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From ideas to policies, through places:service design-driven prototyping guidelines for urban regeneration

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Abstract

This paper describes the development of a set of service design-driven guidelines for prototyping in urban regeneration processes. After introducing urban regeneration as a policy area acting on cities' social and cultural aspects, the authors consider three perspectives from design research to frame the service design intervention in urban regeneration. Further, the characterising aspects of prototyping in the public sphere are considered to advance a refinement of the typical service design approach to prototyping for this domain. The paper then describes the guidelines, developed through the experience of an ongoing research project, providing practical step-by-step suggestions for each prototyping cycle phase, a selection of tools from renowned design toolkits, and practical examples. The insights from this work intend to evolve the service design practice for the public sphere toward a more systemic perspective that considers the specificities and dynamics of public processes and ecosystems.

Keywords: urban regeneration, prototyping, temporary urbanism, design for policy

Introduction

We have grown used to the notion that most of the world population currently lives in cities — and will increasingly do so in the future. Recent projections confirm the trend of global urbanisation: people living in metropolises are expected to account for 39% of the world population by 2035 (UN-Habitat, 2020, p. 5). Urbanisation represents a complex phenomenon whose fundamental reasons remain of economic nature (Couch, 1990). However, capitalism-induced urbanisation has also produced side effects as cities entered the post-industrialisation era (Fraser, 2003). Cities such as

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Liverpool, Rotterdam, Lille, and Milan had to reinvent themselves as they faced inner-city decay, abandoned industrial sites, obsolete infrastructures, and the social consequences of these factors, such as spatial segregation, vandalism, squatting, etc. (Tonkiss, 2013).

Urban regeneration emerged as a public policy area meant to face these issues while balancing economic, social and sustainability interests (Couch & Fraser, 2003). The meaning of urban regeneration evolved as city administrations were hit by the austerity regimes caused by global economic crises (Bragaglia & Caruso, 2020; Tonkiss, 2013). The consequent "weak planning" context, characterised by the difficulty of securing investments, implied a general scarcity of resources and the insurgence of different modes of urbanism, such as temporary urbanism (Andres, 2013). This approach to urban regeneration did not only mean transforming the built environment physically but acting on the social and cultural aspects of cities (Bragaglia & Caruso, 2020), with emphasis on the engagement of urban communities, citizens and third-sector organisations and supporting micro-scale urban initiatives (Patti & Polyak, 2015; Southworth, 2014; UN-Habitat, 2021). By leveraging inhabitants' creative capacity and sense of identity, urban regeneration programs aim to revitalise abandoned and degraded places by populating them with new activities, which could then be replicated outside their original context to help city administrators redistribute urban wealth and fight inequality (Patti & Polyak, 2015).

The present-day urban regeneration's propositions assume that new city-making forms can take advantage of the creative economy (Landry, 2012) and that spontaneous and informal urban practices can counterbalance other mainstream factors shaping the urban centres (e.g., financial speculation) (Harvey, 2012). Nevertheless, while potentially positive in theory, these instances can become controversial in their practical application. While temporary urbanism might support inclusive urban development (UN-Habitat, 2021), it tends to promote a neoliberal ideal of self-entrepreneurialism and outsourcing of public services to private market dynamics (Bragaglia & Caruso, 2020). Therefore, the good intention behind urban regeneration initiatives might enhance gentrification and forms of tokenism when translated into practice.

Considering the nature of urban regeneration projects, which inevitably face institutional and political constraints and deal with large ecosystems of players, this article investigates how service design approaches — in particular, based on prototyping — can support new forms of city-making, addressing the contemporary urban regeneration background. It also reflects on the potential of service design for

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driving institutional arrangements[1] toward socially and environmentally sustainable innovation (Vink et al., 2017). In the following sections, after considering existing reflections about the relationship between service design and urban regeneration, we will focus on prototyping applied to public policy actions. Then we will move from theory to practice, reporting the author's experience developing a service design-based prototyping approach to urban regeneration as part of a Horizon 2020 project funded by the Europe Commission. Finally, from this experience, we will reflect on the value and features of the service design approach to prototyping in complex institutional settings, such as urban regeneration projects.

