Spatial Video Projection as a Digital DIY Paradigm for Under-valued Public Open Spaces Revitalization

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Abstract
This study suggests a digital model for revitalizing undervalued public open spaces (UVPOS) as one of the contemporary cities' phenomena. It discusses spatial video projection (SVP) as a digital do-it-yourself (DIY) paradigm for UVPOS revitalization. The application of tricycle SVP is suggested as a model for this paradigm. As a result, this research conceptualizes the SVP as a digital DIY paradigm for UVPOS revitalization and identifies the main components that must be achieved and integrated with the city's official planning and design systems.

Keywords
Spatial augmented reality; Digital place-making; neglected spaces; DIY urbanism.

1. Introduction

Ephemeral is a featured component of nowadays city dynamics. Temporary spatial interventions become a trend. Tactical and do-it-yourself (DIY) urbanism practices witness a rising acceptance in the urban realm. These practices, even if they are applied on a small scale, have a wider effect on the city scale (Talen, 2015). DIY usually involves community-led activities that are flexible, innovative, low-cost, and fast-paced. These activities provide long-term fixes for unresolved urban issues through rigid urban planning and design systems (Vadiati, 2022; Hou, 2020; Finn, 2014). In this regard, DIY practices are used to upgrade and activate urban public open spaces (Karandinou, 2016; Hou, 2020).

Digital media also could be considered an enabler of the ephemeral nature of the contemporary city. Digital technologies broaden the possibilities for urban development including the public open spaces as a vital element of the urban fabric. As the opportunities, the challenges also increase in the contemporary cities' urban landscape. One of these challenges is the UVPOS which has become a phenomenon. The enhancement of these spaces is a vital factor in achieving sustainable development in today's city (Southworth, 2001; Moughtin, 2003; Giddings et al. 2011; Spandou et al. 2010; Jaszczak, et al. 2021; Vadiati, 2022). In a mega and multicultural city like Istanbul, finding public open spaces for a massive amount of people is a challenge. When there are some crowded public open spaces, there are also some vacant ones with good conditions but not been discovered. The need to provide alternative public open spaces has become essential in the time of the COVID-19 pandemic in Istanbul and other cities worldwide. Further, Istanbul city is characterized by its uneven

hilly topography, and the availability of lots of peninsulas in its nature provided it with many vistas and vantage points. The suggested paradigm of this research is to make undiscovered and under-valued public open spaces within the urban landscape considered vital and memorable.

This study discusses Spatial video projection (SVP) as a digital DIY paradigm to revitalize UVPOS. SVP is a projection technology that enables projecting visual content over 3-D objects of any scale. SVP on the city scale is commonly known for its big-scale installations with high implementation and processing costs. This study discusses a different model of the commonly known SVP installations in the urban landscape. This model is low-cost, fast-paced, and easily implemented SVP practice if compared with the common SVP installations. This model was implemented previously in different cities around the world by two artists Ygor Marotta and Ceci Soloaga, of VJ Suave. These artists prepare two tricycles to present various SVP installations in different setups in the urban landscape. After analyzing the case of these artists' installations, this study suggests similar applications but for the intended purpose of revitalizing UVPOS. The suggested model of this research relates to the discussions of smart city components and sustainable development goals.

This study contributes first to conceptualizing the SVP as a digital DIY paradigm for UVPOS revitalization. Second, it suggests and clarifies the main components to integrate the suggested UVPOS revitalization model into the city's official planning and design systems. To do so, this study identifies the intersections between DIY urbanism, digital place-making, and UVPOS revitalization. Then the study will review and analyze the applications of the tricycle SVP installations. Based on these steps the study will identify the main components that must be considered to achieve the SVP as a digital DIY paradigm as a UVPOS revitalization tool.

2. DIY urbanism:

Do-it-yourself urbanism (DIY) is a small-scale practice and intervention in urban public spaces. Commonly, it occurs spontaneously by a group of residents as a coping mechanism to provide unmet needs or desires in their surroundings. Tactical, pop-up, Guerilla, insurgent, and temporary urbanism are some terms related to DIY. However, these actions could be utilized to achieve long-term urban planning, design, and management objectives in public open spaces. They could be to obtain inclusiveness, safety, and livability in public open spaces. DIY urbanism generated by residents provoked creativity and entrepreneurship to reach their goals to develop specific public urban spaces. Thus, DIY urbanism produces vital, interesting, and meaningful experiences in the urban landscape. DIY could be adoptable or adaptable by official planning and design bodies as a place-making activity (Finn, 2014; Talen, 2015).

