of urban public space stimulating societal experience, the framework highlight active-passive engagement, and discovery as relevant aspects of digitalization. Passive and active interactions are not opposed to each other. They differ by the way how they make engage one in the space.

Comfort relies more on environmental and physical conditions, whereas relaxation is more about psychological meaning and atmosphere. More than comfort and relaxation, digitalized activities provide the other three aspects that should be found in public spaces. In this context, these three are found as relevant components for digitalized urban public space experience considering the behavior of digital.

Table 2.1 Relevant Aspects for Digitalized Urban Public Experience and Definitions. By Author.

Relevant components of **digitalized urban public experience**	**Definition**
Passive Engagement	Satisfy one's need to meet with a setting, a scene E.g. observing and watching the scenery, digital public art, sculptures, performance, and entertainment.
Active Engagement	Direct experience with the surroundings physically and socially E.g. participating in performances, plays, celebrations, ceremonies, and live concerts.
Discovery	Desire to be stimulated by the derivation of new experiences. E.g. discovering the objects of interest and new emerging digital technologies.

Further, these important components are included in detail in this part as criteria for assessing and measuring digitalized public spaces.

2.4.1 Passive Engagement

A person's passive engagement is associated with 'the need for an encounter with the setting, albeit without becoming actively involved'[81] Passive sociability relates to one's need to be together with others without pursuing verbal communication. [82] The main key to passive engagement is watching the activities surrounding it. One is passively engaged with the environment by observing what others are doing.

Urban public spaces house some human activity that there is a diversified betweenness for the unexpectedness of a water show freshness nearby a garden pond or the familiar everyday presence of a street vendor in the usual place. In a planned space of contrasts and everything for everyone, people have the "need to see, to hear, to touch, to taste and the need to gather these perceptions in a world".[83] A space appealing to the senses and containing contrasts means more profit and inclusiveness. This touches where Goonewardena's 'urban sensorium'[84] -an essential of a city- is generated as encompassing the sound, smell, touch, and taste within the everyday urban experience. On a larger scale, Yrjö Sepanmaa states that every city appeals to distinct senses, making us remember them on different bases, and the identity of a city depends on the most powerful sense.[85] Each city proposes different senses based on its dominant character which is reflected in urban tissue carried up to the present day with its urban identity, culture, and memory. Indeed, these senses are powerful enough to strengthen one's experience of public space without the need for a trigger or the existence of a human being. The stimulation here is the sense itself, making someone passively engage with their surrounding. Perhaps, most

[81] Stephen Carr et al. *Public Space*, 105.
[82] Vikas Mehta, *The Street: A Quintessential Social Public Space*, (London: Routledge, 2013), 100
[83] Henri Lefebvre, *Writings on Cities*, (Cambridge, Mass, USA: Blackwell Publishers, 1996), 147
[84] Kanishka Goonewardena, "The Urban Sensorium: Space, Ideology and the Aestheticization of Politics," Antipode 37, no.1 (2005): 47.
[85] Yrjö Sepanmaa, "Multi-sensoriness and The City." in *The Aesthetics of Human Environments*, eds. Berleant, Arnold, and Allen Carlson. (Peterborough, Ont: Broadview Press, 2007), 4

importantly, passive sociability lets people engage both with passive and active activities.[86]

About the notions of passive engagement and passivity within public spaces, Sennett mentions several aspects of the subject leading to the privatization of lives and the end of public culture in which users of public spaces become passive viewers.[87] Experiencing the public space is now "personal" and "passive" because there is no one to share it with and no action to involve in.[88] When there is no performance to be encountered, artwork to be observed, or scenery to be watched, people's sensation is not fulfilled, they cannot absorb new experiences, and they do not enjoy being in the space.

In this sense, attractive public provision is important because they allow different groups of people to mingle freely.[89] Especially, in such a contemporary era, in which the newly constructed public spaces drew a heterogeneous mix of people into the city, [90] new classes of the users such as tourists, foreigners, and flâneurs are new passive observers experiencing urban public spaces. Hence, public spaces should tend to host optional activities over long periods so flaneurs and other people spend time and linger.[91]

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[86] Vikas Mehta, *The Street: A Quintessential Social Public Space,* (London: Routledge, 2013), 100
[87] Sennett, *The End of Public Culture,* 259-269
[88] Gençel and Velibeyoğlu, "Reconsidering the Planning and Design of Urban Public Spaces in the Information Age", 2
[89] Jan Gehl, *Life Between Buildings*, 11-13.
[90] Gençel and Velibeyoğlu, "Reconsidering the Planning and Design of Urban Public Spaces in the Information Age", 2
[91] Flâneur is a term revived by Walter Benjamin to describe the ones who engage in city life, and pleasures of the urban experience, sometimes in a square, sometimes in a park, sometimes a few square meters around a fountain or in front of a library or a museum.

2.4.2 Active Engagement

An active engagement represents a more direct experience with a place and the people within it… whether they are strangers on a site or members of their group'[92]. Fundamentally active engagement is people's contacting and socially interacting.

It is the society themselves and their acts that give rise to the public realm. An example of a direct experience is conversations among familiars or strangers that are "triggered by unusual features or events in a space -also known as social triangulation". [93] Coinciding with a spectacular art object and experiencing it with others within a communal space -triangulation- is a part of urban life humans blend into. Triangulation is the space of an active scene where a potential stimulus -a physical object or sight- actively encourages strangers to speak to each other.[94] Triangulation is one of the generators of experience in urban space. The presence and behavior of others influence one's behavior as Whyte emphasizes that "what attracts people most is other people".[95] People are influenced by connections in a chain of behavior or activity surrounding them. Anyone passing by gathered people wants to mingle with the community and satisfy their curiosity with the most instinctive impulses. This is a common act.

The social activities, that provide people to come together and socialize spontaneously, are seen as one of the features in which people animate urban public space.[96] For example, the frame of such activities as celebrating with a large crowd, interactively joining in a play, attending a festival, and participating in a communal

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[92] Stephen Carr et al. *Public Space*, 118.
[93] Stephen Carr et al. *Public Space*, 105.
[94] William H. Whyte, "Triangulation." in *The Social Life of Small Urban Spaces*, (New York: Project for Public Spaces, 1980), 94
[95] William H. Whyte, *City: Rediscovering the Center*, (Pennsylvania: University of Pennsylvania Press, 1988), 9.
[96] Southworrth 2003, Jan Gehl, *Life Between Buildings*, 11-13.

ceremony, make the function of the public spaces. Then, the user is activated for more social interaction.

In The Image of The City, Kevin Lynch considers the people living in a city and their activities as important as the physical parts of the city: In a well-designed city space, one is not merely a spectator or observer but is a part of the show on stage with other participants.[97] In an environment surrounded by strangers, participating in the play becomes one of the basic existence parts of public life. After a few decades, Sennett transparently reawakens the issue of similarity between the stage and the street in a society with a strong public life and states that the understanding of being public is lost if the audience becomes a spectator rather than a witness in public life.[98] "For many, the street as a public space is like a stage where people can act out their parts and display their talents and skills".[99] Likewise, Ali Madanipour treats the city and public life as a stage, in which public life and the roles of sociability may correspond with theatre. [100] Public spaces should aim to make people actors on the stage, not spectators. If one is passively engaged in the activities, it is witnessed, however, being a spectator does not necessitate any form of action.

Therefore, it is very important to invite and involve people in activities to keep the public space alive and active because people can not experience social cohesion, or a sense of community in such a public space where they cannot merge with the environment, the activities, and the strangers.

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[97] Kevin Lynch, *The Image of The City*, (Cambridge Mass: MIT Press, 1960), 2
[98] Sennett, *The End of Public Culture,* 259-269
[99] Vikas Mehta, *The Street: A Quintessential Social Public Space*, (London: Routledge, 2013), 100
[100] Ali Madanipour, *Public and Private Spaces of The City*, (London: Routledge, 2003), 205.

2.4.3 Discovery

Discovery is evaluated as one of the relevant components of digitalized urban public experience since it "represents the desire for stimulation and delight that one experiences through new encounters"[101] Variety within the spaces, sells itself for people to uncover and discover it. This corresponds to what Jacobs[102] mentions on the surprises of diversity, unexpected encounters, and the high chance of discovery in public space. These all satisfied one's desire to have a delightful experience.

