World Games 2.0

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Synthesizing a Videogame Urbanism

Today, millions of people regularly journey into virtual worlds that challenge our normative conceptions of space. These are videogames, environments that are designed as entertainment media, often not by architects themselves. Yet, they touch upon many of the longstanding fascinations of experimental architecture. We visit places with flexible gravity and wobbly time, which are communicated at lightning speed, traversed through bodily abstraction, as seen through eyes with ever-changing fidelity. Contemporary games, with their cultural 'pace-setting,' pose challenges for architecture, not unlike those compulsions previously observed in advertising by the Smithsons, Venturi and Scott Brown in Las Vegas, or by Marcos Novak's cyberspace-influenced designs. In a similar fashion, the playful impulses of games run counter to much technological rhetoric in architecture today by levering computation out "from the dominant historical narrative of 'technological progress.'"[1] **T**he aesthetic experience of videogames is fragmented, inconsistent, and often illogical. Yet, this is precisely what attracts people to inhabit these virtual spaces.

This is the context in which we founded the Videogame Urbanism studio at the Bartlett School of Architecture in London. We examine the future of cities and the forces that regulate them, employing game engine technologies to communicate with new audiences through public-facing interactive software. This work relies heavily on speculative projects drawn from real world research that relates the idiosyncrasies of videogame aesthetics with systems design, narratives, and architectural theory. We see games as a way of creating environments to test ideas. Through the interaction of players, our speculations can be twisted in manners that we did not expect. For us, the videogame, with its "unique disunity"[2] between eyes looking at a flat screen and hands enacting a miniature choreography of the body, creates a perpetually speculative zone. Like the Mechanical Turk 'automatically' playing chess, videogames also blur the lines between computational systems as perfect responsive machines and the underlying (sometimes literally hidden) human idiosyncrasy of their design. Games have been variously described as promoting "failure,"[3] "uncertainty,"[4] and "artificial conflict,"[5] none of which are selling points for commercial architecture or urbanism. However, these terms properly describe the friction and challenges posed by speculative architecture projects. Despite videogame-worlds being entirely synthetic and bounded, they are only brought into true being by the interactions of a player. As it is, our work with games is extremely programmatic, in that it explores our engagement with architecture: from geometry to meaning or 'function.'

Placing games in the media landscape of architecture also ties them to the history of conceptual projects produced within the discipline. Many of the most daring and prescient

[1] Grame Kirkpatrick, *Aesthetic Theory and the Videogame* (Manchester: Manchester University Press, 2011), 115.

[2] Kirkpatrick, *Aesthetic Theory and the Videogame*, 112.

[3] Jesper Juul, *The Art of Failure: An Essay on the Pain of Playing Video Games* (Cambridge MA, London: MIT Press, 2013).

[4] Greg Costikyan, *Uncertainty in Games* (Cambridge MA & London: MIT Press, 2015).

[5] Katie Salen and Eric Zimmerman, *Rules of Play*: *Game Design Fundamentals* (Cambridge MA, London: MIT Press, 2003), 80.

speculative projects have used game-like 'free spaces' as a way of asserting architecture's capacity for liberating citizens. Perhaps, the key period for such works was the 1960s and 70s, which produced various projects that emphasized civic playfulness and technology at the service of leisure time. These works were a response to global countercultural movements, and, in an architectural context, Modernism's increasing focus on market-driven ideals of efficiency and technology.

Cedric Price, Yona Friedman, and Archigram all proposed different forms of mobile infrastructures that would accommodate the changing whims of users. In Price's case, buildings would incorporate artificial intelligence and even become 'bored' if not sufficiently stimulated. Ettore Sottsass' trippy speculations in *The Planet as Festival* suggested a Post-Work society, playing with the depths of human pleasure. Arata Isozaki designed playful anthropomorphic robots for Expo 70, while the various Italian radical groups designed mobile systems, reconfigurable cities, and ran nightclubs.

This merging of play and speculative architecture together was most clearly articulated in Constant's *New Babylon*. Constant named the citizen of his new city *homo ludens* (person at play), not coincidentally the title of Johan Huizinga's seminal text on games and game playing. *New Babylon* represented an architecture in which "there is only the playful drifting through an infinite and endlessly manipulable interior space."[6] Constant continued, arguing that "technologies have developed to such an extent that construction methods represent virtually no further obstacle at all to the realization of very free forms, involving an absolutely original conception of space."[7] Here, infrastructure is merely a technological system in the service of a playful citizen. Yet, due to the project's speculative nature, predominantly presented through visualisations rather than actual construction, we can argue that the infrastructure is in fact *immaterial*.

Being immaterial is not an impediment to playfulness and 'gamefulness' but an intrinsic property thereof. Games theorist Jesper Juul argues that all games are bound not by their physical form but by an "immaterial support, namely the upholding of the rules, the determination of what moves and actions are permissible and what they will lead to."[8] We can read the megastructures that underpinned so many speculative projects of the period in this way, as analogical devices that provide an immaterial support for the intellectual arguments of the works. Andrea Branzi hinted as much, suggesting that the future would hold only 'quantitative utopia,'[9] conceptual worlds structured by information and data. If these decades energized play as a speculative tool for architecture, primarily based around twisting technological advances, they also coincided with the work of young computer scientists at institutions, such as MIT and Stanford, who had been illicitly designing videogames at their university facilities. As far back as *Spacewar!* (1962), these early games contained worlds that operated on new, synthetic, and speculative rules. Playing as one of two spaceships, players could use the artificial gravity of stars to propel themselves, leaving the edge of the screen and reappearing on the other side of the screen in a move that would be impossible in reality.

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[6] Mark Wigley, *Constant's New Babylon The Hyper-Architecture of Desire* (Rotterdam: Witte de With Center for Contemporary Art/010 Publishers, 1998), 13.