Perspectives from design research for service design in urban regeneration

As the service design practice increasingly permeates public domains, many are reflecting on its influence on institutional and social systems' boundaries (van der Bijl-Brouwer, 2022; Vink et al., 2017) and on the capacity of service design methods and tools to drive innovation in this sense (Wetter-Edman et al., 2018). This paper seeks to contribute to this line of research, taking three perspectives as conceptual pillars for argumentation: *design for territories* (DfT), *design for social innovation*

(DfSI) and *design for policy* (DfP). These approaches share a view of the city as a dense environment where social and non-human capital (i.e., natural resources) closely co-exist and "*… services that naturally combine many static, dynamic, and human-centred ingredients are perfectly poised to help re-shape cities, the lives of the inhabitants, and bio-regions.*" (Fuad-Luke, 2012, p. 108). Service design constitutes a thread between these three perspectives, although each has put a different emphasis on its value.

DfT developed as a theoretical lens on the relation between design and territorial capital (Parente & Sedini, 2017), considering the latter as a localised assemblage of production, services and the social/cultural fabric. DfT sought to investigate design as a phenomenon that emerges from the contextualised conjuncture of these factors, proposing it as a lever to enhance territorial capital (Parente & Sedini, 2017). In the view of DfT, service design acts as an overarching perspective that reconciles social and economic factors within a design intervention aiming at local innovation (Villari & Parente, 2010). It is presented as an orchestrating force that bridges economic and

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[1] Drawing from the latest advancements in service-dominant logic perspective, Vink et al. (2017) define *institutional arrangements* as "*socially constructed rules, roles, norms and beliefs*" (Vink et al., 2017, p. 5) that influence value co-creation within a given social context.

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social aspects and *shapes places* by designing activities and experiences in the city's physical space (Fassi et al., 2018; Fuad-Luke, 2012). For urban regeneration, such a perspective is valuable as place-making is a central strategy to regenerate urban areas that can be drastically affected by the introduction of leisure or commercial activities (Johnson et al., 2014). However, the social implications of urban activities have been more deeply explored in *design for social innovation* (DfSI).

DfSI considers the potential of design to enact any innovation that satisfies unmet social needs to achieve sustainability (Manzini, 2014). In this sense, DfSI inscribes into the paradigm of socially responsible design (Thorpe & Gamman, 2011), in which community-based, self-organised and bottom-up initiatives (e.g., co-housing, urban gardening, etc.) become privileged drivers for social and environmental sustainability (Manzini, 2014). According to DfSI, self-organised services developed by creative communities in cities represent a resource for design in the urban environment (Baek et al., 2015).

It follows that DfSI considers the nurturing of communities' capacities and the act of infrastructuring[2] (Thorpe & Gamman, 2011) central elements of the service design practice. Under this perspective, service design is assumed to shape community-based services and activities for achieving a broader urban plan and policy intentions (Leoni et al., 2018; Selloni & Manzini, 2016) in a way that seems to align with the current urban regeneration paradigm (Bragaglia & Caruso, 2020).

Since DfSI advocates for design to funnel scattered and isolated urban initiatives into broader public transformation, it relevantly relates to *design for policy* (DfP) (Leoni et al., 2018). DfP mainly focuses on the relationship between design and policymaking (Kimbell & Bailey, 2017) and on how design can affect the policy capacity of governing bodies (Kang & Prendiville, 2018). DfP discussion mostly privileges the national government scale and the role of public innovation units (Julier, 2017). At the same time, DfP emerged in strict connection with public services innovation (Buchanan et al., 2017) on the basis that public services represent a relevant interface of the government-citizens relationship, thus highlighting a perspective close to that of service design (Junginger, 2016). Under the mandate of developing better and more inclusive services, public authorities can exploit design approaches, methods, and capabilities to innovate how they approach policymaking. Several authors discussed this strategy at the urban scale by considering the inclusion of a design approach in local authorities' structures and policies, especially for enabling

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[2] The enabling of socio-technical infrastructures for social actors to co-create value, also after the formal end of the design intervention (Hillgren, 2013).