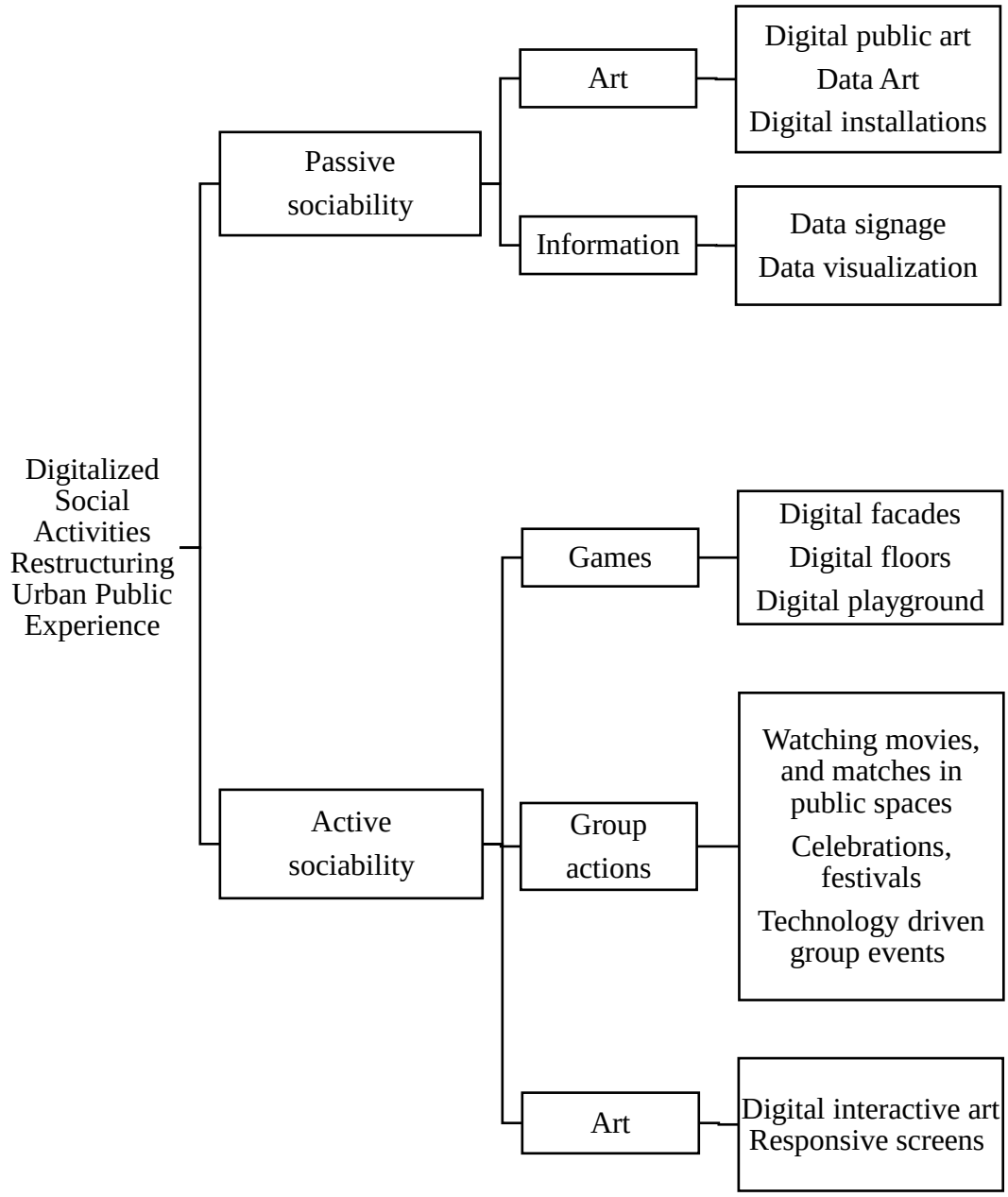
Digital materials have the potential to present a new encounter since they are representing a new experience within old spaces. New emerging digital technologies can lead individuals to develop peculiar interests and thoughts. People may excite by the presence of the physical occurrence of digital technologies within the space. Facing the recent abilities of technologies in common activities may be surprising.

2.5 A Layout for Evaluating Digitalized Activities

This part aspires to build a concise but comprehensive layout that arranges the perspectives, arrangements, and groupings derived from the literature review. The layout is also important as it creates a base for the evaluation of examples and the final discussion.

[101] Stephen Carr et al. *Public Space*, 134.
[102] Jane Jacobs, *The Death and Life of Great American Cities*, (New York: Vantage, 1961)

Table 2.2 Digitalized Social Activities Restructuring Urban Public Experience. By Author.



Taking the Activities' Transformation in Public Spaces After Digitalization table by Chitrakar as a reference has made the way for the creation of a more focused categorization to discuss the activities with related examples in this study. In Chitrakar's work, there is information on how social activities in the physical public space are transformed. Chitrakar categorizes the activities through the perspectives of cultural, social, and political. Rather than categorizing the activities according to the perspectives/viewpoints of cultural, social, and political, it is more derivable to group them based on how users relate to them. Accordingly, the following layout demonstrates the aspects relatable to digitalized activities that have the potential to transform the urban public space experience. In the first place, it is divided into two main branches: passive interaction, and active interaction.

Due to the discovery, as one of the relevant aspects of digitalization, already displays itself in every activity that stimulates societal experience, it is not considered as a main title.

Additionally, personal use of digital devices is based on how one experiences the space through the use or the eye of the device. Examples include mobile phones, gaming devices, and personal computers for work, leisure, or entertainment. the technology transforms 'dead time in incidental locations into time that is personally productive or enriching'[103] From this perspective, the examples and implications are considered within the layout, depending on what kind of interaction they offer for people.

In this study, the digital technologies in the public space of cities were evaluated within the framework of existing in the physical environment of urban public space.

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[103] Mizuko Ito, Daisuke Okabe and Ken Anderson, *Portable Objects in Three Global Cities: The Personalization of Urban Places*, (London: Routledge, 2017), 74

CHAPTER 3

THE ROLE OF DIGITAL ACTIVITIES IN PROVOKING SOCIAL INTERACTION

This part of the study introduces the different examples that are examined to discover the varying effects of digitalization on public space. Indeed, digitalized social activities that are restructuring urban public spaces manifest themselves by letting people interact either passively or actively. So, the examples are mainly divided into two: digital practices that provoke visual interaction as representing passive engagement such as screens displaying data, media architecture, sculptures, light installations, and projection mapping, and digital practices that provokes interaction with passersby actively such as interactive screens, and games.

In varying public spaces in several cities around the world, recent new tools and technologies are implemented in pursuit of aligning digital sources to the demands, desires, and exploration of societies. In fact, in such a space where technologies are likely to emerge, the digitalization of public spaces is more than just adding free city internet and online information kiosks. There are varying types of implementations and processes that make room for digital technologies: Some cases make use of technology in production, whereas others use it to activate the display.

In the current age, the affordances of digital and the ways, that digital technology's structure, shape, and influence the spaces, have become diversified. The categories and content in which the digital has embedded itself vary considerably from interactive media facades to increasingly seamless interfaces, digital technology is transforming our culture and cities. In everyday life, public paces may include

cultural performances, different user-generated content, interactive games, sculptures, etc. Among the variety, categorization is valuable considering the fundamental two modes of the display behind the projects. One is visually interacting with people and making them spectators, the other one is interacting with passersby.

The examples were selected and discussed specifically in the case of their presence in public spaces. The ones that are not in a physical public context and their effects are left out of the discussion. Public space definition is kept within a limited range by sorting out from its political ground. The examples will be examined based on the layout of digitalized social activities restructuring urban public space. Interaction is a potential signature keyword that may frame cases. At this point, the use of technology, participation, interactions, communications, encounters, meetings, senses, and feelings are among the base twist for assessing the examples and whether they are contributive or not.

3.1 Passive Sociability

Passive sociability comes into existence when one has passively lingered since watching or spectating is one of the most common human behaviors in public spaces. Passive sociability is made up of being present alone, hearing, listening, seeing, and feeling what is around and among others. Among the activities in which people passively interact, some have become digitalized and transformed experience in the digitalization period.

3.1.1 Digital Public Art

"Art galleries are no longer in a closed space but are (digitally) displayed in the streets openly"[104]

The first form of passive interaction is about recently emerging digitalized artworks, which make use of diversified technological means to influence passersby. Following the latest digital developments, artists have begun to create non-physical digital art with the help of computer-aided tools. They have used digital tools for differing purposes such as creativity, production, process, or representation. In this way, works of art have begun to show themselves on digital screens, and installations, that are based on digital technologies, are launched. People who are hanging out and spending time in public spaces are a target for artists to unfold their spectacle.

In recent years, digital arts are being exhibited in urban spaces, the experience is growing exponentially. The new emerging digital culture is presenting multiple ways to experience art in urban public spaces. Screens take upon the occupancy of visual art, and the urban surfaces are becoming useful empty white canvases for artists to communicate with society.

[104] Badel and López Baeza, *Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age*, 127-137.

Figure 3.1. Waterlicht, Amsterdam, 2016-2018[105]

Waterlicht is Daan Roosegarde's pioneering artwork that reflects the concern about the future of water in the Netherlands. It was specifically launched on the site of Museum Square in Amsterdam. Waterlicht manifests a continuously changing virtual flood and shows how much the sea level could rise with the effects of wind and rain. The virtual flood illustrates the vulnerable water situation of the UNESCO World Heritage site Loevestein Castle. [106]

Roosegarde reveals this dream landscape aims to create awareness about the importance of climate change on the rising level of water and sea level change as a virtual flood. Waterlicht makes use of LEDs, software, lenses, and humidity.[107] The blue light waves spread through the space and emphasized the urban space due to LED technology, and the Museum Square in Amsterdam was transformed into a dazzling virtual space. This is an immersive example of creating a strong interaction

[105] "Waterlicht | Studio Roosegaarde," September 29, 2020, https://www.studioroosegaarde.net/project/waterlicht.
[106] "Waterlicht | Studio Roosegaarde."
[107] "Waterlicht | Studio Roosegaarde."

