

Videogame Urbanism: using game spaces to challenge the future of cities

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Every day, millions of people travel to the virtual worlds of videogames, diving into intense escapist universes full of puzzles and adventure, battle royales and simulated societies. Yet beyond their entertaining properties, the synthetic nature of game environments challenges normative conceptions of space and our interactions with it. Games hint at unexplored possibilities for architectural design, and it is this potential that we are working to unlock through our practice and teaching. Around four years ago, we established a research studio called Videogame Urbanism at The Bartlett School of Architecture, University College London, that uses game engine technologies to conceptualize and realize urban design projects. Our intention was to expand the field of media through which architecture and urbanism can be practiced by embracing the interactive nature of game worlds and their increasing familiarity to a large number of people. Our studio's research examines how the future of cities and their regulations can be communicated to new audiences and challenged through game technologies. We use speculative game scenarios drawn from real world research that incorporate narrative as well as architectural theory into their structure. Using games as tools allows our students to question the forces and systems that shape contemporary urbanism, developing virtual worlds that challenge existing power structures. By incorporating real world information and data sets into games, we allow players to directly uncover information about cities through play. Since its founding, Videogame Urbanism has produced over forty games (and counting) of varying complexity and scope.

The fields of gaming and mainstream architecture are drawing closer in many ways, such as the increasing incorporation of VR technologies in architectural visualisation. However, in our framing of games, we attempt to unpack their architectural qualities at a structural and cultural level that moves beyond simply representing a building for a client. Instead, we embrace the implicit relationship between encoded rules, interactive gestures, and audiovisual representation that underpins gameplay and game environments. Structurally, games have variously been described as embracing “failure,” (1) “repetition,” (2) “uncertainty,” (3) and “disunity.” (4) The coexistence of potentially conflicting structures within one aesthetic form allows us to echo the complexities of urban environments and their future in new and innovative ways. Much of both our work and our research studio's teaching involves exposing urban systems to scrutiny by transforming them into game systems, allowing for a deeper critique of how cities are shaped and finding new ways to engage with these forces.

The intellectual basis of our research reflects upon the properties of videogames as a medium and places them within wider architectural discourse. We discuss game structures as tools for learning and engagement, but also seek to place the integration of games into the architectural canon in the context of experimental approaches and architectural projects from the past. Our studies and use of games continue a history of architects fascinated by the impact of what Theodor Adorno called the “culture industries.” (5) For instance, in the 1950s the Smithsons explored what the impulse-production of advertising could mean for architecture. In the 1970s Denise Scott Brown and Robert Venturi produced what they called a “form analysis”

of Las Vegas' pop iconography, arguing that it challenged traditional conceptions of space while still retaining links to the past. In the 1990s tools from the burgeoning visual effects industries became incorporated into architecture where they became part of a technology-driven redefinition of architectural morphology. At a time when discourse in universities and research institutions is focussed towards high-level computer science—robotics, artificial intelligence, and machine learning—we see games as a way of examining computation that is still tied to the inconsistencies of the artistic and the narrative, and we embrace the lowbrow properties of the culture industries that have so fascinated architects. The escapist worlds of car commercials, the Las Vegas strip, and superhero movies can now be found in the innumerable virtual worlds we can visit and inhabit, rapidly communicated through YouTube and Twitch, where users stream gameplay for audiences numbering in the tens of millions. This momentum challenges architecture through the speed by which virtual spaces can be disseminated, but also through the wide number of people who are allowed to engage with these worlds. Through *Minecraft*, for example, millions of potential future architects (and non-architects) are growing up in virtual worlds where collaborative construction is a key element of play.

Historical precedent is important to our work, from Frank Lloyd-Wright's *Broadacre City* (1932) and Constant's *New Babylon* (1956–74) to Walt Disney's *EPCOT* (1966). By making games that revisit these unrealized projects from the past we attempt to unpack both their speculative representations of future societies and the logic by which those speculations would be enacted. This allows us to introduce students to the agency of making games by revisiting and building upon a set of radical historical ideas of what urbanism could become. Students use games to question what it might be like to live with Superstudio's *Continuous Monument* or expose the hidden failures lurking behind Yakov Chernikhov's heroic *Architectural Fantasies*. This approach also demonstrates that while our media may be new, the design of virtual worlds taps into a longer lineage of what we can call speculative architecture, where the boundaries of the discipline become expanded.