3. Digital placemaking and DIY:

DIY urbanism activities led to providing meaning to the public open space, viz a place-making tool. In the last decade, digital technologies ascendingly intervene in many sectors including urban development and spatial experience. As a result, “digital place-making” appeared in practice and research (Sherman, 2012; Stefanita, 2018) (Sanaeipoor and Emami, 2020) (Vadiati, 2022; Basaraba, 2021).

Digital place-making is the utilization of digital media to give a meaning to specific space (Halegoua and Polson, 2021). Information and communication technologies (ICT) and the internet of things (IoT) domains developing continuously. This provides us with a wide variety of alternatives for the use of digital place-making. This study will focus on SVP as a tool to revitalize UVPOS.

4. UVPOS revitalization and Digital place-making:

UVPOS revitalization is achieved by conducting physical, non-physical improvements, or both. UVPOS revitalization targets social, cultural, economic, environmental, or political aspects of space to provide a quality place (Ramlee, et al. 2015, Abd El Gawad et al. 2019, Stefanita, 2018; Najjar and Ghadban, 2015). Place-making is one of the UVPOS revitalization approaches (Abd El Gawad et al. 2019). Digital media facilitate place-making in different ways such as place discovery, interactive installations, gamification solutions, social participation and engagement, and digital storytelling (Sanaeipoor and Emami 2020, Alexandra, 2019;

Stokes, et al. 2021). SVP as one of these technologies is the focus of this study. Finn (2014) mentioned SVP as DIY urbanism practice.

5. Case of the SVP tricycle as digital DIY:

"Elephant Walk" is the first recorded cycling-based mobile SVP installation. This installation was created by artist Michael Flueckiger in 2015 in Zurich Switzerland (Macmichael, 2015) (Figure-1, a). The light cycle is another example of cycling-based SVP practice that took place in the UK by Rebecca Smith (Figure-1, b) (urban projections, 2022). This study focuses on the practice of VJ Suave, by duo artists Ygor Marotta and Ceci Soloaga. In their "Suaveciclos" project with two tricycles equipped with a projector, battery, and laptop they presented SVP installations in different cities internationally. The installations of this project aimed to achieve interactive and playful experiences in the cityscapes (Figure-1, c). (PMC, 2022).

Within the Suaveciclos project, various installations were implemented such as "Run", "Homeless", "Lacena" and "Trip" short movies. These movie characters ran and flew within the urban landscape in 2011 and 2013. They are also generated from hand drawings animated and then presented using the SVP technique (Vj Suave, 2022) (Figure-2).

There are more installations done in this project, while this study focuses on the practice that took place in Le

Figure 1-A.

Figure 1-B.

Figure 1-C.

Figure 1. Shows various cycling and spatial video projection applications.
F1-A: Elephant Walk" SVP installation.
F1-B: The light cycle.
F1-C: "Suaveciclos" project.

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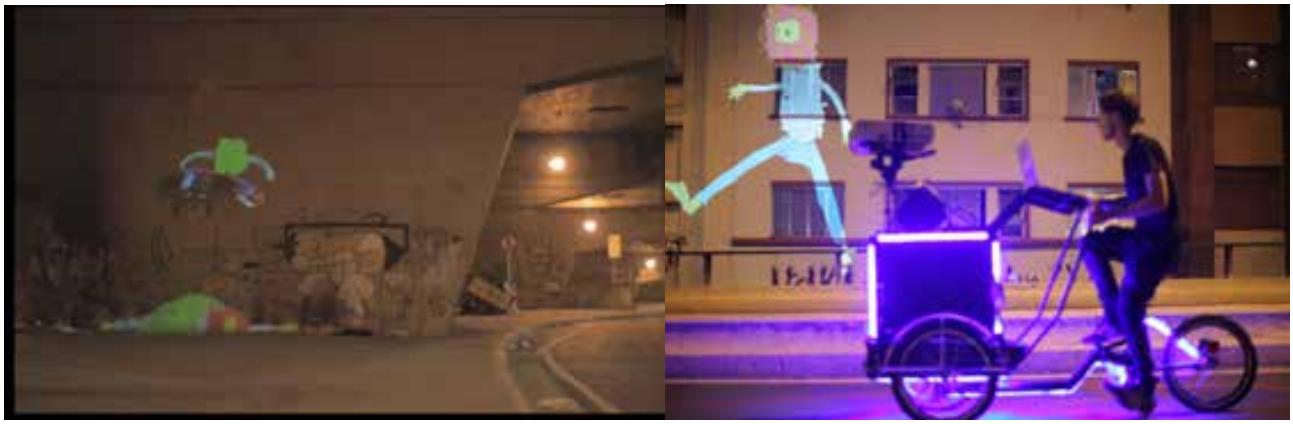

Figure 2. Shows some scenes of the “Homeless” short movie that is presented as SVP in the urban landscape within the Suaveciclos project.