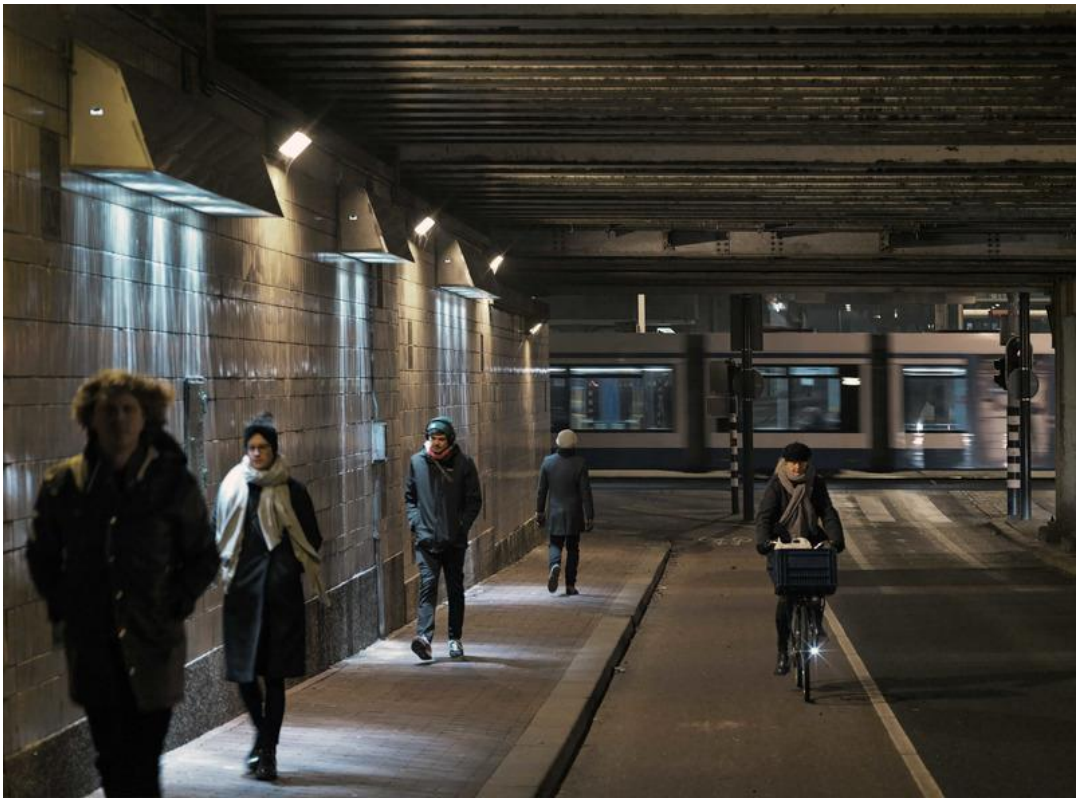
and collective experience among residents, nature, and technology by reviving the collective memory.

This artwork addresses the residents of the city. It defines an area underneath which influences the whole square and invites people into it. When people look up, they see a wave of light that they desire to watch and try to touch. Besides, the light beam can tell a lot to people, giving them various feelings from drowning to getting stuck, making them imagine, making them a part of an illusion. Watching the spectacle sometimes results in exchanges among foreigners. People experience Waterlicht with others around but still alone. Waterlicht could have encouraged individuals to talk to strangers at one point, as it brings people together and evokes similar feelings, but this work of art has no such scope.

Jan's Light designed by artist Matthias Oostrik is a permanent installation that stands at the intersection of digital art, installation, and architecture on an underpass near the city center of Amsterdam.[108] This ever-changing artwork senses the movement of people passing by and the light is waved toward them. Dynamic projections are activated by pedestrian movement. With the movement of passersby, rippling light projections illuminate the narrow sidewalk and weathered walls of the underpass.

The location is a historical site, where there was a natural water source before the railway. To revive the city's memory about this flow of water, the artist aims to reflect both water flow on the ground and a flow pattern on the wall that resembles sunlight leaking towards the ground.[109] In this way, the past is brought to today. In this sense, this installation revives Amsterdam's history and the collective memory

[108] "Matthias Oostrik / Het Licht van Jan."
[109] "Matthias Oostrik / Het Licht van Jan."



of passersby by addressing the city's identity and creating a strong connection between people and the context through meaning.[110] Pedestrians feel that they are

Figure 3.2 Jan's Light, Amsterdam, 2021 [111]

involved in an experience that enlivens the urban fabric, what belongs to the place, and its past in the mind and action.

It is no longer just the act of passing under a bridge, it is now enriched by the existence of Jan's Light. Additionally, due to light projections that detect human movement, the necessary activity of walking has become more comfortable with the functional benefit of light.

[110] Henri Lefebvre, *Writings on Cities*, (Cambridge, Mass, USA: Blackwell Publishers, 1996), 147
[111] "Matthias Oostrik / Het Licht van Jan," n.d., https://oostrik.net/projects/jan/index.html.

Figure 3.3 WDCH Dreams, Walt Disney Concert Hall, Los Angeles, CA, 2019[112]

WDCH Dreams is a performance-based public art performed on the façades of Frank Gehry's Walt Disney Concert Hall.[113] As a part of the Los Angeles Philharmonic's 100th season opening, the entire facades of LA's iconic structure are covered by this public art installation. The patterns on the facades are derived from LA Phil digital archives. Refik Anadol transformed images, sounds, and videos from the archive, into colorful and dynamic patterns by making use of machine learning algorithms.[114]

This spectacle provides people a space for gathering, letting each develop senses and feelings over the art display. Even though WDCH Dreams has been watched by many, it substantially existed as an installation that can be watched, that people see but cannot participate in.

The screens aim sometimes to revive city and society identity and sometimes to raise communities' awareness by providing specific data on existing universal and

[112] "WDCH Dreams," Refik Anadol, October 28, 2022, https://refikanadol.com/works/wdch-dreams/.
[113] "WDCH Dreams."
[114] "WDCH Dreams."

communal situations such as air pollution. In many cases, that display data, already are described as artwork by their artists.

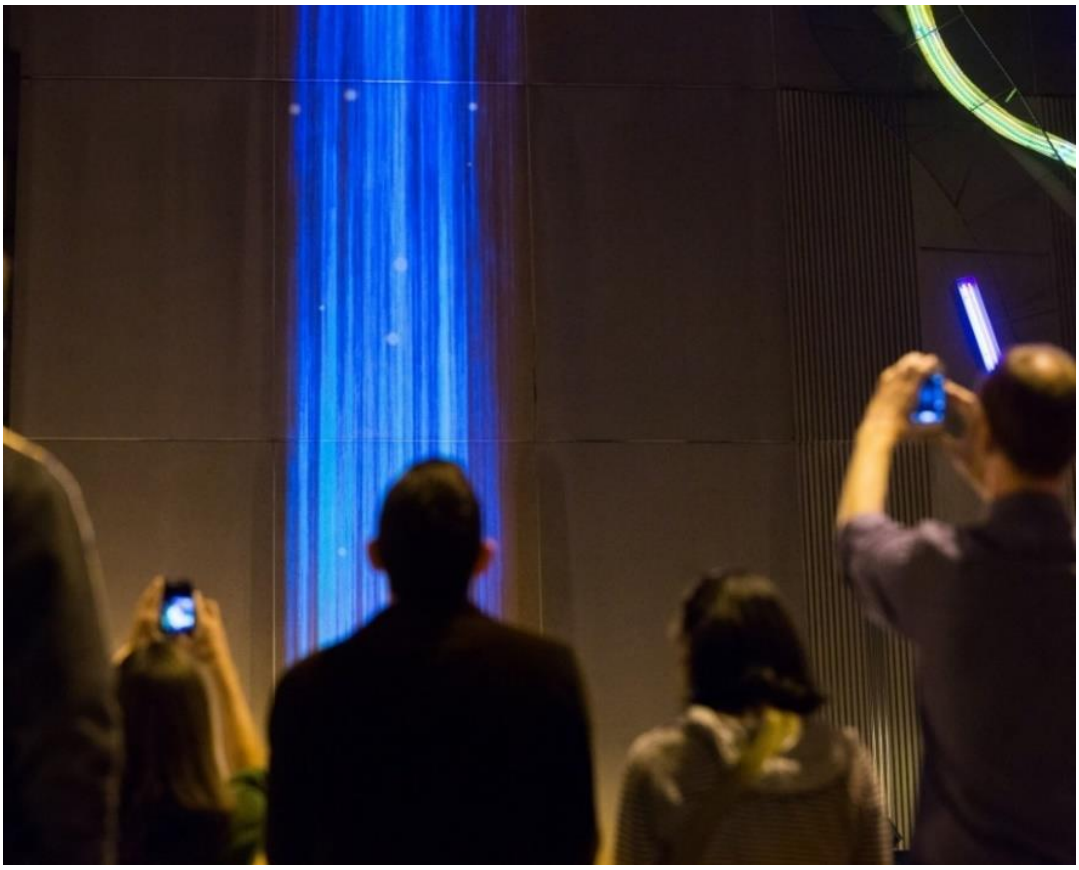


Figure 3.4 Particle Falls, Wilma Theater, Philadelphia, USA, 2013 [115]

In screens that are displaying data, the visuals, that are carried by facades, make use of converted pieces of information. There, artists, the main action is to create visuals as indicators of the data. Information either can be processed simultaneously in real-time as in the example of digital media artist Andrea Polli's Particle Falls.