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forms of public engagement and participation (Kang & Prendiville, 2018; Leoni et al., 2018; Selloni & Manzini, 2016).

According to these three perspectives, when involved in urban regeneration, service design embeds the potential to overcome the mere envisioning of better public services to acquire a more blended role. As mentioned above, it might facilitate the bridging of economic, social and policy interests, enhancing the attractiveness of an urban area by developing new places and, on the other hand, infrastructuring relational uses of places by existing communities (Thorpe & Gamman, 2011). At the same time, such work should yearn for new learning from city administrators, which might translate into new regulations and policies.

In this sense, prototyping could represent a key enabler in achieving the role and purpose of service design for urban regeneration mentioned above, as the act of prototyping essentially requires building a future vision of opportunities and potential variations (Rodrigues & Holmlid, 2017), by engaging beforehand societal actors and public authorities when performed in the public sphere (Kimbell & Bailey, 2017). Upon these premises, the following section focuses on *prototyping applied to the public sphere* to frame the motivations that led to refining the typical service design approach to prototyping and to introduce specific guidelines for approaching prototyping in urban regeneration contexts.

Prototyping for the public sphere

The shift of design competencies from products to interactive systems and services has expanded the initial definition of 'prototype' as the mockup of a material idea or concept to any physical manifestation representing otherwise inaccessible visions of a future situation (Blomkvist & Holmlid, 2011). This new definition considers prototypes as 'learning tools' that may exist at several levels of resolution or fidelity, i.e. at different degrees of resemblance with respect to the finished product, space, service or process (Beaudouin-Lafon & Mackay, 2007). They can span from very rough to highly refined and can be used in several stages of the design process (Coughlan et al., 2007, p. 3). Depending on the stage of the design process, the iterative act of prototyping might have multiple purposes. For example, it can support exploring solutions, evaluating design choices, or communicating ideas. Overall, the scope of prototyping is to save time and money and to avoid failures before complete implementation (Holmlid & Evenson, 2008).

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The prototyping process, also named 'prototyping cycle' because of its iterative nature, generally involves a building step, followed by a run phase and the final analysis of findings, in order to improve the solution or replicate the experiment in a new cycle (Villa Alvarez et al., 2020). Today, designers adopt new methods, such as role-playing and scene enactment, to prototype processes, services or interactive systems and to convey the intangible interactions between people, places, and technology (Buchenau & Suri, 2000). When prototyping services, processes, and systems, the object of prototyping is a key variable in choosing the most appropriate method. The prototype could only represent some elements of the process, service or system, which typically entail a certain degree of complexity, instead representable through multiple prototypes.

In service design, prototypes can range from sketches to role-playing (Blomkvist & Holmlid, 2011) and usually apply to the user experience and a few touchpoints at a time rather than the entire system altogether (Coughlan et al., 2007). Service design prototypes often engage multiple stakeholders, especially to select and assess early concepts, making service designers opt for rapid prototyping techniques (Miettinen & Koivisto, 2009).

In recent years, (service) designers all around the world have started to wonder if the prototyping approach can be fruitfully applied to policies, public programs, and initiatives, as suggested by some authors (Body, 2008; Deserti et al., 2020; Kimbell & Bailey, 2017; Villa Alvarez et al., 2020). As said earlier, "*practices associated with design*" (Kimbell & Bailey, 2017, p. 214), which largely contemplate service design, have relevantly grown within public institutions (Junginger, 2016). Among these practices, prototyping gained particular attention because it aligns with an emerging market-based approach to public management and public services optimisation, as well as with an emphasis on experimentation characterising the current public discourse (Kimbell & Bailey, 2017). According to the same authors, the adoption of prototyping in the public realm entails some peculiarities:

