

The British University in Egypt

BUE Scholar

Architectural Engineering

Engineering

2023

Urban Screens as a Tool for Placemaking

Mona Helmy

mona.helmy@bue.edu.eg

Follow this and additional works at: https://buescholar.bue.edu.eg/arch_eng



Part of the [Architecture Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Helmy, M. (2023). Urban Screens as a Tool for Placemaking. *UXUC - User Experience and Urban Creativity*, 5(2), 34 - 47. <https://doi.org/10.48619/uxuc.v5i2.784>

This Article is brought to you for free and open access by the Engineering at BUE Scholar. It has been accepted for inclusion in Architectural Engineering by an authorized administrator of BUE Scholar. For more information, please contact bue.scholar@gmail.com.

Urban Screens as a Tool for Placemaking

Mona Helmy

Architectural Engineering Department, The British University in Egypt, Cairo, Egypt

E-Mail: mona.helmy@bue.edu.eg

Abstract

Urban screens, as part of the lightscape of places, can play a fundamental role in placemaking. They have the flexibility to be positioned in various locations in spaces with various sizes, shapes, moods, and effects for functional or aesthetical reasons. They can be temporary or permanent, active, or interactive instruments for creating a dynamic, stimulating, and unique public realm atmosphere that engages people and encourages social interaction.

This research aims to create a theoretical framework for urban screen typologies as tools for placemaking. It investigates, explores, analyzes, and discusses different approaches where urban screens are used as a main tool for placemaking. Various international case studies, such as Al Wasl Dom in Dubai, UAE, Sony Centre in Berlin, Germany, Times Square in New York, USA, and light festivals around the world are comprehensive examples of placemaking through different applications of urban screens.

To reach its aim, the research uses a mixed methods approach and several tools, such as archivals and literature review as main sources for the theoretical knowledge base, while critical analysis of practical examples is used to support the pragmatism of the proposed placemaking framework.

Keywords

Urban Screens¹; Placemaking²; Public Places³; Lightscape⁴.

1. Introduction

The world is witnessing a globalized era, where cities and places almost look like each other. Nowadays, many public spaces have no character and are not attractive to their potential users. Under the pressure of the competitiveness and branding of cities with strategies of developing their economy, plans in various cities were initiated to create unique characters in certain places and make them more attractive (Helmy, 2008). Therefore, many cities are going through various types of urban developments to (re)create a unique identity and sense of place for themselves. In this context, revitalization, infrastructure, massive projects, as well as placemaking strategies are adopted in cities.

Placemaking is the process of (re)designing, (re)creating, or transforming public spaces into places that are attractive, functional, identifiable, and above all, engaging for the people who use them. Placemaking can be done through

various strategies and tools; using tangible and intangible elements of spaces, to be materialized in a constant or interim time span.

Several scholarly articles envisioned urban screens as a tool to "Remediate" public spaces (Fortin et al., 2015), or as a tool for networking in public spaces (Cheshmehzangi & Ornsby, 2017). Other articles state that placemaking can be created through 3D art projection, such as (Yue, 2020). Tomitsch et al. (2015) debated that there are new opportunities for placemaking through using digital screens. Yet, this research comprehensively investigates various typologies of urban screens to create an exclusive theoretical framework for placemaking using urban screens.

This research assumes that using urban screens considering their various typologies, can be a creative placemaking tool that transforms those public spaces into places with

a unique character and a distinctive sense of place with a unique user experience. In this context, Courage and Mackeown (2018) argued that creative placemaking is the creative practice within the process of placemaking (Courage & McKeown, 2018).

In addition to investigating and classifying the types of urban screens in public realms, this research presents and analyzes precedents that use urban screens as a tool for placemaking. As a conceptual contribution, it outlines a theoretical framework for a placemaking approach using urban screens.

2. Placemaking

Placemaking is a phenomenal tool to connect people with their places. As an approach, placemaking “..prioritizes people over infrastructure” (Placemaking in Urban Design, 2023). It aims to create places that are not only aesthetically pleasing but also foster a sense of community, social interaction, and cultural identity, through designing and creating public spaces that are attractive, functional, and engaging for the people who use them. Consequently, placemaking aims to enhance not only the quality of urban spaces, but it enhances the quality of urban life at large (City of Charlotte, 2017).