Particle Falls is a public light artwork visualizing real-time data on air quality on the wall of Philadelphia's Wilma Theater. The artist uses a nephelometer to sample

[115] "Particle Falls," Science History Institute, December 1, 2017, https://www.sciencehistory.org/particle-falls.

the air to generate the data for visual spectacle.[116] The background data, which is derived from air particulates, brings the changing light patterns to the front screen through a computer program. The concentration of particulates shows themself on falling blue light. “Particle Falls displays concentrations of particulates in bursts of bright color over a constant background of falling blue light.” The display updates itself with new air data every fifteen minutes. Indeed, a large-scale dynamic and environmental art, the artist creates.

Particle Falls is an artwork that brings a sense of curiosity to the fore, as there is no direct flow of information on the screen. Encountering an unexpected awareness of air quality stimulates people to discover.

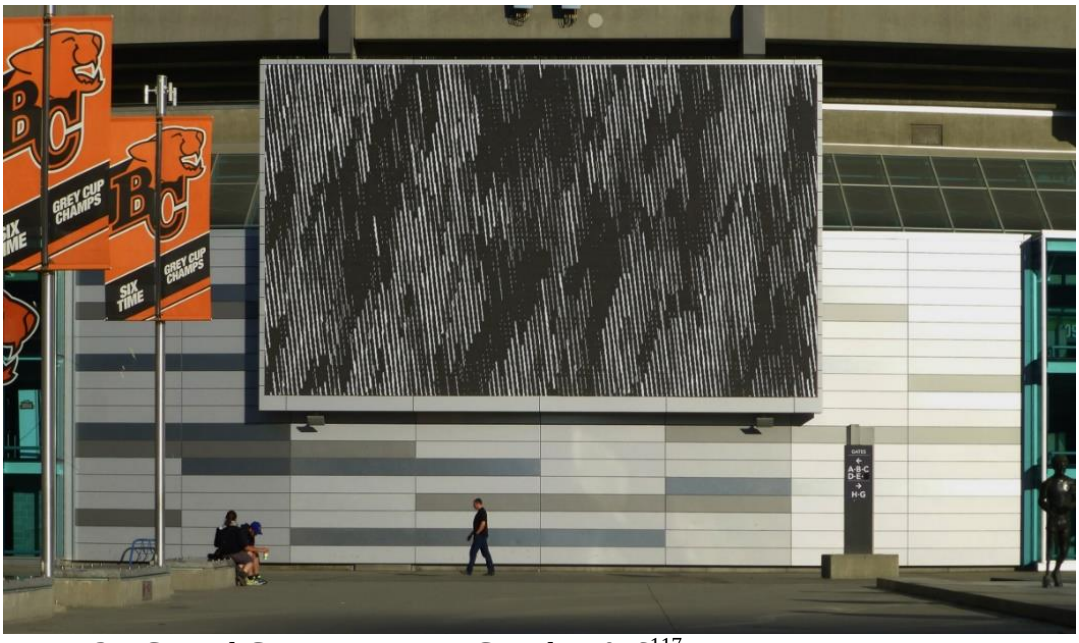


Figure 3.5 Coastal City, Vancouver, Canada, 2016[117]

[116] “Particle Falls.”
[117] Our City Our Art, “City of Vancouver Introduces 15 Temporary Artworks into the Urban Landscape,” Our City. Our Art. Our Vancouver, May 20, 2016, https://ourcityourart.wordpress.com/2016/05/17/city-of-vancouver-introduces-15-temporary-artworks-into-the-urban-landscape/.

Nicolas Sassoon's public art project called Coastal City manifests itself through a screen, in the city of Vancouver as part of the Platforms 16 project.

The artist has created three different digital abstractions and animated them on the screen. Starting from the association of the old TV static of the past, the artist's objective is to explore "the line between digital and organic patterns".[118] In this project, contrasting black and white organic patterns represent atmospheric forces. Reflections of light and darkness on water and visual patterns of rain and wind on the water's surface are examples.[119]

Coastal City and similar projects, that are not context-based, play a more adaptive role by already being on a non-permanent digital scene. Being adaptive is not something that reduces the relationship of applications to places. Contrarily, it is something that allows people in different places to have the same experience. These kinds of examples are neither something that separates the individual from the place nor something that makes someone reremind the bond established with the place. This one is just an artwork to be enjoyed. A coastal city is more like an element in the designed public space, rather than seeking to contribute to the human experience.

Artworks can contain considerable content of information from varying disciplines. A good example is a multi-layered urban experience project Augmented Structures by architect Alper Derinboğaz, and media artist Refik Anadol.[120] It is located on the façade of Yapı Kredi Cultural Centre, one of the urban landmarks on the Istiklal Street axis, which is one of Istanbul's most lively and popular streets. The performance is an augmented data installation that is created using computer intelligence, innovative parametric architecture, and audiovisual techniques.

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[118] Art, "City of Vancouver Introduces 15 Temporary Artworks into the Urban Landscape."
[119] Art, "City of Vancouver Introduces 15 Temporary Artworks into the Urban Landscape."
[120] "Augmented Structures V1.0."

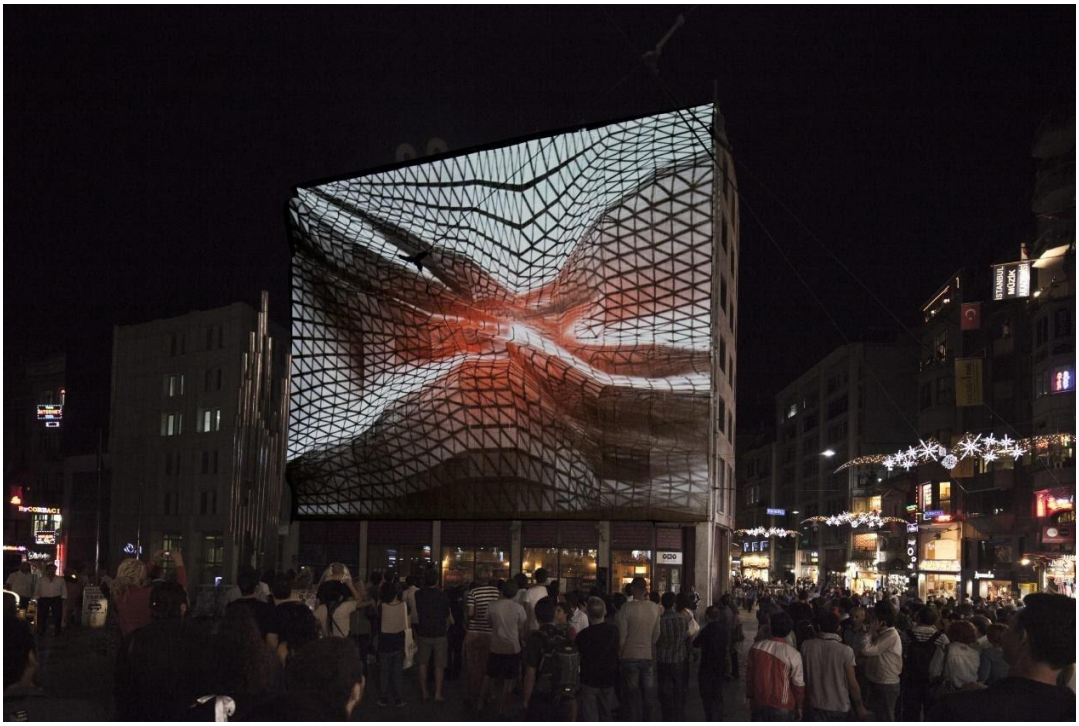

Figure 3.6 Augmented Structures, Istiklal Street, Istanbul, Turkey, 2011[121]

It embodies the large-scale building façade as a canvas displaying the synergic correlation among different disciplines of space, sound, visual, data, and light. It is a design derived from its environment and born from the data of its daily life. Generatively designed visuals, which consist of the preset recordings and their transformed versions, are projected on the structure. Along with this, visual data is synchronized to the movement of graphics which reshapes and transforms the structure.

[121] "Augmented Structures V1.0," Refik Anadol, October 28, 2022, https://refikanadol.com/works/augmented-structures-v1-0/.

The design, together with the installation, builds an audience by attracting passersby and creates a triangulation by stimulating individuals to become a part of a common experience, communicate with each other, and makes them more active participants.

Figure 3.7 Crowd Fountain, Michigan Avenue, Chicago, USA, 2004 [122]

Crowd Fountain is a data sculpture produced by Spanish sculptor Jaume Plensa. It manifests itself through a massive screen rising vertically, at the location near street level along Chicago's bustling Michigan Avenue at the corner of The Art Institute in Chicago's Millennium Park. The faces emerged on the screen through LEDs periodically and spout water from their mouths.

The artist attributes human beings the meaning of 'the givers of life' for a moment.[123] Though, the main emphasis is physical interaction between the public and the water.

[122] "CROWN FOUNTAIN, 2004," Jaume Plensa, n.d., https://jaumeplensa.com/works-and-projects/public-space/the-crown-fountain-2004.
[123] "CROWN FOUNTAIN, 2004."

In addition to what is Millennium Park's everyday mission as being a meeting place, this data sculpture enriches the human experience. The flow of water may revive *urban sensorium* and make one touch and feel, unlike everyday urban experience. The feeling of walking on a very thin puddle in the area excites people. Mingling with water on a hot summer day ensures that everyone, especially the children's community, has a pleasant time.

3.1.2 Data Signage and Data Visualization

The very intimate information exchange among people has initiated in the spaces, that they experience a sense of community and attachment. In the current situation, spaces are intensified by the presence of digital data walls and data signage elements, that conveys the information.

