C.31: Local and Regional Development: The digital turn in planning practices and policy making 2

10:30 - 12:00 Sunday, 25th August, 2024
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Commission C.31: Local and Regional Development
Presentation type Oral Presentation
Chairperson Juliette Davret

10:30 - 10:45

O1.198 Smart Control Room, Venice: A tool for management and control of tourism mobility

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Abstract

During the last decade, Venice has often been envisioned as a smart city and this vision is today epitomised by a Smart Control Room, a physical centre where local administrators aim at collecting every type of digital data produced and captured in the urban and the surrounding areas, echoing a panopticon (Kitchin, 2014). One of the reasons behind the genesis of this control room is the need to mitigate the negative effects of tourism, especially those related to overcrowding and the use of space (Bertocchi and Camatti, 2022). Mobile positioning data, people counting sensors, surveillance cameras and traffic sensors appear to provide a detailed and sufficiently complete picture for the management of tourist flows in the city. Nonetheless, a critical approach to the functioning and existence of this data-driven management system has not yet been offered.

In detail, this paper aims at unblackboxing the Smart Control Room with reference to its use as a tool for the management and control of tourist mobility in the city of Venice. Regarding this, the political and market interests behind the project and the genealogy of this 'data assemblage' along with the issues, among others, of quality, privacy and accessibility that surround these data, have not yet been scrutinised.

This paper develops on a theoretical framework inspired by Critical Data Studies (boyd and Crawford, 2012) (Kitchin, 2022). Interviews conducted among different stakeholders, field observations and official documents related to the Smart Control Room are the material on which the research is conducted.

References

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10:45 - 11:00

O1.199 Smart city tools for environmental planning : opportunities and challenges in two french case studies : Dijon and Angers.

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Abstract

This contribution aims to question the shift of planning practices and policy making drawing on two Smart cities case studies : Dijon and Angers (France).

In these cases, the implementation of a 'digital skin' generating significant amounts of data monitored by digital tools such as urban dashboards, hypervisors and digital twins is intended to optimise the daily exploitation of public spaces (waste management, street lighting, etc.) and crisis management.

Meanwhile, the smart city actors are politically mobilising the idea that the data produced will enable the institution's transformation towards smarter planning and policy making. It therefore seems interesting to address the following questions : which smart city tools are used to do so ? Which planning field is mobilised ?

To answer, the research is based on multiple interviews with the projects's actors and in-depth analysis of the sociotechnical tools.

First, project's actors are confronted with the complexity of data structuration and have to elaborate long-term strategies to centralize relevant data for planning, which are dispersed in numerous systems.

Second, it is interesting to note that both projects have chosen to start their transformation of planning through the environmental issue, analysing future urban projects regarding their vulnerability to urban heat island and floods.

However, if the issue set to agenda is the same, we observe that Angers uses its digital twin with environmental data embedded in models whereas Dijon uses artificial intelligence to try to make predictions.

Forthcoming research will focus on describing the implications of these epistemological and methodological choices on policy making.

References

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Rabari, C. and Storper, M., (2014). 'The digital skin of cities : urban theory and research in the age of the sensored and metered city, ubiquitous computing and big data'. Cambridge Journal of Regions, Economy and Society, 8(1), pp.27–42.

11:00 - 11:15

O1.200 Rethinking digital 'visual' twins and building alternatives for smart city planning: a case of Smart Dublin

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Abstract

Digital tools concerning 3D spatial media are existing for almost three decades now, but they are increasingly becoming popular with concept of digital twins as a cutting-edge technology for people under Europe's Digital Decade framework (Digital Europe, 2021). Digital twins for cities offer possibilities of advancement from traditional 3D city modelling towards AI-driven simulation of urban system(s), city management and improved engagement with local communities (Botín-Sanabria *et al.*, 2022). Like other cities such as Singapore, and Zürich, 'Smart Dublin' - a smart city initiative by the four Dublin Local Authorities, is also exploring how best to leverage this technology to improve communication with its key stakeholders (Abdeen and Sepasgozar, 2022; World Economic Forum, 2022). Many case studies are already emerging across its different smart districts such as 'Fingal Digital Twins: Balbriggan Rejuvenation and Swords Cultural Quarter' and 'Smart DCU Digital Twin for Autism Friendly Campus Navigation'.
While urban digital twins can visualize a multitude of datasets in an integrated, interactive, and comprehensive 'realistic-looking' way, there are challenges in adoption of 3D spatial media and digital methods within public sector planning (Kitchin, Young and Dawkins, 2021). With the research expertise of the ADAPT SFI Research Centre for AI-Driven Digital Content Technology , Dublin City Council's Smart City unit aims for ethical development and deployment of digital twin solutions at urban scale while considering the learning curve and adaptive capacities of implementing agencies, technology providers and local

communities. This industry-partnered project intends to identify barriers, opportunities and limitations of the ongoing digital twin projects at Smart Dublin, and suggest and evaluate alternative approaches to support the goals of participatory governance, informed decision-making, and awareness-raising about working in a 'virtual' environment.

References

Abdeen, F.N. and Sepasgozar, S.M.E. (2022) 'City Digital Twin Concepts: A Vision for Community Participation', in. MDPI AG, p. 19. Available at: https://doi.org/10.3390/environsciproc2021012019.

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11:15 - 11:30

O1.201 Reimagining Urban Planning in the Metaverse: A Critical Examination of Socio-Technological Imaginaries and Realities

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Abstract

In recent times, the concept of the Metaverse has captivated diverse strands of thought concerning the digital transformation of urban space and place. Despite the popular co-optation of the term by corporate interests, our focus in this paper is on its perception within the academic realm of urban planning. Amidst a plethora of definitions and proposed applications of the Metaverse, many intersect with and extend into the domain of urban planning and sustainability. As awareness of this phenomenon gradually permeates the professional community, a wide spectrum of potential applications emerges, encompassing various amalgamations of physical, digital, and hybrid spaces. Ranging from digital twins and digital urban games to augmented reality, the Metaverse holds the potential to influence planning practices across different scales.

This paper employs a systematic literature review methodology to uncover prevalent socio-technical imaginaries and key narratives surrounding the Metaverse in contemporary urban planning discourse. Our approach is comprehensive, encompassing evolving technologies and terminology over the past two decades. The concept of the socio-technological imaginary proves invaluable in this pursuit, enabling us to scrutinize both the impact of emerging digital technologies and the social dynamics governing their practical utilization.

The outcomes of our research provide critical insights into the current state of the field and offer a glimpse into the prospective uses of the Metaverse in urban planning. This analysis promises to shed light on the evolving landscape and the forthcoming roles of the Metaverse in shaping the future of urban planning