- It can bring multiple perspectives and engagement around issues or new ecosystem configurations, complementing the production of evidence for policy evaluation and exploring future scenarios;
- It can help speed up processes and decisions, even though rapid prototyping in public contexts might generate overpromises or understatements regarding the infrastructuring required by interventions in complex public environments. Also, multiple iterations might not fit the long timespan of policymaking,

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although a slow prototyping process could allow people to adapt to change and establish new social infrastructures;

- It mainly focuses on the interactions between people and systems, but considering policies as complex configurations, it becomes fundamental to "...*work at different scales and engage effectively with the politics, complexity and systemic nature of policy development*" (Kimbell & Bailey, 2017, p. 221);

- It can support traditional consultation activities, potentially enabling the engagement of the entire policy system (e.g., citizens, beneficiaries, experts, service providers, businesses, and front-line bureaucrats). However, in the public sphere, such an uncommon means of public engagement risks harming the authorities' legitimacy and leading decision-makers to limit engagement so to avoid contestation.

Regarding the objects of prototyping, Nesta, the UK's innovation agency for social good (2011), identifies four possible types that concern public services: physical elements, the system of structures and processes, information and roles, skills and behaviours. In a later publication developed in collaboration with IDEO (IDEO & Nesta, 2017), they distinguish between prototypes and pilots: pilots work as a rollout activity of service or policy, to be run when some aspects are still uncertain but can be tested with users in real contexts; while prototypes usually belong to earlier experimentations of concept ideas.

After having considered the characteristics of prototyping in the public sphere, the next section proposes a set of prototyping guidelines for actors involved in urban regeneration initiatives, intended not only as interventions on the built environment but as working on community building through initiatives akin to services. The guidelines have been developed in the context of a European project called T-Factor. They are designed for a slow prototyping process applied to rollout activities to be tested with stakeholders and the general public (what IDEO and Nesta call pilots). The guidelines aim to overcome the typical rapid prototyping approach of service design by developing a more structured service design-driven prototyping approach that suits an urban-scale project, as well as the political issues and the complex ecosystem of stakeholders it usually brings along.

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Guidelines for service design-driven prototyping in urban regeneration: the case of T-Factor

This section substantiates the theoretical work described above by presenting a set of service design-driven prototyping guidelines for supporting urban regeneration initiatives. The authors developed the guidelines within the project T-Factor[3] — that seeks to experiment with the transformative potential of meanwhile uses[4] in urban regeneration — as part of a toolbox[5]. The toolbox aims to support six different urban regeneration contexts (namely, pilots) in different European cities through a four-step process: "*Exploring and Inquiring*", "*Scoping and Ideating*", "*Prototyping*", "*Iterating via action research*", replicating the four phases of the typical service design process (i.e. discover, define, develop, deliver).

The "*Prototyping*" step aims to develop a methodology for prototyping meanwhile uses as part of urban regeneration initiatives, supporting local actors in three aspects: (i) *designing with great detail the meanwhile uses*; (ii) *defining an overall strategy according to own resources and contextual conditions*; (iii) *concretely realising and testing the prototypes envisaged by their strategy*. The guidelines were created to accompany the third aspect in particular, with the final intent to create a sandbox for each pilot through which to experiment with different meanwhile uses and thus influencing the entire regeneration project.

The prototyping phase needed instruments that local actors could adapt to their context, plan of action, resources and ecosystem of stakeholders. Developing guidelines for an audience that included more than just professional designers was required. In practice, the guidelines were developed through a synthetic review of existing articles and toolkits about prototyping[6]. Operational suggestions were provided using four toolkits as primary references (Hasso Plattner, 2018; IDEO, 2015; IDEO & Nesta, 2017; Nesta, 2017). Such references intend to support practitioners in prototyping within ecosystems that involve public-private and civil society partnerships, typical of urban regeneration projects. Operational suggestions are accompanied by selected tools and activities that local actors can use to translate

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[3] T-Factor is an Innovative Action funded under the Horizon 2020 framework for European research, from June 2020 to June 2024. More info on this project at: https://www.t-factor.eu/

[4] Meanwhile uses are a temporary urbanism practice which aims to establish interim businesses, services, or social activities within urban regeneration sites whose final use is not yet fixed (Andres, 2013). Meanwhile uses are thus motivated by social and economic reasons (e.g., capitalising on otherwise unexploited real estate, avoiding misuse of property or squatting) (Bragaglia & Caruso, 2020; Patti & Polyak, 2015; Tonkiss, 2013).