Any surface in a three-dimensional built environment such as urban facades, screens, floors, and projections may serve as media that communicate, inform, promote and connect.

Figure 3.8 Times Square, New York City, Manhattan, USA[124]

Times Square and Las Vegas have already been named as media spaces. Signs in the Las Vegas strip are enriched by visuals, words, and iconographies to persuade and inform users over screens.[125] The advertising and marketing campaigns have served to the audience through display screens hanging on façades, walls, or standing on the ground. Even though these displays boldly transform the face and energy of the urban space, commercially oriented media tends to be irritating because they are not appealing to everyone. Since they are not intended to encourage the community, they do not contribute positively to the user's experience.

The majority of digital displays comprise functions for advertising, however, some of them reveal non-commercial intentions. These digital displays, as a means of

[124] "Michael Grimm Photography | Architecture | 1," n.d., https://www.mgrimm.com/Architecture/Times+Square+Redesign/.
[125] Robert Venturi, Denise Scott Brown and Steven Izenour, *Learning from Las Vegas*, (Cambridge Mass: MIT Press, 1977), 52

entertainment, contributes to social interaction in public spaces by offering numerous opportunities.[126] Non-commercial digital displays in urban have the potential to transform public spaces into *experimental grounds* and building façades into *communication platforms.*[127] These experimental grounds make the way for new uses for urban space, and new forms of interaction.

Morgan Stanley's global investment banking building is famous for its large-scale data visualization at 1585 Broadway in Times Square In 1995, Poulin + Morris designed and integrated one of the first displays of that time. At the time, LED technology was the highest developed one.

[126] Badel and López Baeza, *Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age*, 127-137.
[127] Scott, McQuire, "Preface," in *The Media City: Media Architecture and Urban Space.*

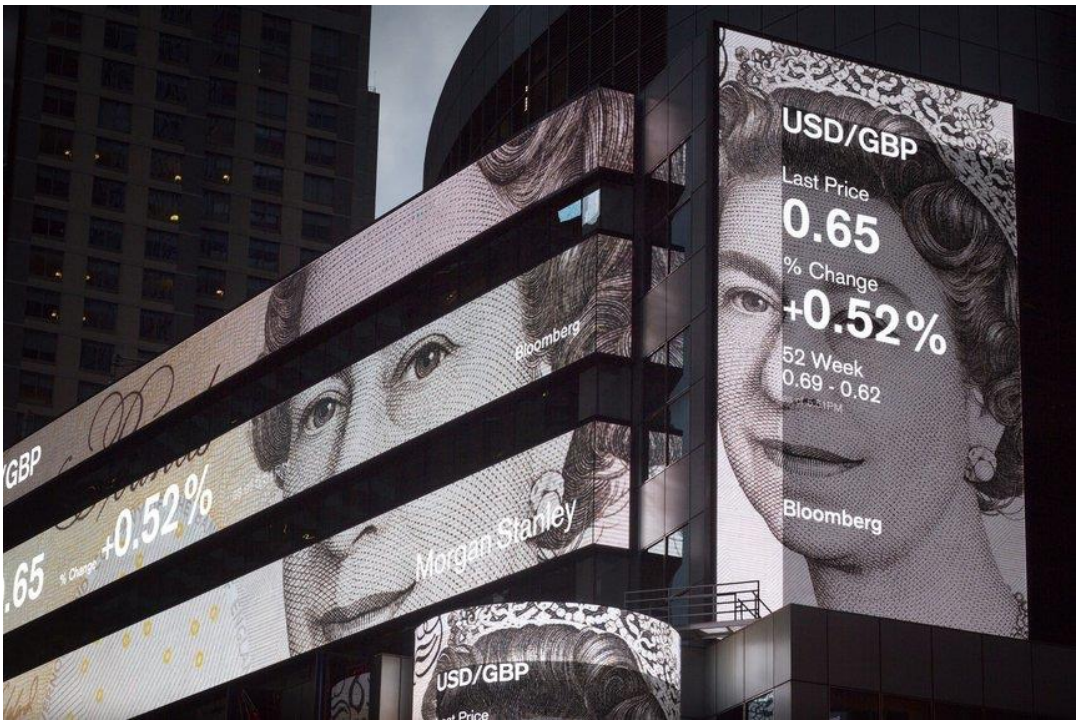

Figure 3.9 Morgan Stanley New York City, Manhattan, USA, 1995[128]

This giant iconic screen has aimed to display interactive live data to the urban interaction of thousands of people passing by Times Square. What is happening in financial markets around the world, is visualized and presented by adding several layers to the building façade, while the traditional signage elements were giving information directly. In contemporary city life, these community screens[129] are an aesthetic and understandable way of submitting data for society's information. This direct and functional communication lets users sense the easiness.

[128] "Morgan Stanley Digital Signage Times Square | Bloomberg Marketing Studio | Morgan Stanley | D&AD Awards 2016 Pencil Winner | Digital Design | D&AD," n.d., https://www.dandad.org/awards/professional/2016/digital-design/25315/morgan-stanley-digital-signage-times-square/.

[129] Alexander Jan Albrect, "Digital Media Façades for Lively Public Spaces: Promoting Dialogue, Participation and Social Innovation in Urban Environments," Paper presented at 8th Making Cities Liveable Conference, Melbourne, July 6-7 2015.

Wayfinding was also digitalized. The majority of wayfinding signage has moved to digital data signage, where the background data is driven by software, and the audience experience it by displaying or touching the screen.

Typically, people perceive their environments and build maps inside their heads based on familiar locations and routes. Therefore, the eligibility of a setting and therefore space is important for it to become meaningful and for people to develop connections to it.[130] Kevin Lynch highlights the importance of the legibility of a city. For Lynch, the text is a metaphor informing people about accessibility and navigability within the city.[131] Conversely, the cities deprived of legibility can make people feel uneasy and uncomfortable in public.

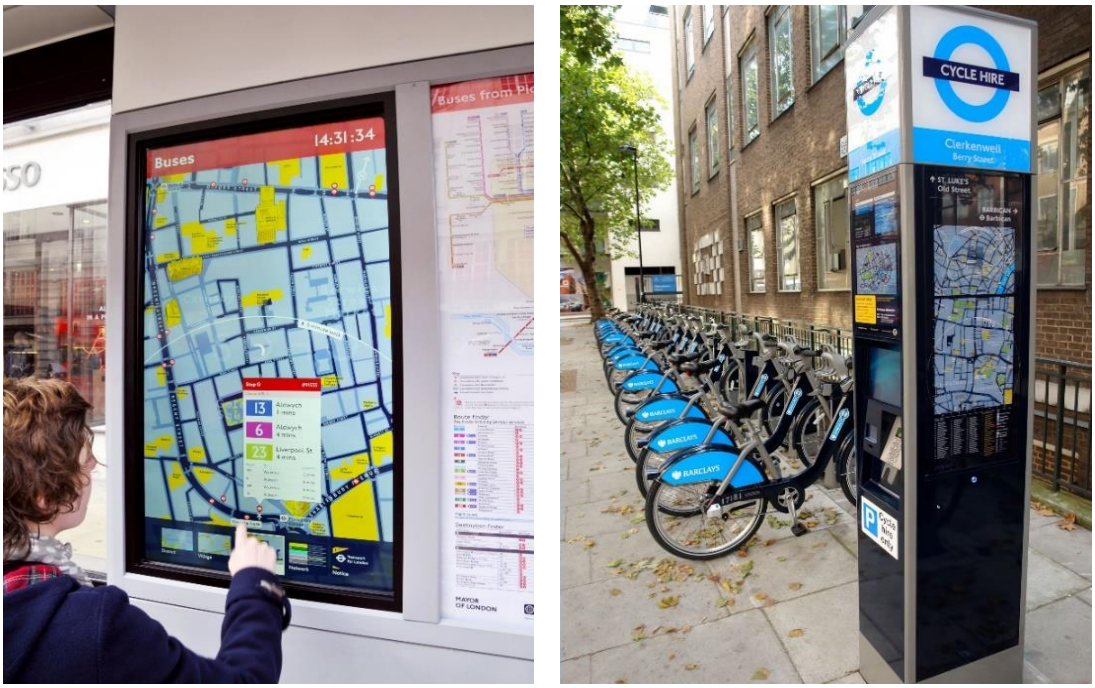

Figure 3.10 Legible London, London, England[132]

[130] Lynch, *The Image of The City*
[131] Lynch, *The Image of The City*
[132] "Applied | Legible London," n.d., https://www.appliedinformation.group/projects/legible-london.

Legible London is a project that unrolls a wayfinding signage system that appears on digital screens at public spaces, bus stations, and cycle hire.[133] This is an example of digitally progressive urban development in which the mapping information of the city is applied on the screen to provide clear and understandable navigation. Contemporary mapping screens show the way, help people to find their route, and let them float around, explore and read the city. Additionally, touchscreens ease the experience. Since pedestrians need signs to move around the city, these wayfinding signage systems also can be treated as landmarks.

The power of digitalized wayfinding devices makes the urban city more legible. A legible environment enhances the potential depth and intensity of human experience and routine activities. This strong combination of physical space and social activities maintains the formation of the public space.

3.2 Active Sociability

Along with passive interaction, there are digital activities that require pleasant dynamic participation rather than only observing. Still, there is a big majority who expect to interact with others. In this sense, people are likely to participate in events and other such moments that offer numerous opportunities for sociability. Therefore, people also seek active functions in public spaces. Active sociability is triggered among the users of public space, thanks to the mixed use of space, and varying occurrence of digital activities and events.

