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Up:town: Collaborative Imagination of Resilient Urban Futures Through Serious Gaming

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ABSTRACT

Visions of urban futures are crucial for shaping social transformation. They should be collaboratively created and critically examined—yet current approaches often rely on quantitative prediction or scenario planning. Exploratory futuring techniques that engage diverse stakeholders and address the later-than-now of cities remain scarce. In this commentary, we reflect on *up:town*, a serious game that places participants in a fictional but realistic urban setting facing social, economic and ecological shocks. Players take on diverse roles and engage in participatory decision-making, confronting uncertainty and complexity together. Based on nearly 20 international gameplay rounds, we show how *up:town* (1) opens space for critical reflection, (2) surfaces existing ideas while enabling imaginative worldings and (3) supports participants in re:learning the craft of radical imagination. This experience demonstrates how serious gaming can bridge present challenges and future possibilities, offering a dynamic platform for collective reflection and the co-creation of alternative urban futures.

In the face of intensifying urban crises—climate change, social fragmentation and infrastructure failure—the question is no longer whether we need to imagine urban futures, but how, with whom and to what end (Nalau and Cobb 2022). While planning and policy discourses continue to rely heavily on quantitative forecasting and scenario-based tools, such approaches often fall short of engaging with the lived, contested and imaginative dimensions of urban change. As Mangnus et al. (2021) note, dominant futuring frameworks tend to stabilise current systems rather than disrupt them, privileging technocratic rationalities over creative experimentation. Against this backdrop, there is a renewed interest in futuring as a situated cultural practice—one that is deeply relational, political and performative.

This commentary responds to that challenge by examining how playful and creative methods can broaden the ways urban futures are imagined and brought to life. Building on work in critical cartography, design research and feminist geography, we

argue that futuring should be understood as a form of world-making—less concerned with predicting what will be, and more with opening space for what might become. As Yusoff and Gabrys (2011) suggest, speculative practices are not peripheral to urban governance but central to how alternative urban possibilities are surfaced and negotiated.

Our central argument is that playful approaches—particularly serious games—can act as generative tools for crafting situated and diverse visions of urban futures, especially when they invite diverse publics, including non-academic and marginalised communities, into the process of co-creation. Rather than asking participants to evaluate pre-defined outcomes, these methods foreground ambiguity, improvisation and affective engagement as entry points into collective imagination.

The serious game *up:town*, developed by the City Science Lab at HafenCity University Hamburg, is one such approach. It situates

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players in a fictional city under stress—grappling with cascading socio-ecological shocks—and tasks them with collaboratively responding to disruptions. The gameplay is deliberately open-ended: roles are fluid, rules can change mid-play, and new crises are introduced without warning. This dynamic structure mirrors the complexity of urban systems while resisting the linearity of conventional planning models.

In what follows, we reflect on almost 20 rounds of *up:town* gameplay in diverse international contexts. This adaptation, played with both municipal officials and community residents, exemplifies the potential—and limits—of localised, playful futuring. While it successfully brought divergent climate imaginaries into dialogue, it also revealed the constraints of over-contextualisation, as realism at times narrowed the space for speculation. This case becomes a site of methodological learning: a point of departure for rethinking how play can be designed not only to reflect urban realities but to estrange them productively (Figure 1).

1 | Envisioning Resilient Urban Futures

The relationship between the past, present and the future is undergoing a renewed interest of scholars from various fields (Mangnus et al. 2021). In this area of research, ‘techniques of futuring’ (Oomen et al. 2022) provide an analytical concept to link the future with the present. Broadly, such techniques of futuring can be distinguished in at least four different approaches: such that are predominately predictive, plausible, experimental and critical (Mangnus et al. 2021). While predictive approaches conceive future events as probabilistic and partially knowable, plausible approaches assume a general openness of the future and evaluate potential scenarios without quantification. Exploratory approaches on the other hand seek for novel pathways via collective imagination and new experiences of alternative futures. Lastly, critical approaches address techniques of futuring on a meta-level, critiquing the underlying structures (Mangnus et al. 2021). Although many of today’s urban challenges can be described as ‘wicked’, complex and inherently uncertain, predominant techniques of futuring in city-making are predictive (Oomen et al. 2022). They often involve some sort of ‘neutral’, likely technological artefact such as cost–benefit

analysis or other quantitative simulations, but are rarely built on experimental, collective imagination. The latter however can be described as a social practice, which emphasises the relational, political and performative aspects of crafting futures (Yusoff and Gabrys 2011). Rather than focussing on predictions and optimisations, we see resilience emerging through practices of care, community and mutual collaboration (Gregoratti et al. 2024).