[5] T-Factor Meanwhile Uses Toolbox is a curated collection of resources that support collective journeys towards 'transformative meanwhile uses', i.e. meanwhile uses that can inform and shape urban regenerations to transform the future of our cities. (https://hub.t-factor.eu/toolbox0/).

[6] The guidelines can be accessed at https://tinyurl.com/6pntem7r, as part of the T-Factor'sToolbox, in the section dedicated to resources for Prototyping (https://hub.t-factor.eu/prototype-test/).

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suggestions into practice. The guidelines structure builds upon the three phases of the prototyping cycle (Villa Alvarez et al., 2020) and can be followed entirely or partially, applying only the actions and the tools considered useful in the context at hand (see Fig. 1).
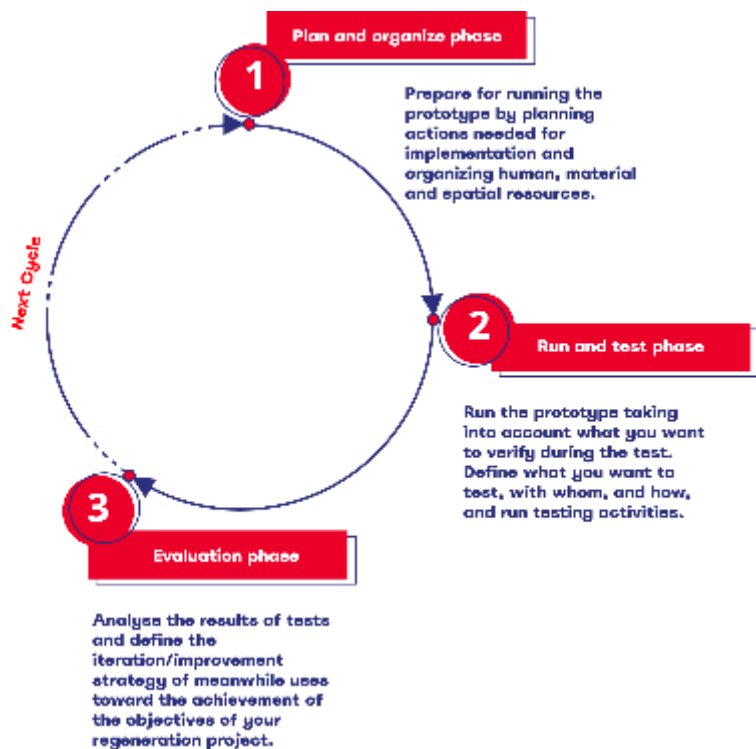

Figure 1. Phases of the Prototyping Cycle proposed in the Guidelines

Considering the benefits and limits of prototyping in the public sphere, illustrated above, and the peculiar needs of prototyping in an urban context under regeneration, as emerging from the T-factor's pilots, the guidelines aim at an evaluative purpose through a slow prototyping process. It seems crucial to build a prototype that can allow the infrastructuring necessary to complex public environments by effectively engaging with the different levels of the policy ecosystem and testing new configurations toward future scenarios (Kimbell & Bailey, 2017).

The guidelines contemplate a very heterogeneous range of temporary uses. In fact, according to what was envisioned by T-Factor pilots, they could include artefacts, digital platforms, private or public services, events, art exhibitions, experimental spaces (indoor or outdoor), temporary architectures, commercial space, training initiatives, etc. This variety makes us reflect on the need to expand the range of prototyping objects envisaged when prototyping at an urban scale of intervention, going beyond service experiences and touchpoints. This aspect, combined with other

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prototyping variables, such as the number of iterations or the levels of fidelity, largely increases the spectrum of prototyping situations that a service designer might face when dealing with urban regeneration-like contexts. The following points summarise the guidelines for each phase of the prototyping cycle.