[133] "Applied | Legible London."

3.2.1 Digital Games

Games are key for sociability. Most games take place as an individual or group activity and as a behavior in which the player or players and audience engagement.

Recently, urbanism and digital games meet.[134] Digital games are considered interactive digital spaces incorporate into the physical space. They are physically present in the public domain. Most games occur as an individual or group activity and as a behavior in which the player or players and audience engagement is the main motivator that stimulates this category. The undeniable pursuit of reviving public space and making it more appealing, take digital games onto the stage, as being available to the public. These types generally pop up on non-commercially used digital façades.

City Fireflies is an urban video game in the digital façade at Medialab Prado, Madrid, and designed by Víctor Díaz and Sergio Galán. It is an urbanism project that can be played by multiple users to make fun of it. Its designers say that the aim is to "explore new ways of interaction in public spaces."[135] The interaction between passersby and public space is the goal of designers.

This video game uses a large and interactive screen that takes place on an urban façade as an interface. City Fireflies is a multiplayer game. Players who want to play are gathered in an open public space in front of the screen. The gestures and movements of the participants detected by the cameras allow joint activities with the virtual squares that are projected on the screen. Screening of the players and the game are superimposed on the screen.

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[134] Friedrich von Borries et al., *Space Time Play: Computer Games Architecture and Urbanism: The Next Level*, (Basel: Birkhauser, 2007)
[135] "City Fireflies on the Digital Facade."

Figure 3.11 City Fireflies, Medialab Prado, Madrid, Spain, 2013[136]

The light glow from players' phones is used to get rid of the evil-looking squares. It is easy to use and understand. Interaction is transparent, so anyone can get involved seamlessly. It draws attention from passersby. Outdoor social activities, that animate players in a commonplace, are likely to promote sociability. The fact that player movements are perceived and reflected by a responsive screen makes them more involved in the game. On the other hand, it is controversial whether a game in which players do not look at each other but show their phones in the air by looking at a giant screen provides interaction between each other.

[136] "City Fireflies on the Digital Facade," Medialab-Matadero Madrid, March 1, 2014, https://www.medialab-matadero.es/en/activities/city-fireflies-digital-facade.

Figure 3.12 Electroland, Los Angeles, California, USA, 2006[137]

The game, called Electroland, is an interactive game project in urban.[138] The experience it offers is multilayered. A large interactive surface of LED lights on the ground detects participants' movement and reflects it as a light pattern on the building façade in response. LED lights on the building facade display to the city the same light patterns that are on the interactive surface simultaneously. These ensuing actions do not only activate public space, but show the interplay among users, spectacle, and technology. On the street, someone alone or a group of friends may stop by with others who play the game. At one point, these games become an element

[137] "Electroland -Enteractive," Electroland, n.d., https://www.electroland.net/enteractive.
[138] "Electroland -Enteractive."

of discovery and play. Even, the permanent existence of such activity can be treated as a community gathering point.

Figure 3.13 Electroland, Los Angeles, California, USA, 2006[139]

Under Scan is an interactive video art installation exhibited and projected onto the ground in Trafalgar Square as part of the Tate Modern events in 2008.[140] A great number of volunteers contributed to the work with their video portraits, in which everyone has been free to express their desired movements and gestures. The public was invited to participate in the project. Passersby were detected by a computerized tracking system, and video portraits were projected and appeared within the participant's own shadow. Video portraits that appear with people's movements provided an interesting experience when they looked toward the viewer and engaged

[139] "Electroland -Enteractive."
[140] "Rafael Lozano-Hemmer - Under Scan."

the community with this creative process. This participatory and interactive installation brings the public an opportunity for interplay, and its participatory processes positively affect publicness. There, individuals blend into the active scene, and they become no more a witness but a part of the spectacle. So, participants feel more belonging and form a special bond with the space, when they gain an

experience in the participatory process.

Figure 3.14 Under Scan, Trafalgar Square, London, England, 2005[141]

Moreover, in recent years, augmented reality has revolutionized the way games are played. Digital games have moved out beyond the screens of mobile phones and computers, and they have started to show up in public spaces.[142] It has brought about real spaces turned into a giant playground where the real and virtual worlds are

[141] "Rafael Lozano-Hemmer - Under Scan," n.d., https://www.lozano-hemmer.com/under_scan.php.
[142] Badel and López Baeza, *Digital Public Space for A Digital Society: A Review of Public Spaces in The Digital Age*, 127-137.

merged. Games using Augmented Reality are just virtually intervening the space. They are using screens as the main ground of the game.

Figure 3.15 Pokémon GO, Location-based AR Game[143]

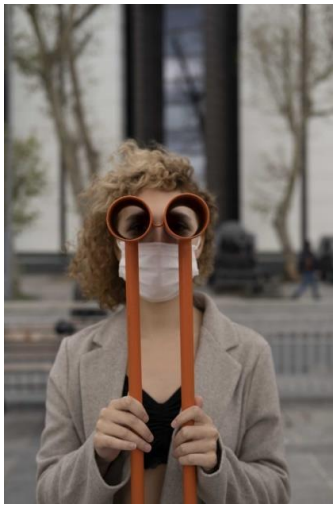
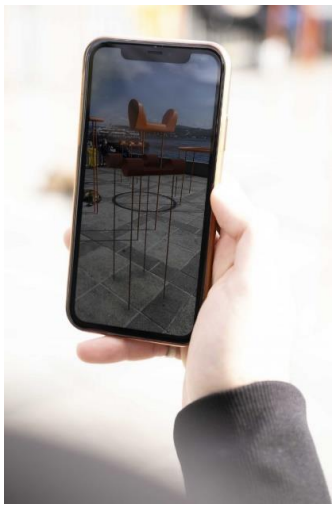
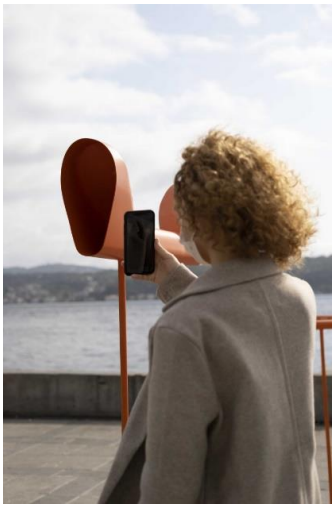
Pokémon Go has become a worldwide phenomenon. The ubiquitous or pervasive gaming examples such as Pokemon Go can alter sociability in urban spaces. It broke out in 2016 and was played by huge crowds worldwide. Pokémon go is easy to play, it uses a smartphone's camera and GPS to place the player in a real-world location and superimpose Pokémon into the real world.[144] Players walk along the streets, and

[143] Eli Panken, "Pokémon Go: Here's What to Know About the 'Catch 'Em All' Phenomenon," NBC News, July 12, 2016, https://www.nbcnews.com/tech/tech-news/pok-mon-go-here-s-what-know-about-catch-em-n608036.
[144] "Pokémon GO Is Changing How Cities Use Public Space, but Could It Be More Inclusive?," Urban Institute, August 2, 2016, https://www.urban.org/urban-wire/pokemon-go-changing-how-cities-use-public-space-could-it-be-more-inclusive.

through parks to catch the virtual pokemon displayed on the phone screen. As much as players move around, they are more likely to encounter a pokemon.

The game was quite successful in moving people out to public spaces. This pervasiveness of gaming and the users, who occupy the space while playing these games, cause the introduction of new activities. At the intersection of game and group activities, some events are organized that are committing participants to explore the environment, socialize with each other, and share experiences, while enjoying Pokémon Go. This is an absolute example of triangulation. The spread has grown from seeing numerous new and unfamiliar people, their behaviors, and their activities.

On the negative side, the spread of this game, staring at a phone screen, caused a lack of interaction with the real world. Also, there are opinions on the players of these augmented reality games manipulating the urban spaces[145] because they are deriving the benefits of space, but they are not being participative.

[145] Nyaigoti, N. W., Moirongo, O. B., Njuguna, M. B. "Impact of Digital Technology on Urban Spaces," in Scientific Conference Proceedings, 2013

Figure 3.16 Public Devices for Therapy, Etiler Artists Park, Istanbul, Turkey, 2020[146]

Designer Soraia Gomes Teixeira's *Public Devices for Therapy* reveals itself in augmented reality form at Etiler Artists Park, Beşiktaş as a part of the 5th Istanbul Design Biennial.[147]

Public Devices for Therapy addresses the lack of physical interaction and personal contact between people together with the digital era, virtual experiences, and the recent pandemic. The project aims to help people to regain physical intimacy with one another by bodily experiencing the objects. Combined with augmented reality (AR), the project aims to bring a new perspective of empathy to the normalized and stereotyped society by adding a digital layer to the designs. In this way, the devices stimulate observation and touch to bring a dialogue among humans by regulating proximity between bodies in public spaces. Therefore, the design produces a new arrangement of an intimate space between public and private realms. This is a non-permanent, temporary project. It has the potential to exist in any location, but it is discussible that can it achieve the purpose of bringing people closer together in every location.

[146] editor, "Meet the Artist: Soraia Teixeira," Digilogue, November 3, 2020, https://www.digilogue.com/meet-the-artist-soraia-teixeira/.
[147] editor, "Meet the Artist: Soraia Teixeira."