Image 1: *Beyond 'The Bubble'*, 2017. Digital screenshot drawing from game. Yingying Zhu. Bartlett School of Architecture, UCL

We also use games to explore the textual and theoretical reading of cities. A 2016 project called *Videogame Urbanism Plays LA* asked students to make games exploring the urban morphology of Los Angeles through key writings on the city. Reyner Banham's conception of "autopia" inspired a car-based game where pedestrianism had been eliminated at every scale, forcing players to reconcile themselves to a world navigable only by driving. Michael Hardt and Antonio Negri's conception of "ether" as the controlling influence of cultural production underpinned a game that collapsed various movie spaces into their real-life locations, allowing for an exploration into how game spaces could play with our ideas of buildings made famous through entertainment media. By providing a set of interactive homes that would unwrap into various configurations through the player's actions, *Homestead* (2017) explored Banham's notion of housing in LA through a series of "case-study" homes in a suburban sprawl, each of which responded to different set of criteria for what a house could become. As houses were reconfigured by the player, they caused the surrounding buildings to change, making the game world an emergent real-time representation of how market forces alter the way we live. (6) Games offer ways to explore the morphology of cities, foregrounding the rules, laws, or even cultural circumstances by which urbanism takes shape.



Image 2: *Temples of Consumption*, 2017. Digital screenshot drawing from game. Daniel Avilan, Aradhana Kapoor, Sanjana Samant. Bartlett School of Architecture, UCL



Image 3: *Greatest Grids*, 2018. Digital screenshot drawing from game. Mingpei Liu, Yingying Zhu, Yu Zhu. Bartlett School of Architecture, UCL

Because games are interactive and involve decision making on the part of the player, we can use them to go beyond the god's eye view of *SimCity* or *Cities: Skylines* and investigate the agency of citizens. The students who created *Carbon Neutral Living* (2018) followed the structure of a roleplaying game, driven by players defined not by their mastery in swords or spells but by their real-world carbon footprint. In the game, the decisions a player makes in their "everyday" life result in the opening or closing of parts of the game city. How ecologically their character lives determines whether or not they have access to public transport or work space. (7) We have even had a game, *E-London* (2017) which imagined an augmented-reality "opt-in" for British citizens who wished to remain in the European Union post-Brexit and the effect this would have on their experience of London. (8)

The world of commercial games often exemplifies certain tropes and fantasies that reinforce power structures such as *Call of Duty*'s glorification of military might; or *Cities: Skylines*, which lets players experiment with city building and urban planning but relies on American taxation and zoning models despite being developed by Europeans. While this can be problematic, gaming, even commercial gaming, is not monolithic—there is a whole new culture that has emerged through indie games that use the power of game mechanics to pose

alternative and challenging questions about the way we approach and interact with the world. Games can subvert the strict boundaries between designers and clients, governments and citizens. They are a means to explore complex systems and make them intelligible, to provide experiences that give voice to those who may go unheard, and to dream about alternative ways of seeing our cities.

Games offer us the opportunity to make tools that provide direct feedback for designers and that non-designers can use, making them easily accessible for people without the means or voice to participate in the typical processes of architectural design. The students who created *The Playable Planning Notice* (2017) were responding to the UK planning system, which typically notifies citizens of impending changes in the city through laminated A4 notices placed on lampposts. The description of changes is often either very technical or frustratingly vague, such as “various works to various trees” or “erection of a plinth and statue.” The game allows players to prototype their subjective interpretation of real London planning notices through a building toolkit. While it has a visual resemblance to construction or “city-building” games, it is positioned as a social tool to increase the visibility of changes taking place within the city, far from the typical elevated overview and control of “god games.” (9) As Kars Alfrink argues in his call for playful soft urbanism, this hints at a future where “a gameful city promises increased autonomy and influence to individuals.” (10) We believe that this could be extended into the upper echelons of a democratic structure, creating tools for politicians to actually use.