Phase 1: Plan and organise

This phase is dedicated to planning the realisation of the prototype and the organising of human, material and spatial resources. It starts with setting up a team of people with different skills and knowledge, depending on the type of prototype. The phase is crucial to determine what actors of the policy ecosystem must be engaged. A roadmap for implementation should be created, i.e. a plan of action necessary to implement the prototype, detailing execution, times and milestones. Once the action plan is defined and shared, resources and capacities for realising the prototype, and a way for retrieving them, must be identified.

Building new partnerships and collaborations, especially with local communities and organisations, might be necessary not only for implementation, but also for the infrastructing required for the following phase (Run and test). The retrieval of resources entails economic feasibility considerations and achieving long-term self-sustainability, as prototypes could stay in place for months, even years, during the urban regeneration project.

Phase 2: Run and test

This phase coincides with the execution of the prototype — from when it goes 'live' until it is dismantled — and includes testing activities. A monitoring and documentation strategy should be adopted from the beginning to ensure the prototype performs as intended and on schedule, allowing for in-progress changes. Monitoring and documentation are also central for communicating the prototype and attracting the beneficiaries, who might be extraneous to the regeneration context. The guide suggests activities and tools for setting up a communication strategy, choosing the tone of voice and the channels, and possibly involving specialists.

For the test phase, it is recommended to plan what will be tested and with which actors, tools and methods. Both quantitative and qualitative measurements should be included, and the user experience of test tools should be designed to make it engaging and accessible. In this sense, the service designers' tools and skills can provide added value to the prototyping team.

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Phase 3: Evaluate

This phase entails analysing and interpreting results from tests and defining the next iterations or improvements of the meanwhile use, considering whether to turn it into a permanent one. A series of activities and tools are suggested to make sense of collected data. Once the prototype has been executed and the tests' results analysed, feedback can be integrated into a new prototype, and a new cycle can start. In large-scale interventions such as those envisaged by urban regeneration projects, the second cycle could apply to other meanwhile uses or test other aspects of the prototype that could not be implemented before.

Prototyping examples from T-factor

As part of the T-Factor project, the authors have used the guidelines to prototype several temporary uses — currently ongoing at the time of writing this paper — at MIND Milano Innovation District[7] (one of the pilot initiatives of T-factor).

Here, we only briefly point at two of these temporary uses, which provide an example of prototypes developed in an urban regeneration context and how the guidelines can translate into practice.

The first one, "*BiodiverCity@Mind for School*", is an environmental education activity that involved seven classes of elementary and middle school students from two municipalities bordering MIND (see Fig. 2). The main goal was to exploit the green areas of the area under regeneration to learn about urban biodiversity and the importance of preserving it, while the urbanisation process continues.

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[7] http://mind.t-factor.eu/

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Figure 2. On-site activities of BiodiverCity@Mind for School (urban biodiversity observation and bug hotels assembling)

The other example, "Futur*abili*", is a career guidance course on the professions of the future, addressed to young people (18-34 years old) either living in Milan or in one of the municipalities of the northwest area (see Fig. 3).

Figure 3. Picture from one of the co-design sessions and communication materials of Futur*abili* (more at https://mind.t-factor.eu/futurabili-community-house).

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Both temporary initiatives were prototyped to test possible collaborations between stakeholders from the district and actors from the surrounding areas, in the attempt of identifying topics and actions that could bring mutual benefits, empower the bond between the different communities within and around MIND, and eventually become permanent programs of the district.