3.2.2 Technology-Driven Group Actions

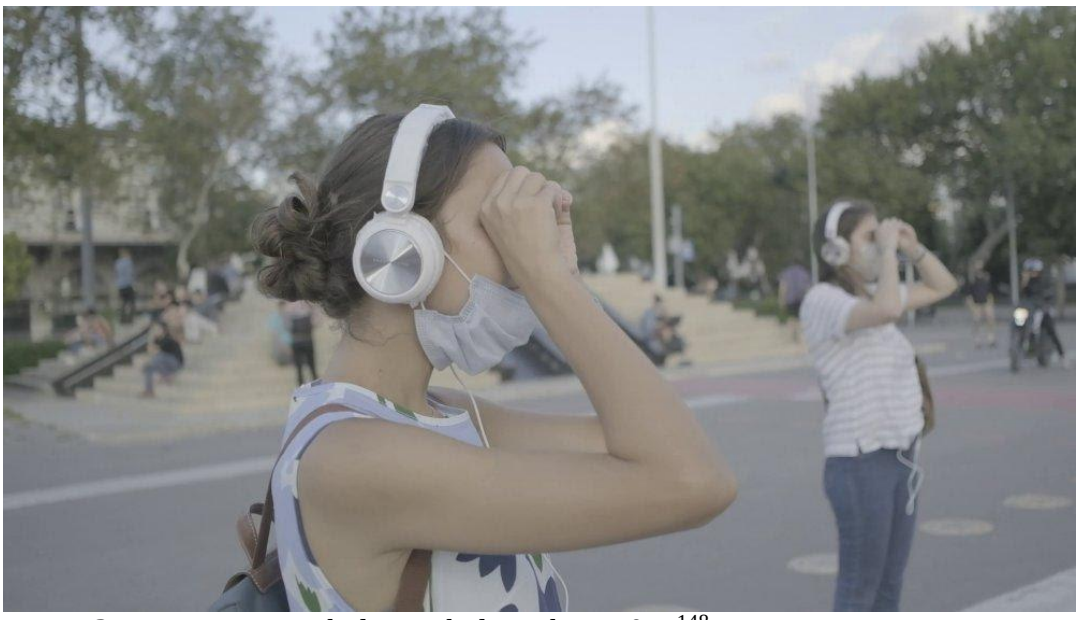


Figure 3.17 Remote Istanbul, Istanbul, Turkey, 2021[148]

Remote Istanbul by Rimini Protokoll is an interactive and 'immersive' experience by a small group of participants in the streets of Istanbul. People go out to explore Istanbul by putting on headphones.

With the voice and guidance of artificial intelligence, the group makes individual decisions affected by one another within the group. However, every experience is personalized. Thus, participants become not just an observer but active parts of both their process and the experiences of others. That is to say, the project defines "Istanbul streets as the stage and participants often take on the role of performers", enabling them to form a completely new relationship with the city. In every place where this tool is adapted, it has the potential to increase the user's experience of public space and help him discover the city. On the other hand, it may also offer

[148] Kadıköy Belediyesi Bilgi İşlem Müdürlüğü, "Remote İstanbul Ile Şehirde Oyun Başlıyor| Haberler," n.d., https://www.gazetekadikoy.com.tr/kultur-sanat/remote-istanbul-ile-sehirde-oyun-basliyor.

limited experience, because individuals are sticking to a guide without being left to explore close to outside sounds.

Social interaction includes more than face-to-face interaction. Interacting non-verbally by sharing a glance and feeling the presence of several foreigners, exists as well. For example, sharing cultural expressions such as celebrations, festivals, and events, that are staged in urban public spaces, with others. Indeed, these activities are inevitably turning into digital forms.

Figure 3.18 Ode À La Vie: Sagrada Familia, Barcelona, Spain, 2012 [149]

[149] "Ode À La Vie: Sagrada Familia," n.d., https://momentfactory.com/work/all/all/montreal-signe-ode-a-la-vie.

Figure 3.19 Ode À La Vie: Sagrada Familia, Barcelona, Spain, 2012[150]

The façade of the impressive masterpiece Sagrada Familia in Barcelona has highlighted during La Mercè Festival in the autumn of 2012. The purpose of the Moment Factory is to create a rendezvous worthy of the reputation. [151] Sound, light, and color are the main inputs of this display. Magnificently detailed work of the Sagrada Familia's façade is highlighted by using 3D projection-mapping software and 16 video projectors. [152]

Besides being an art project, this is a cultural activity, turned into a festival that gathers people. Citizens of Barcelona enjoyed this screening, conscious of the cultural value of this iconic masterpiece. Therefore, it was very important to create an impressive experience that would strengthen the public's experience of this landmark and appeal to their cultural memory.

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[150] "Ode À La Vie: Sagrada Familia"
[151] "Ode À La Vie: Sagrada Familia"
[152] "Ode À La Vie: Sagrada Familia"

Similarly, *Bloom* is a public art event designed to celebrate the Edinburgh International Festival at its 70th anniversary in 2017, the entire St Andrew Square is transformed into a magical night garden, in which buildings are covered with flowers, colors, and textures.[153] *Tokyo Station Vision* is a spectacular projection mapping example, created for the re-opening of the Tokyo Station Hotel.[154]

3.2.3 Digital Interactive and Responsive Art

The physical presence of digital activities, that are associated with the context, creates a feeling of an urban performance that unfolds in real-time.

Installations that connect to the act of people, make one face various forms of stimuli such as visual, audio, or touch-based action. In this sense, responsive art is controlled by the spectator, not by the artist.

White Noise White Light is a temporary and interactive public art installation in Athens, Greece. The outdoor ground is comprised of a grid of fiber optics that carry light and sound sensors that respond to the movement of people as they walk through it. [155] At night, as people walk into this grid of fiber optic ground, their movement is perceived by each unit. Then, the units let the white lights be transmitted from LEDs, while white noise is transmitted from speakers that are located below. When people's movement is not perceived, the light goes out and the atmosphere becomes quiet.

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[153] 59 Productions, "Bloom - Edinburgh International Festival 2017," November 17, 2020, https://59productions.co.uk/project/bloom/.
[154] Vivian Morelli, "Tokyo Station Vision," Tokyo Weekender, April 26, 2021, https://www.tokyoweekender.com/2012/09/tokyo-station-vision/.
[155] "White Noise White Light - Höweler + Yoon."

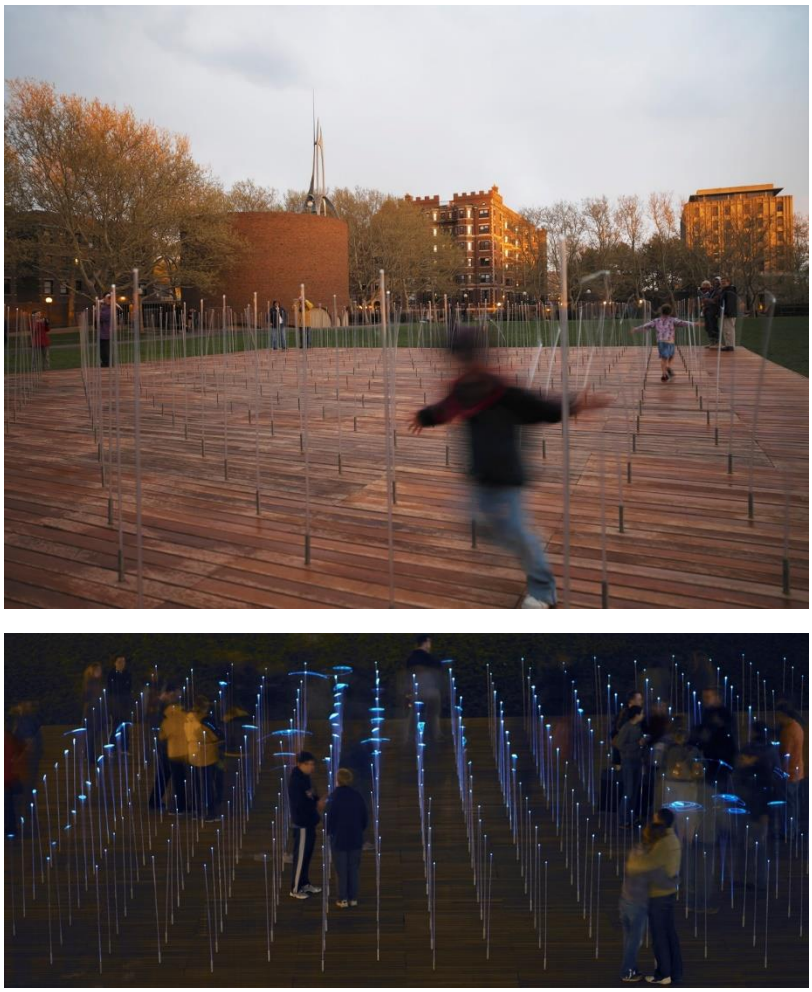

Figure 3.20 White Noise White Light, Athens, Greece, 2004 [156]

Rather than giving inspiration, this installation is more designated for a sense of enjoyment. Here, the control is on the participant, not the artist. Making move the bodies of people is both a good way to make use of an empty green space and a fun way to answer social needs. Even, some may consider the wooden platform as a stage to perform or show their individuality to the audience. These activities are all for users and already welcoming in a public space.

[156] "White Noise White Light - Höweler + Yoon."