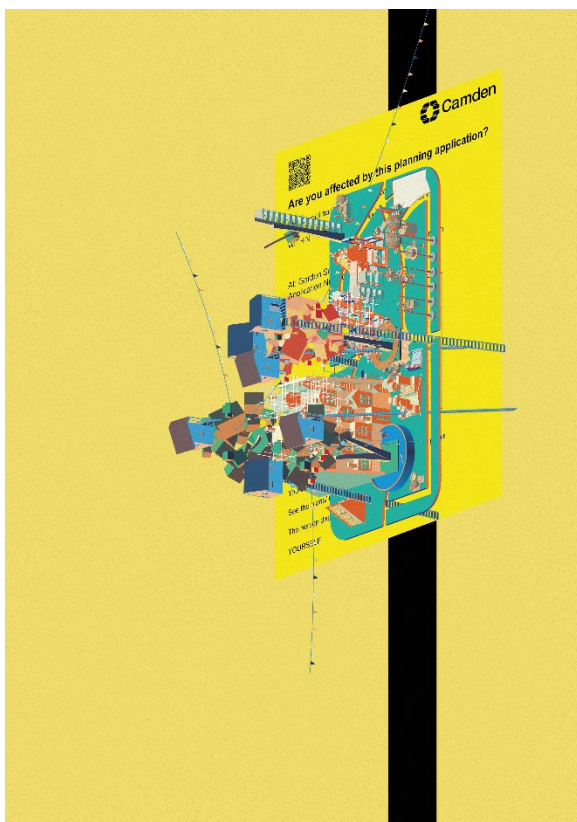


Image 4: *The Playable Planning Notice*, 2017. Digital screenshot drawing from game. Zhibei Li, Shenghan Wu, Meiwen Zhang. Bartlett School of Architecture, UCL

In addition to engaging with the processes driving the development of built and infrastructural fabric, games also offer the opportunity to explore the principles and aesthetics behind the design theories that have shaped our physical environments. In picturesque design, for example, routes that “never let the foot travel the path of the eye” emphasise the irregular and asymmetrical in the careful choreography of experience, (11) with sham structures and follies that appear as buildings from one side but are revealed as facades or fragments on closer inspection. As the picturesque moved from an idealistic treatment of landscape into an urban approach it came to structure large parts of central London, bringing the countryside into the city. Yet more even than the promenade along Regent’s Street and Portland Place towards Regent’s Park, it is contemporary videogame worlds that embody this picturesque ideal of a landscape experienced through views, movement, and time. *Playing the Picturesque*, our project for the Royal Institute of British Architects, used games to unfold the careful rules and structures that underpin the history of John Nash’s picturesque architecture and his subsequent designs for London. By constructing a series of physical follies attached to five game worlds designed around key picturesque sites, we created worlds of duration and temporality that had to be experienced to be fully formed. Through a one-to-one relationship between the viewer’s body and the virtual space, we challenged the typical “power-fantasy” narrative of amplified physical mobility and dexterity that is common to many first-person games, instead embodying the qualities of the gentle promenade to realise the virtual nature of the picturesque within the confines of a gallery.



Image 5: *Tokyo Backup City*, 2016. Digital screenshot drawing from game. You+Pea.



Image 6: *Playing the Picturesque*, 2019. Photograph of installation at RIBA. You+Pea. Photograph (c) Tristan Fewings, Getty Images for RIBA

For us, this is where the potential of using games as a device for architecture and urbanism ultimately lies, in being able to synthesise worlds while also designing messages in how people can engage with them.

Notes:

1. Jesper Juul, *The Art of Failure: An Essay on the Pain of Playing Video Games* (Cambridge MA, London: MIT Press, 2013).
2. Torben Grodal, "Stories for Eye, Ears, and Muscles: Video games, media, and embodied experiences.", in *The Video Game Theory Reader*, Eds. M.J. P. Wolf & B. Perron, (New York: Routledge, 2003), p.148.
3. Greg Costikyan, *Uncertainty in Games* (Cambridge MA & London: MIT Press, 2015).
4. Graeme Kirkpatrick, *Aesthetic Theory and the Videogame* (Manchester: Manchester University Press, 2011), p.112.
5. Theodore Adorno, *The culture industry, selected essays on mass culture* (London: Routledge, 1991).
6. Ruxin Chen, Yilin Li, Lu Zhou, *Homestead*, 2017, videogame.
7. Yun Tie, Li Zhu, Zhaowei Zhu, *Carbon Neutral Living*, 2017, videogame.
8. Ruxin Chen, Yilin Li, Lu Zhou, *E-London*, 2018, videogame.

9. Zhibei Li, Shenghan Wu, Meiwen Zhang, *The Playable Planning Notice*, 2017, videogame.
10. Kars Alfrink, "The Gameful City", in *The Gameful World*, ed. Walz and Detarding (Cambridge, MA and London: MIT Press, 2015), p.556.
11. John Macarthur, *The Picturesque: Architecture, Disgust and Other Irregularities*. (London, New York: Routledge, 2007), p.157.