Reference:

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Rosemont, a neighborhood in Montreal, Canada, 2018. This practice was done as a part of MAPP (video mapping) festivals and events organized in Montreal since 2016 (MAPP, 2022). This activity was organized with the name “TON QUARTIER” which means “YOUR NEIGHBORHOOD” in English (Quartier Des Spectacles Montreal, 2018). In this practice, a workshop was conducted in the neighborhood. The inhabitants learned to use the Tagtool application to create, animate, and develop scenes to present using SVP when nightfall in the neighborhood landscape (Vj Suave, 2018) (Figure-3).

In the “your neighborhood” activity, the neighborhood became a platform for its inhabitants to express their thoughts and feelings through the digital canvas that was created by them and presented using SVP. The inhabitants walked side by side with the tricycle that holds the projectors that transferred their digital canvas into their neighborhood landscapes. In this research, the aim of mentioning this practice is to investigate the possibilities of utilizing such practice for intended UVPOS revitalization purposes. In “your neighborhood” activity and other SVP installations conducted by the “Suaveciclos project” the people interact actively with the installations. In Montreal's case, the process is fast-paced, and the people could see their digital canvas once the night falls on the same day. This nature is also what characterized DIY urbanism, and this is the reason for suggesting this model of SVP UVPOS revitalization. This model is suggested as a promising solution to the revitalization of UVPOS. The engagement of people in creating their surroundings enhances their attachment to them (Finn, 2014). In the case of SVP installation created by people give them the chance to notice the rapid transformation that occurred in their spatial surroundings. This study proposes an upgraded model that considers the spatial components and decision-making dynamics of today's city public open spaces.

Figure 3-A.

Figure 3-B.

Figure 3. Shows the “your neighborhood” workshop and SVP installation activity that took place during MAPP (video mapping) festivals and events organized in Montreal.

F3-A: The installation of created content in the neighborhood night landscape using SVP.
F3-B: The workshop that conducted to create the SVP content using Tagtool by the neighborhood inhabitants.

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6. The suggested model of SVP as digital DIY to UVPOS revitalization:

In the suggested model of this study, the main aim is to make UVPOS within a specific area in the city discoverable and thus used to its full capacity. This will apply by moving people from the crowded public open spaces surrounding the UVPOS to the under-valued space side by side with a tricycle that facilitates SVP installation. For this purpose, this operation maintains three main components which are, spatial, participatory, and technical.

The spatial component took into consideration the characteristics of the UVPOS regarding its physical conditions, the quality of access, and the possibility of space usage according to the ownership issues. The participatory component considers the parties that will participate in the intended revitalization process. Official bodies could be the government or municipality, practitioners of artists digital artists, or SVP experts, and people who use the surroundings of UVPOS are all expected to participate in the suggested model of this study. The technical component includes the protocols of implementation to guarantee a smooth and practical run of the suggested application.

Engaging all the stakeholders in this process is one of the most important factors for this model to succeed. As DIY urbanism ascendingly gains acceptance from official bodies (Finn, 2014; Hou, 2020). The model of this study kept an active role for each stakeholder in the UVPOS revitalization process utilizing tricycle SVP. The official bodies are responsible for identifying UVPOS that are suitable for this model and providing information to practitioners about the spatial characteristics of these spaces. Practitioners with official bodies work together to achieve practical and attractive installation. Practitioners of artists, digital artists, and SVP professionals work with the people who use the UVPOS surrounding public open spaces. They will cooperate to create the digital canvas that will be presented to revitalize the UVPOS.

7. Conclusion

This study conceptualizes the SVP as a digital DIY paradigm for UVPOS revitalization and clarifies its main components. This study highlights the need for more research regarding the methodologies of UVPOS and UVPOS network identification within a specific urban area. More research is also required to explore the more effective audio-visual content for the intended use of UVPOS revitalization. The temporary nature of the suggested model could be considered a disadvantage as they are hard to archive. This disadvantage is expected to be overcome once people participate in content creation that lets them feel they belong to the space, increasing the possibility of space use and thus revitalization. This could be a long-term investment for the public open space in today and future city. This research confirms that the utilization of SVP as a digital DIY paradigm to revitalize UVPOS is a multidisciplinary process, and it is recommended to include all the stakeholders of local authorities, artists and civil activists, and public open space users.

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Declaration of Interest

None.

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