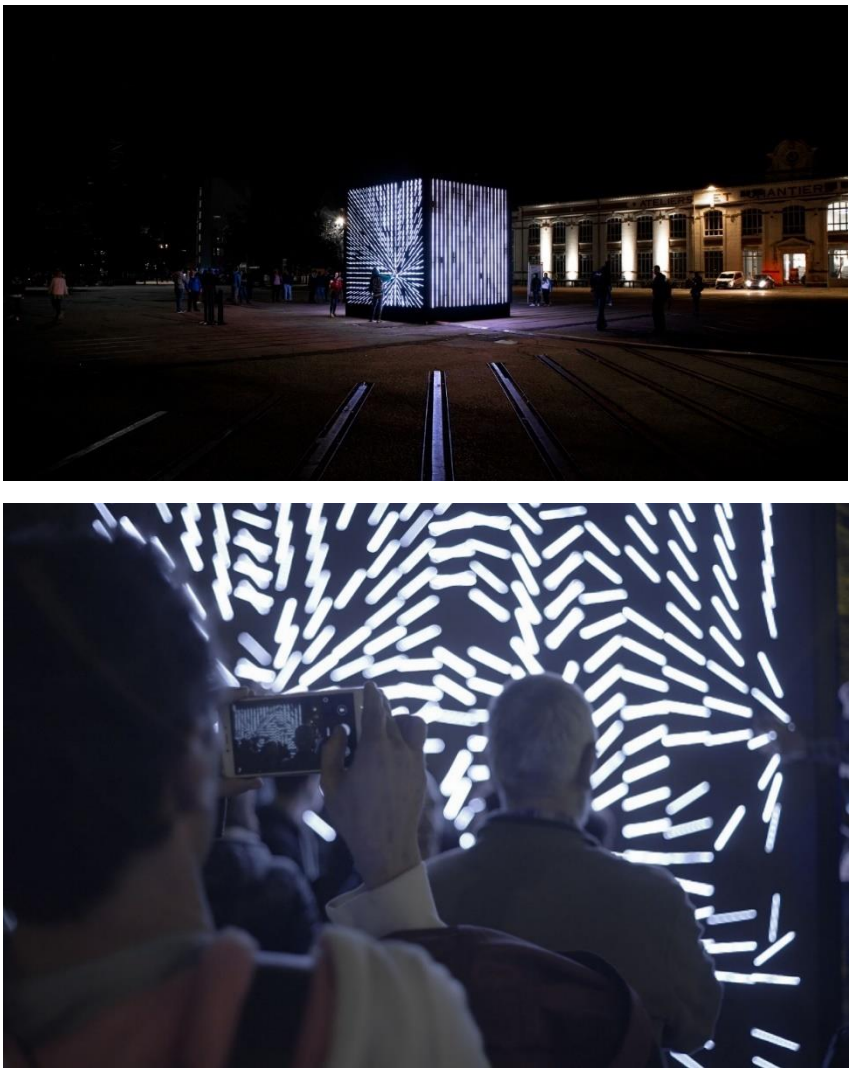

Figure 3.21 CONTROL NO CONTROL, Montreal, Canada, 2011-2018 [157]

Iregular's *Control No Control* emerges regarding the question of who controls who. Control No Control defines itself regardless of generational, cultural, or religious differences.[158] This work, which was shown in 24 cities, brought together hundreds of viewers.

[157] "CONTROL NO CONTROL," Productions L'Éloi, n.d., https://leloi.ca/en/projects/detail/control-no-control/.
[158] "CONTROL NO CONTROL."

Artists proposed this cube to encourage people to take certain actions and take control since they remark that the meaning of the project is revealed when people interact with it. The graphic lines tend to meet at the point where participants touch the screen. Accordingly, participants are who have a certain control over what is displayed. Triggering people to act and touch it, makes them a part of this experience and the whole work of art. In this way, people feel emotions and create memories.

CHAPTER 4

CONCLUSION

Public space continues to exist as it has in all human history, and to impact one's experience of the city. Public space has not lost its common meaning and longstanding characteristics of fostering participation, dialog, social innovation, and community building. Thus, society and social relations are established through space while at the same time, space is experienced through its activities.

In this study, digital technologies were evaluated through active, and passive engagement and discovery as they are relevant to the characteristics of digitalized activities. Although public spaces should always have the feature of offering comfort and relaxation as well since they always must provide the ideal physical condition for users. Likewise, the meaning dimension of public space is related to how much time people spend there. Social, physical, and meaning dimensions all mutually reinforce and affect each other. As activities transform in the digital era, naturally, the way people interact, and social behaviors have also changed.

After a new digital layer is added, the shape of contemporary urban performs differently nowadays. Individuals' perceptions and experiences have changed with overlapping layers of cities beyond their spatiality. "Humans experience time in different ways depending on how their lives are structured and practiced."[159] The

[159] Castells, *The Rise of the Network Society*.

occurrence of pervasive digitalized activities may change social practices or stimulate new behaviors within the spaces.

Transformation in social, cultural, and political activities composes perspectives of transformation in public spaces after digitalization. Such social activities, which are joined in the public setting by digitalization, have effects on the physical and meaningful dimensions of the public space.

Digital technologies did not arise as a way of approaching issues, therefore it can not be expected to bring a solution. The study has discussed the real-life reflections of this negative reputation of the decline of public space in the literature, which has emerged with digitalization. Mainly, a layout of digitalized activities within public space is proposed based on the theoretical discourse. These activities were examined on real-life examples, and inferences were made.

The examples showed promising results in terms of user engagement and experience. In this sense, they proved the potential of digital technologies in urban public spaces to enhance the public individual's experience of space. Digital activities can act as triggers in some cases. Some examples try to bring people together. Some are more effective in promoting sharing or socializing. Some are continued to be experienced by oneself. Considering the implications for supporting public experience in digital environments, some experimental. According to the definition of public space and the criteria that are governed in this study, there are suggested outputs to lead. The important related issues that are not covered by this study are as follows.

Experiencing digital public art, exchanging information through data signage, and data visualization are among the activities in which people passively socialize together with digitalization. One of them, digital public artworks are an example of how digital tools and devices are used for varying intentions such as creativity, production, process, or representation. The recently shown-up digital works of art inevitably appeal to people who are hanging out and spending time in public spaces. They are setting a good example for users to create a strong interaction and collective

experience between people in the context of urban environment, and technology. Even, some artists have taken the responsibility of reviving the collective memory of society through their representation.

Digitalized art installations define such an atmosphere that influences the whole square and invites people into it. Passersby see an immersive art that brings a sense of curiosity to the fore, therefore desire to watch. Even, art may revive urban sensorium and make one touch and feel, unlike everyday urban experience. Encountering an unexpected awareness stimulates people to discover and develop senses over it. The physical existence of examples within the public space provides a defined place for gathering. Projects may tend to build an audience by attracting passersby and create a triangulation by stimulating individuals to become a part of a common experience and communicate with each other. However, most participants remain at the level of passively observing. Watching the spectacle rarely results in exchanges among foreigners. Another point of enriching the human experience, is some artworks bring the past today, by reviving history and collective memory. Hence, pedestrians feel that they are involved in the space through meaning.

Some artworks stay as an element in the designed public space, rather than seeking to contribute to the human experience. Besides carrying an artistic value, some also provide functional contributions that enable strengthening the public space with all its dimensions. All in all, these aspects strengthen the existence of the public space as it has been.

However, interactive and responsive art is directed by the spectator, not by the artist. This type of art addresses the sense of enjoyment and triggers people to move and touch. The mode of display in which they interact with passersby and public spaces' definer of active engagement complements each other.

In contemporary city life, any surface in a three-dimensional built environment such as urban facades, surfaces in built scape, screens, floors, and even 3D environment

without a façade may serve as media that convey information. In a way, these community screens display the visualized data or digital signages aesthetically and understandably. Transformed responsive environments submit the data for society's information. In this sense, they are functional, but it is suspicious whether these environments make the way for interaction in society.

At another point, digitalized data wayfinding devices in the streets become functional and provide direct communication with users. This creates convenience and legibility. Correspondingly, a legible environment enhances the potential depth and intensity of human experience and routine activities.

Digitalized games are still able to foster active participation rather than only observing. Gaming may be seen as the culture that will be highly affected by digitalization, but there is a successful unexpected level of harmony and effectiveness in the public space. Games are still an element of discovery and play since a new type of gaming and new events were defined. The defined places by games are still treated as community gathering areas. The presentation of games via interactive surfaces does not interrupt players to join active scenes and experience the participatory process with others. Moreover, in some cases, these digital games may undertake to be a focal point within an urban space. they are being quite successful in moving people out to public spaces to participate in a collective event. However, digitalized gamification causes players to look at screens and lack moments of sharing, instead of looking at each other and interacting.

Experiencing the city through technological devices, and with others is completely new to the era. These state-of-art technologies enable users to form a partially new relationship with the space, and discoveries are made. With the involvement of a group of people, a shared space is created. To preserve the value of the public space as a realm that has a direct impact on the individual's urban experience, the practical decline of these spaces must be prevented. Hence, public spaces should be synchronized with the latest technological advances.

For further studies, the growing digital culture and scope, give us a lot to discuss. The applications of digital in the public sphere will be diversified inevitably. For example, another way to experience visual interaction is in the form of three-dimensional objects. Software-designed sculptures, pavilions, and installations are marked spatially within the public space

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