

Exploring formats of prototyping complex, systemic, interconnected scenarios

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Abstract

This workshop explores how prototyping can contribute to participatory urban transformation processes in which systems are the matter of design.

With intricate systems influencing the urban environments, designers, architects, and urban strategists are navigating new scenarios of action (Norman 2019, Manzini 2015, Barns et al. 2006). In the intractable, interconnected, unbounded, dynamic, and highly complex scenarios of cities and neighbourhoods, the rules of the game have changed. Long-established and accepted tools and practices like prototyping are considered to embody great potential to understand, reflect and propose sustainable solutions for future-oriented urban solutions. Yet, the prototyping practices and procedures related to their traditional application may not be sufficient for the new systemic configurations (Maiorana 2021, Blomkvist 2014). The practice of prototyping can be useful to support this systemic change only if a substantial change in this practice is considered, that addresses the new scenarios of design that have become unbounded, layered, fluctuating and interconnected.

Considering the growing necessity of reformulating the practice of prototyping in urban transitions, the workshop will be an opportunity for participants to put to the test this traditional and effective methodology of design with some adaptation for those demanding scenarios. Building on concepts from systemic thinking, such as the theory on Leverage Points for change (Meadows, 1999; Simeone et al., 2023), the activity guides participants into materialising ideas for the local urban environment paying special attention to the interconnectivity and complexity of urban transformations. Through a hands-on guided activity, designers will be invited to use

prototypes that, instead of validating an object or a concept, focus on the value of prototypes as exploratory tools (Floyd 1984, Palmieri et al. 2022). That is, on the instructive value they can provide to understand, speculate, and reassess interconnected and unbounded challenges. The thematic workshop will conclude with a plenary discussion on the limitations, opportunities, and potential of prototyping in systemic scenarios like urban transitions.

Keywords: prototyping, complexity, systemic design, scenarios

Workshop description

Prototyping is one of the practices that is appointed for its great potential to support local initiatives that seek sustainable transitions (Kimbell and Bailey 2017, Hillgren et al. 2011, Brown and Katz 2009) because of their potential to embody abstract concepts and ideas in tangible and concrete props that allow for conversations and reflections among stakeholders (Stickdorn 2017, Brown and Wyatt 2010). However, traditional prototyping is insufficient in systemic contexts despite its long-proven value for object or concept-centred design processes (Maiorana 2021). The method is not yet well equipped to include and represent the immaterial and abstract features (e.g. rules, paradigms, interconnections, dependencies, policies, or potential future development) that such contexts may present.

Building on that necessity, the workshop tests a new interpretation of prototypes that can contribute to participatory design processes of systemic change. As part of a further study on the value of prototypes in participatory design processes for sustainable urban transitions, the activity invites design practitioners to challenge one of our most renowned and reliable methods. Instead of validating ideas, the prototypes of participants will serve to understand the functioning of potential scenarios within the complex urban scenarios they will operate in.

The workshop will facilitate a space to ponder, through experimentation, the limitations of the traditional prototyping practice for those complex scenarios characterised by their fluctuation, interconnectivity, and immateriality, as well as potential strategies to embrace this endeavour.

This workshop closely relates to the conference themes "Reimagining work: service or servitude" and "Social innovation, localities, and transformative processes", as it questions the validity of traditional methods from service design to new types of challenges where local societies, the environment, and cultural aspects are closely interlinked. When targeting intricate systemic challenges, service designers have the responsibility to support encounters with local ecosystems to promote long-term



sustainable answers. This workshop proposes reexamining one of the most popular and well-established service design methods - prototyping - and challenges its capacity within systemic environments.

Session set-up

Activity	Description	Documentation	Time
Opening	Facilitators introduce the topic and the context of their research.	-	5 mins
Introductory questions	Participants will be asked to respond to a few questions on their prototyping practices in a booklet to align participants' mindset with the topic.	Personal booklets for each participants collect their understanding and experience of prototyping.	10 mins
Wakefulness	Convenors will walk participants through a "wakefulness", a sensorial immersive guided narration to evoke initial thoughts and ideas to prototype. Inspired by the Micro-Mindfulness Exercises (Stein Greenberg, 2021), Stupid Studio's (2022) Playful Meditation method, and mental time-travel (Cuhls 2017, Markley 2008, Neuhoff et al 2022) the "wakefulness" will mentally transport participants to a complex urban scenario for which they will have to prototype.	-	5 mins
1st round of prototyping	Teams of participants will be given time to prototype a new scenario for the context previously introduced. In this round, they will have total freedom to use the prototyping materials provided. Presumably, they will focus on the material infrastructure or what Meadow (1999) denominated Physical Events.	Convenors collect observations, conversations and practices through photos, note-taking, sketches, etc. for further research.	20 mins
2nd round of prototyping	To prototype the interactions among humans and other-than-humans unfolding in the scenarios.	Convenors collect observations, conversations and practices for further research.	15 mins
3rd round of prototyping	To include in the prototypes the structural part of the scenario, considering one or more of the systems (legal systems, natural systems, knowledge systems, production systems, communication systems) that were affected (or transformed) for that new scenario to exist.	Convenors collect observations, conversations and practices for further research.	10 mins



Reflections	Participants will be back to the booklet to reflect about their experience prototyping for systemic scenarios, the strategies and practices utilised and the difficulties encountered.	Reflections complement the convenors' observations as part of their research.	10 mins
Plenary discussion	Reflections on prototyping complex scenarios and open up the discussion on the necessary adaptations and re-formulations of this practice when systems are the matter of design.	Reflections complement the convenors' observations as part of their research.	15 mins

Space requirements

- Tables and chairs for all the attendees to work on their prototypes and a couple of extra tables to display the prototyping materials
- A projector for visual support
- The prototyping material and booklets will be provided by the convenors

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Convenors bio:

Maria Vitaller del Olmo (MA) is a Researcher at the Service Design Lab of Aalborg University in Copenhagen. There, she studies the role of Service Design for social change, civic innovation, and sustainability. In particular, she focuses on the value of prototyping in participatory design processes targeting sustainable urban transitions.

Nicola Morelli (BArch, PhD) is Professor of Service Design at Aalborg University. He has worked on design for the service sector, focusing on user involvement, social innovation and co-production and methodological aspects in international projects (T-Factor, Designscapes, MUV, easyRights, My Neighbourhoods), and coordinated the EU-Funded Open4Citizens and Life 2.0 projects.

Amalia de Götzen (PhD) is Associate Professor at Aalborg University in Copenhagen and a member of the Service Design Lab. Amalia's research activity focuses on Digital Social Innovation and in particular on the intersection between Interaction Design and Service Design.