Arguing that it is precisely experimental approaches, which are needed to envision resilient urban futures and to counter-balance predictive approaches, the question becomes *how* to bring such approaches into practice. Strongly tied to the *how* is the question of a suitable method through which futures are imagined. It is at this intersection of medium, methodology, futuring and urban resilience where we see serious gaming as a promising link to exploratory futuring. With all their playfulness, games provide a sandbox for engaging, radically different worlds where multiple players can take on novel roles, play out unforeseen scenarios and—last but not least—experience unfamiliar alternatives. Opposed to entertainment games, which primarily serve the purpose of leisure and social interaction, serious games intentionally add both realistic and meaningful game elements (Kriz 2003; Hartevelt et al. 2010). Through the process of triadic game design, they typically convey a deeper understanding of a subject matter in a comparatively realistic setting by balancing out aspects of reality, meaning and play (Hartevelt et al. 2010). Typically, serious games about resilient cities, however, focus on conveying the effects of technical interventions, hardly focussing on the social aspect of imagination (Fox et al. 2022).

In the context of experimental futuring and collective imagination for resilient urban futures, striking a careful balance between reality, meaning and play is essential. As strict rules and a one-way communication of normative meanings limit the possibility for imaginary practices, there is a need to open up spaces for deliberation and conflict via playful approaches. Additionally, we see the co-design of the serious game itself as a promising way to not provide a rigid game, but rather to change and adapt the game in every round that it is played.

2 | *Up:town*—Co-Creative Futuring in Practice

Up:town is a serious game developed by the City Science Lab at Hafencity University Hamburg to support collaborative imagination in contexts of urban uncertainty. Conceived not as a simulation or predictive model, but as a space for perspective-shifting and negotiation, the game brings together diverse urban stakeholders—including planners, city officials, politicians and residents—to engage with socio-ecological disruptions in a fictional but plausible city under stress.

The game’s development has been iterative and agile, shaped by lessons learned across contexts. Early rounds revealed that many participants struggle to shift perspectives or navigate urban complexity from positions other than their own. In response, the game evolved with its iterations—one that adapts not only its content but also its structure to enhance engagement. From Jakarta (IND) to New York (US) to Hamburg (GER),



FIGURE 1 | *Up:town* at Alexandria with local partners, 2024.



FIGURE 2 | *Up:town* Jakarta: Tailored card set, 2025.



FIGURE 3 | *Up:town* at Jakarta, Game session with Kampung residents, 2025.

each iteration has contributed to the refinement of the game's participatory design logic.

Gameplay is structured around a sequence of cascading crises—such as flooding, infrastructure breakdown or housing disputes—that unfold with increasing urgency during the game. Players are assigned both a fictional district and specific roles within the two broad stakeholder groups of citizens and public officials. They begin deliberating within their own group to develop a response aligned with their interests, capacities and values. In a second phase, they must negotiate across stakeholder groups, confronting competing priorities and institutional constraints. The second negotiation round is accompanied by the collaborative creation of a tangible artefact made from Lego and Play-Doh. Lastly, the different groups reflect on their artefact and the process by presenting it to the other groups. This three-tiered process intentionally stages moments of tension, collaboration and misalignment—not to resolve them, but to make them visible. In doing so, *up:town* acts as a rehearsal space for the complexities of

urban governance, revealing how different urban actors interpret risk, responsibility and resilience.

3 | Jakarta: Localisation and the Limits of Proximity

In Jakarta, the game was tailored to specific contexts by the local organisation Rujak Center for Urban Studies and played in two separate sessions—one with residents from a specific neighbourhood (kampung), the other with local officials and policy researchers. The scenario reflected recognisable local challenges: rising sea levels, displacement and institutional conflict. The aim was to make the scenario legible and relevant, particularly in a neighbourhood with a history of contested development and eviction processes (Figure 2).