Figure 1. Various art works displayed at the Times square, NY, USA during the Midnight Moment

Composition created by the author based on Times Square Arts website: <http://arts.timesquarenyc.org/times-square-arts/projects/midnight-moment/index.aspx>

Placemaking is a people-centered approach that involves working closely with the community to understand their needs and aspirations and then using this information to shape the design and use of public spaces, as it emphasizes the relationships between individuals, communities, and urban spaces (Boros & Mahmoud, 2021). Placemaking projects are typically envisioned to transform communities' spaces into lively and attractive places (Helmy, 2020). It has various interventions and tools, such as the installation of public art, the creation of community gardens or parks, the revitalization of underutilized public spaces, and the introduction of urban screens and other technologies, among other tools. In the context of this research, urban screens are proposed as an efficient placemaking tool.

Urban screens with their typologies, sizes, types, and whether they are traditional or digital, are having an impact on the place's image, character, perception, and maybe function. They also contribute to the connectivity of places with their users, or even to connect users with each other (Tomitsch, 2016). For example, as shown in Fig. 1, Times Square in New York, USA displays a different monumental scale of public art every night on its gigantic electronic billboards for three minutes that ends exactly at 24:00/ midnight time, which is called the Midnight Moment (Times Square Arts website, n.d.). This display attracts millions of viewers every year to interact with the square and with each other.

3. Urban Screens

Urban screens are large-scale digital, or (non)digital displays and/or interfaces, that are located in urban areas such as streets, squares, and plazas. They are “..various kinds of dynamic digital displays and visual interfaces in urban space..” (Urban Screens, n.d.). They enhance the visual vibrancy of places, and consequently, enhance the overall urban experience (Digital Urban Canvas, 2022).

Urban screens are tools for placemaking that can help bring people together and create a sense of identity and place in engaging urban environments. They are not only digital or illuminated displays, but they can be a unique art type that enhances humans' engagement and interaction with space.

Examples of public spaces' vibrancy as a result of using urban screens are clearly illustrated in the notion of the light festivals in many parts of the world, where facades of buildings and floors of spaces are used as temporary gigantic urban screens. For example, in the 'Berlin Annual Light Festival' that takes place in many locations of the city, the facades of many buildings reflect different types of arts, which many people come specially to go through this unique user experience.

Figure 2 shows the changing of the artistic digital projection on Brandenburg Gate, Berlin, Germany, and how it creates a dynamic atmosphere for the public space and changes its perception.



Figure 2. Using Brandenburg Gate in Berlin, Germany as a gigantic dynamic urban screen
Photo credit: By the author

4. Urban Screens Typologies

Urban screens have different typologies, such as type, position, temporal, and interconnectivity. Through a cross-sectional study of various examples of urban screens in different contexts, the research investigates a diverse of experiences, and consequently, diverse approaches to placemaking using urban screens.

4.1.1 As Per Their Types

Urban screens can be used to display various media, between static, movable, active, and interactive moods creating a vibrant and dynamic place atmosphere. They can be a very efficient tool for transforming public places into social hubs, where social interaction takes place, not only between people but also between them and their places. Often, they transform public spaces and turn them into places for unique atmospheres and experiences. Furthermore, public places that extensively use urban screens as platforms for visual art are considered open-air galleries and destinations (Januchta-

Szostak, 2010). Types and functions of urban screens are many, such as:

- **Communicating information:** Mainly to communicate certain data to the community, such as awareness, or as public viewing screens that display sports matches for example.
 - **Advertisements:** Mainly commercial for different types of products.
 - **Art:** Often used to give a certain character, sense, or beautification to public spaces and make them more livable.
 - **Recreational:** Some interactive urban screens are used in entertainment, such as the ones that are connected to mobile apps that allow people to play games on those huge screens, individually, or as a group.
 - **Representational:** Mainly temporary digital reflection on any part of the public space to represent it for a certain aim.
- Table 1 illustrates examples for possible types of urban screens in public spaces.