The prototyping guidelines were mostly applied during the "*Plan and organise*" and the "*Run and test*" phases. Firstly, they facilitated the process of planning execution times and milestones, as well as retrieving resources and capabilities, and secondly they helped keep track of all the on-ground operations of prototype implementation. Both initiatives could be realised thanks to the joint effort of several stakeholders, who, based on their specific competencies, not only took part in co-design and planning, but most importantly in the concrete realisation of the prototypes.

In the case of *BiodiverCity@Mind for School,* the idea was generated by stakeholders of the MIND district and T-Factor partners. Given the nature of the activity, the assembly of the team in charge of implementing the prototype was the most crucial step, as it was necessary on the one hand to identify experts on the topic of urban biodiversity, while on the other hand engaging with local schools to ensure the participation of students. Once the team was assembled it was all about defining the educational activities to be run on field and sorting the related logistics.

In the case of Futur*abili* too, the assembly of the prototyping team was crucial, under the concept of testing the collaboration between a MIND company and a non-profit organisation from the surroundings. They were then accompanied in a co-design journey devoted to ideating the joint initiative to be prototyped. After agreeing on developing a career guidance course, they defined together the potential beneficiaries and the contents of the course, and they self-assigned implementation responsibilities. In this case, the same stakeholders provided the resources and capabilities to run the course (i.e. the trainers and the location). They executed first-hand a communication plan to promote the initiative throughout the territory.

Reflections and future challenges

The service design-driven prototyping guidelines are developed within a currently ongoing project, therefore it is impossible to draw definitive conclusions about their application. Nonetheless, designing them and the first prototyping experiences run by the T-Factor's pilots already provided some relevant insights.

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The guidelines presented in this paper revolve around the rationale that prototyping for urban regeneration entails a different type of prototyping intervention than typical projects at a service scale. Accordingly, despite the principles and the process of prototyping remaining those applied in service design practice, operations and tools need to overcome those boundaries. Prototyping for urban regeneration assumes some traits of piloting while remaining different, as it does not necessarily include the first phase of a policy or service launch (IDEO & Nesta, 2017, p. 53). This happens, for example, with meanwhile uses that require developing high-fidelity prototypes in close connection with the "live" public context of implementation. This notion has relevant practical implications, reflected in the guidelines, where the "*Plan and organise*" phase becomes central in the process (rather than the "*Run and test*" phase), emphasising preparation and planning activities (e.g., for monitoring, documenting, communicating, testing). This prototyping approach affects the role of the service designer, who acquires connotations closer to the perspectives from design research illustrated above. Instead of only designing better public processes, experiences and touchpoints, service design becomes:

1. An orchestrating force for place-making (Fassi et al., 2018) when preparing and arranging resources and places necessary to implement the prototyping;
2. A factor for capacity building and infrastructuring (Thorpe & Gamman, 2011) when configuring systems and ecosystems and working for their active engagement in the prototyping process;
3. An enabling factor for policy actions at the urban scale (Leoni et al., 2018) when interpreting prototyping results and conveying related learnings to urban administrators.

The third point highlights that codifying the knowledge emerging from prototyping into actionable learnings for city administrators and policymakers remains a blurred topic and a future challenge. Planning for prototype and prototyping both serve the purpose of building a shared vision at the ecosystem and urban levels. Unexpected situations might impede the vision to be pursued and what has been gained through prototyping might be lost once the prototype is over.

Arguably, this prototyping approach could be detached entirely from the final realisation (i.e., the object of prototyping) and essentially work as a designing tool to navigate the complex political and social context of urban regeneration which, as other public interest contexts, features economic, social and political constraints and, oftentimes, conflicts. In urban regeneration, such conflicts might emerge when different views and interests diverge, e.g. those of the project developer and

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businesses (detainer of economic interests), those of local organisations (detainer of social and local interests) and those of public authorities (detainer of political interests). Prototyping can make these conflicts emerge and help to reach a compromise in the perspective of collaboration. However, service designers should do more than building relationships and collaboration among stakeholders for the sake of prototyping. If service designers are to play a role in the public sphere, in the way described, they should assume an ethical role when connecting these actors, being mindful of the existing asymmetries of power.

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