However, the high degree of contextual anchoring proved double-edged. While it fostered immediate engagement, it also constrained speculative divergence. Players often stayed within known roles and logics: officials proposed infrastructural fixes; residents emphasised community-based resilience. The game's imaginative frame narrowed under the weight of local realism. Furthermore, separating the two groups—a precaution advised by local partners due to underlying tensions—limited the cross-stakeholder friction that often makes the game most generative. These constraints illustrated how public participation can be shaped, and at times restricted, by local histories of conflict and positionality (Figure 3).

4 | Academic and Expert Contexts: Ambiguity Without Anchoring

In sessions held in North American academic institutions (e.g., Harvard, MIT), scenarios were deliberately less specific, encouraging open-ended experimentation. Speculative trajectories ranged widely.

Yet this openness came with trade-offs. Without material anchoring, some futures drifted into utopianism or strategic detachment. In contrast, playing in the expert setting of the 'Teaching Urbanism' conference in Lucerne/Switzerland, a different pattern emerged. Participants—all experienced urbanists—struggled not because they rigidly adhered to specific disciplinary roles, but because they were missing the hard facts, data and models they typically rely on. Without technical inputs, they found it difficult to engage with the speculative frame. Their professionalism became a barrier: accustomed to making evidence-based decisions, they were uncomfortable navigating a process where uncertainty, ambiguity, and affect took precedence. This revealed how deeply professional norms of precision and control can inhibit imaginative engagement—maybe especially among those trained to think systemically.

5 | Bremen: Prototyping With Public Institutions

The most recent iteration of *up:town* in Bremen represents a shift in the game development itself: from adaptation to co-creation.



FIGURE 4 | *Up:town* at Bremen: Prototyping session with multi stakeholders, 2025.

Building again on previous rounds, a participatory prototyping process was pursued that integrated feedback, contextual needs and new types of expertise from the outset. In this iteration, the game was co-developed with local stakeholders, including the Bremerhaven Technisches Hilfswerk, THW—a volunteer-based civil protection organisation (Figure 4).

Together with THW and other local participants, new roles, crisis events, and decision-making dilemmas were crafted to reflect the local governance ecology and infrastructure dependencies. For example, scenarios involved regional coordination and emergency logistics. This collaboration introduced new institutional perspectives into the game's design while maintaining room for speculative engagement.

What distinguishes the Bremen case is its dual commitment to realism and flexibility: By inviting public agencies into the prototyping phase, the game's credibility and legitimacy increased—especially among actors less accustomed to participatory or playful formats. At the same time, co-creation protected the speculative space: participants had the opportunity to shape the terms of engagement, rather than simply responding to a fixed structure.

6 | Discussion

Across contexts, *up:town* reveals both the generativity and fragility of experimental futuring methods. When scenarios are overdetermined by local realities, the imaginative frame can

collapse. When they are too abstract, they may lack traction. The challenge is not simply balancing reality, meaning and play, but designing for ambiguity—holding open the speculative space while attending to context, power, and participation.

This emphasises the need to adapt the game itself to local specifics: depending on the stakeholders involved, site-specific challenges and formalities such as duration and physical setting, game elements and dynamics should be flexible. While local adaptation has found its way into the game since the initial rounds, co-designing with local actors greatly enhances the chance to strike the triadic design balance. In the most successful rounds of gameplay, this balance both opened up an imaginative, experimental space for thinking outside existent solutions and a reflective space for critically discussing both in-game and out-of-game dynamics.

These observations also raise a broader geographical point: the capacity to imagine urban futures is place-bound and shaped by uneven geographies of power, politics and access. As the contrasting experiences in Jakarta, Lucerne and Bremen suggest, speculative engagement is not a neutral or universally transferable practice—it unfolds differently across contexts, depending on local histories, institutional cultures, and positionalities. *up:town* thus operates not only as a futuring tool but as a method of *public geography*: It surfaces the situated nature of urban imaginaries and invites critical reflection on whose futures are made visible, and under what conditions.

The game's value might not lie in the concrete futures it predicts, but in the tensions it surfaces and the social dynamics it activates. It is best understood not as a solution-generating device, but as an enquiry into the processes of how urban futures are made, by whom, and under what conditions. Play, in this context, becomes a form of critique—a way to encounter complexity, exercise empathy, and practice world-making in a time of converging urban uncertainties.

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Data Availability Statement

The authors have nothing to report.

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