Types of Urban Screens

Digital

Non-digital

Data / Information

Communicating data, information, or awareness to the public can also give a character to the public space through its design, color, and mood.



Commercial Ads

Can be in 2D in a digital or non-digital mood. Also, can be in the 3D.



Art

Hosting art in public spaces, temporary or permanent, static, or dynamic, is a well-known strategy for placemaking.



Recreational

Different moods, such as active or interactive urban screens can work as moods of entertainment.



Representational

Urban screens can be added to any position of the public space, such as its vertical or horizontal dimensions to represent the entire public space.



Table 1. Urban screen typology as per their types in the public space
By the author

4.1.2 As Per Their Position

As physical structures, urban screens can be fixed to buildings' facades or can be standalone structures positioned in various locations of urban environments (Tomitsch et al.,

2022). Also, they can be either fixed or projected in different parts of the public space, such as its roof or its floor. Table 1 shows examples of different types of locations to fix or project urban screens in public spaces.











POSITION OF URBAN SCREENS IN THE PUBLIC SPACE	WALL	<p>Fixed: Urban screens to building' facades vary in size. They can be part of or the whole of the building façade.</p>		
		<p>Freestanding: Digital or non-digital urban screens are positioned as free-standing billboards</p>		
	FLOOR	<p>Non-physical / reflected urban screens or physical ones, active or interactive that are fixed or painted on spaces' floors are enhancing their livability.</p>		
		<p>Fixed urban screens as part of the public space roof structure. It can be reflected or fixed on a special structure, or on the public space original structure.</p>		
	ROOF	<p>Floating urban screens are typically an art projection that has no supportive structure.</p>		

Table 2. Urban screen typology as per their position in the public space
By the author

4.1.3 As Per Their Temporal

Urban screens can be temporary or permanent in the public space, regardless of their changing or non-changing content. Often, the temporary ones are reflected as a projection of the space’s vertical and horizontal dimensions. In this context, Fortin et al. (2013) stated that urban screens can be static, such as electronic signage or billboards with “unchanging content”, or they can also be dynamic, such as displays showcasing videos, or changing content.

For example, Burj Khalifa in Dubai, UAE is used as a huge thematic dynamic urban screen to celebrate different events. Also, at the Jing An Kerry Centre in Shanghai, a projected urban garden was created on the floor of the center to celebrate the arrival of the Spring (Stewart, 2017). Table 3 presents the possible temporal of urban screens.





Types of Urban Screens	Changing Content	Unchanging Content
<p>Temporary Often has no fixed structure in the public space. Hence, it can be reflected or projected on any surface of the space.</p>		
<p>Permanent Can be a permanent projection or installation in terms of occupying same location, regardless whether it has unchanging, or changing content like the changing colorful projection in Sony Center, Berlin, Germany.</p>		

Table 3. Urban screen typology as per their temporal in the public space
By the author

4.1.4 As per Their Interactivity

Urban screens vary in terms of their interactivity with their surroundings and with human beings (Gasparini, 2014). The interactive content of the media displayed or projected in the space can create different types of activities (Tomitsch 2022). In this context, Fatah (2017) argued that the duration of the interactive urban screens is likely to reflect their ability of meaningful users' engagement with public spaces and to make it livable or active in general (Fatah, 2017) (Tomitsch, 2016). Many scholars categorized the interactivity of urban screens with people into three main types. Those types are active, reactive, and interactive urban screens (Giannetti, 2004) (Tomitsch 2022).

4.1.4.1 Active screens

The term "active" is producing involvement or movement and is characterized by action rather than contemplation, in which it is considered lively and energetic (Merriam Webster.com). They refer to the once that their content is animated and prerecorded. Their content "...is not responding to any input from the user or the environment.." (Tomitsch, 2022). Thus, active urban screens are dynamic ones that have changing and movable content. Often, active screens are dominated by an action from one side that is perceived by the other side.

Examples of active screens are many, such as moving screens with multiple ads or contents, screens with movies display, and animated ones, among others. Al Wasl Dom in Dubai, UAE is a clear example of a movable dynamic gigantic urban screen that covers the main plaza of the Expo Dubai Arena. The active Dom has various reflections related to the several activities contained in it as shown in Figure 3.



Figure 3. Al Wasl Dom active urban screen changes its content in relevance to the various contained activities and needed effects. Photo credit: By the author

4.1.4.2 Reactive screens

Reactive as an adjective means responsive or marked by a reaction, or often an action in response to another action. Reactive screens are “.. applications that reflect external stimuli, such as user behavior or environmental conditions..” (Tomitsch, 2022). Hence, they are a responsive type of screens that engage various environments.

A clear example of reactive urban screens is the largest media façade urban screen in Peru that is installed to cover the Peru

National Football Stadium building from outside. The screen links people inside and outside the stadium, as it responds to the noise level inside the stadium, and graphically reflects it to people outside the stadium (Haeusler et al.,2012). Figure 4 shows the reactive screen covering the Peru Stadium, and Figure 5 shows the technicalities of reflecting the activity and the noise level of the spectators to the people outside the stadium.

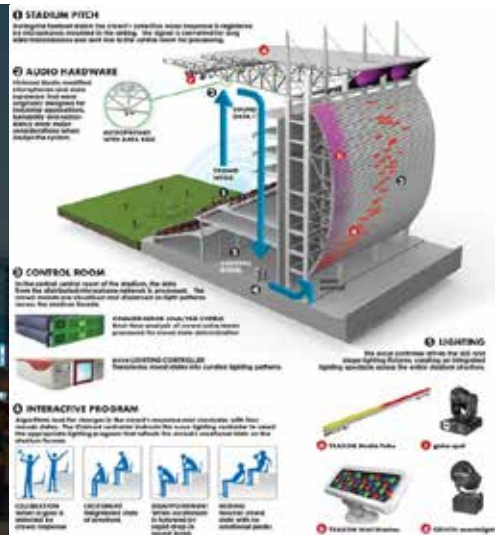


Figure 4: The reactive urban screen of Peru Stadium. Source: http://1.bp.blogspot.com/-VKL7jSxIgne/TksAQJXI-I/AAAAAAAAABMY/1w7OI-jH3wKg/s1600/Cinimod-Studio-Peru_National_Stadium-5238-2.jpg

Figure 5: The technicalities of the reactive screen to communicate activities and noise level. Source: <https://inforaulrodriguez.com/national-stadiums-new-light-system>

4.1.4.3 Interactive screens

Interactive means mutually or reciprocally active (Merriam Webster.com). Interactive screens refer to “..systems that allow people to explicitly influence the system’s output ..” or to add to it (Tomitsch, 2022). Thus, they are two-way action systems. Examples of interactive screens are many such as the ones that are connected to mobile apps, which mainly mirror mobile games that can be played on them in public spaces, in which individuals and groups are connected to the space. Other examples are the screens that are optimized for

physical interaction with people, which influence the social interaction and the livability of the public space. Other forms of interactive screens are the ones that can change, adapt, or move by people touch. Those are mainly digital, which can be installed in accessible positions in the space such as on its wall or floor.

Table 4 shows different types of influences between people and interactive urban screens regardless of their size and location in the public space.

Interactive Urban Screens

Interactive Physical Screens

Interactive physical urban screens is optimized to move to change the landscape of the public space, and consequently, increases its livability, and identity, which is considered a successful tool for placemaking.



Interactive Digital Screens

Often are positioned on the floor of public spaces or on its walls to create a unique user experience, maximize social interaction, and exceeds its livability.



Interactive Systems

Mostly smart systems installed in the public space as digital urban screens that can mirror or interact with smart devices.



Table 4: Different types of influences between people and interactive urban screens

5. Discussion:

Through analyzing several typologies of urban screens and their effects on public spaces, it is clear that they can be used as effective tools for placemaking. Yet, different typologies of urban screens are differently impacting the livability, sociability, and user experience of the space. Thus, they impact the placemaking with various effectiveness as shown in Figure 6 and as follows, starting from the most effective form to the least one:

- Interactive screens have mutual communication with people and considered the most effective typology in engaging people with each other, and with their place. It is considered a two ways action system.
- Reactive screens are responsive systems that engage people with different environments.
- Active screens are considered one way action systems that attract people without an input from their side.
- Non-active screens have visual contact with users, yet they impact their surroundings, including landscape.



Figure 6: The forms of placemaking systems, using urban screens, indicating the interaction type. By the author

6. Placemaking Using Urban Screens:

A Theoretical Framework

Urban screens are one of the successful tools for placemaking. They are categorized into different typologies and types, considering their mood and if they are digital or physical.

Also, their temporal is playing and if they are temporary or permanent is playing a role in their efficiency as placemaking tools. Figure 7 represents a suggested framework for using different typologies, types, and moods of urban screens to enhance the sociability and the livability of public spaces.

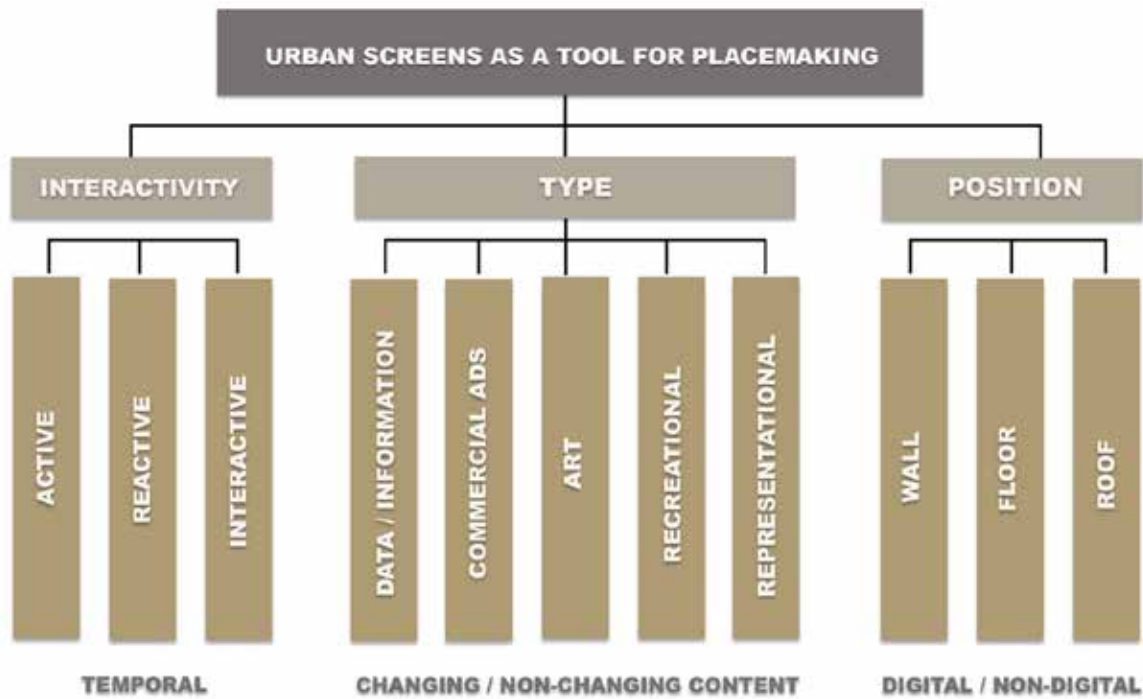


Figure 7: Urban screens as tools for placemaking – A theoretical model By the author

Conflict of Interests and Ethics

The author declares no conflict of interest. The author also declares full adherence to all journal research ethics policies, namely involving the participation of human subjects’ anonymity and/ or consent to publish.

References

Boros, J. & Mahmoud, I. (2021). Urban design and the role of placemaking in mainstreaming nature-based solutions. Learning from the Biblioteca Degli Alberi Case Study in Milan. *Frontiers in Sustainable Cities*. 3. 10.3389/frsc.2021.635610.

Cheshmehzangi, A., & Ornsby, P. (2017). Augmented locality: The utilisation of urban screens in public places as new networks of the city. *Journal of Urban Regeneration & Renewal*, 11(2), 194-211.

Courage, C., & McKeown, A. (Eds.). (2018). *Creative Placemaking: Research, Theory and Practice* (1st ed.). Routledge. <https://doi.org/10.4324/9781315104607>

Digital urban canvas: How LED displays transform cityscapes and urban environments, Published Jul 20, 2022 By: Samsung for Business <https://insights.samsung.com/2022/07/20/digital-urban-canvas-how-led-displays-transform-cityscapes-and-urban-environments/> visited in 11.06.2023.

Fortin, C., Dipaola, S., Hennessy, K., Bizzocchi, J., Neustaedter, C. (2013). Medium-Specific Properties of Urban Screens: Towards an Ontological Framework for Digital Public Displays. 243-252. 10.1145/2466627.2466629.

Gasparini, K. (2014). Media facades and the immersive environments. *International Journal of Architectural Theory*, 19(33), 251- 261.

Giannetti, C. (2004). *Aesthetik des Digitalen: Ein intermediaerer Beitrag zu Wissenschaft, Medien- und Kunstsystemen*. Springer.

Haeusler, M. H., Tomitsch, M., & Tscherteu, G. (2012). *New media facades: A global survey*.

Helmy, M. (2008). *Urban branding strategies and the emerging Arab cityscape: the image of the Gulf city*. Doctoral thesis, Stuttgart University, Germany. Can be downloaded from <https://elib.uni-stuttgart.de/handle/11682/78>

Helmy, M. (2020). *Placemaking in Arab Cities: Realities, Challenges, and Prospects*. *The Journal of Public Space*, 5(1), 1-4, DOI 10.32891/jps.v5i1.1247

Hespanhol, L., Tomitsch, M., Bown, O. & Young, M. (2014). *Using embodied audio-visual interaction to promote social encounters around large media facades*. In *Proceedings of the 2014 conference on designing interactive systems* (pp. 945-954).

Januchta-Szostak, A. (2010). *The role of public visual art in urban space recognition*. In *Cognitive maps*. Intech Open.

Peru National Football Stadium, n.d., <http://rgblighting.blogspot.com/2011/11/peru-national-football-stadium.html>

Placemaking in urban design. Urban Design lab. (2023, March 28). <https://urbandesignlab.in/placemaking-in-urban-design/>

Stewart, J. (2017). *Colorful Projection Mapped Garden Celebrates the Glory of Spring*. *My Modern Met*. <https://mymodernmet.com/miguel-chevalier-spring-projection-mapping-shanghai/>

The City of Charlotte, Community planning academy (2017). *Urban design and placemaking guide*.

Can be downloaded from: http://www.charmeck.org/Planning/Land%20Use%20Planning/CommunityPlanningAcademy/2017_07_Jul_12_UrbanDesign.pdf

Tomitsch, M., Gasparri, E., Brambilla, A., Lobaccaro, G., Goia, F., Andaloro, A. and Sangiorgio, A. (Eds.) (2022). *Interactive media facades - research prototypes, application areas and future directions*. In *rethinking building skins*, Woodhead Publishing, Sawston, United Kingdom, 313-337. <https://doi.org/10.1016/B978-0-12-822477-9.00019-X>

Tomitsch, M. (2016). *Communities, spectacles and infrastructures: Three approaches to digital placemaking*. In S. Pop, T. Toft, N. Calvillo, & M. Wright (Eds.), *What urban media art can do*. Stuttgart: Avedition.

Tomitsch, M., McArthur, I., Haeusler, M.H., Foth, M. (2015). *The Role of Digital Screens in Urban Life: New Opportunities for Placemaking*. In: Foth, M., Brynskov, M., Ojala, T. (eds) *Citizen's Right to the Digital City*. Springer, Singapore. https://doi.org/10.1007/978-981-287-919-6_3

Urban Screens, n.d., <http://www.urbanscreens.org/about.html#:~:text=URBAN%20SCREENS%20defined%20as%20various,urban%20society%20%2D%20Screens%20that%20support>

Yue, A. (2020). *Ambient participation, placemaking and urban screens*. In *Communicative Cities and Urban Space* (pp. 163-176). Routledge.