[7] Constant, '*Demain la poesie logera la vie*' (manuscript, 1956). Reprinted in Berreby, Documents relatifs, 595-596. Cited in Mark Wigley, *Constant's New Babylon The Hyper-Architecture of Desire*, (Rotterdam: Witte de With Center for Contemporary Art/010 Publishers, 1998), 26.

[8] Jesper Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds* (Cambridge MA, London: MIT Press, 2005), Kindle edition for iPad, Loc 526.

[9] Andrea Branzi, *No-Stop City Archizoom Associati* (Orleans: HYX, 2006), 176-179.

Fifty years later, we realize speculations within our studio, using game engines, as such, to create worlds that are entirely quantitative constructions. For example, our 2016 *Tokyo Backup City* project employed an urbanism inspired by Japanese arcade lottery games, imagining that this might produce a whole city that takes the visual form and organizing structure of a game. The scheme was a reinterpretation of a proposed plan to site a 'backup' for Tokyo's governmental centres on a domestic airport in Osaka to protect the capital's functions in a time of natural disaster. Nowadays, the notion of backing-up is intrinsically tied to data, and, as such, we proposed to use the immaterial structure of a game to preserve not only Tokyo's governmental facilities but its culture, neighbourhoods, and aesthetic. For us, this was a project using contemporary game technologies in a spirit close to those experimental architects who explored playfulness throughout the 60s and 70s. We have also directly revisited these projects in our teaching practice. In *Living with the Continuous Monument* (2017, Mingpei Liu), a game placed the monument in various global contexts derived from Superstudio's collages, suggesting ways that different cultures would interact with the mute superstructure. Students recreated other seminal projects, such as Archizoom's *No Stop City*, Isozaki's *Cities in the Air,* and Friedman's *Ville Spatiale*, using the interactive nature of their games to extend the original speculation into systems for experiencing an unbuilt concept.

While all these influential projects foregrounded the speculative power of the game as a social programme, they were predominantly urban in scale and not designed explicitly as game structures, even as they celebrated playfulness. The questions of planetary level speculation, and whether game systems could contribute to their answering in a pragmatic fashion, were left tantalizingly open by many utopic works. However, one project sought to answer them directly at an unprecedented scale. This was Buckminster Fuller's *World Game*.

A Global (Video) Game

The *World Game* has originally been proposed (but not commissioned) to inhabit the geodesic dome, which Fuller designed for the American pavilion at Expo 67 in Montreal. The game represented the culmination of Fuller's synergetic approach to design by providing a holistic toolkit for playing with the future of the planet through the designation of resources. At Expo 67, the *World Game* would have been played using remote controls upon a giant version of Fuller's *Dymaxion World Map*, which descended from the ceiling with lights blinking, as visitors moved around the live game.

Fuller described the *World Game* as "a precisely defined design science process for arriving at economic, technological and social insights pertinent to humanity's future envolvement aboard our planet Earth."[10] The game was primarily designed around the available quantities of all of the earth's resources. Its aim was to engage those around the world in such a way as to produce a state, where the physical and economic needs of all human beings would be satisfied without negatively affecting another person. For Fuller, the game represented a counterpoint to traditional games theory, and he argued against the emphasis on zero-sum situations, where one participant would aim to win through causing losses for other players. Yet, because the game privileged the cooperative over the competitive on a global scale in its immaterial structure, it remained resolutely speculative. Writing in the *World Game Series: Document 1*, Thomas Broussard Taylor admitted that "the world game has not yet, in truth,

[10] R. Buckminster Fuller, *The World Game: Integrative Resource Utilization Planning Tool* (Carbondale IL: World Resources Inventory), 2.

been played; for to play it one needs the computer tools [...] and the logic to ask the right questions."[11] The game as a perfect structure would only be playable, and move from the pure speculation, once technology was sufficiently advanced, as Constant had previously argued with *New Babylon*. However, the *World Game* had a less technological and more significant impediment to this realization: the frictions and sovereign boundaries of global politics. As Felicity D. Scott argues, to play the *World Game* properly required a large speculative leap to accommodate the game's "universalizing mandate," producing "the logic of a consensus formed without space for contestation, one facilitated through the eradication not only of nation-states but of democratic, political, and juridical institution."[12]

Today, we could argue that game-worlds, particularly those which exist within online networks, are siteless and, therefore, the type of non-sovereign zone that Fuller desired. Yet, sovereignty and division can be articulated in many ways. If one connects to an American game server from Europe, it is likely that connectivity and 'lag' will produce an imperfect alignment between the user and environment. In the split second it takes to make a move in *League of Legends* or *Overwatch*, all can be lost through poor synchronization. In this way, one's being is structured by the speed of informational exchange. We have moved into networked multiplayer games in our own studio, and this act of synchronisation, of establishing the common meaning and status of a world across the network, is both one of the fundamental principles of an online game but also the source of contingency between user experiences. As Chinese players of Tencent-produced games have found out, it is also trivial to tie online virtual avatars to governmental ID numbers to detect who is playing, when they are playing, and how they are behaving.[13] So, if computation was the key to smoothing out borders for the *World Game*, then contemporary videogames suggest that his game would have encountered new forms of digital boundaries. Fuller's documents included large data sets, compiled over decades for the playing of the game.[14] Yet, the constant updating and synchronization of those datasets across networks would invariably hit against the reality of digital sovereignty in its many forms.

Beyond the structure of the game itself, Fuller's clearest articulation of his game's potential was in its media reach: "The communications aspect of my work can be vastly augmented by the use of computers and by the use of television, video and the miniaturizing trend of cassettes of video communication [...] all of which will swiftly catapult the World Game's results into the most important spot news of our next quarter century."[15] If Fuller, like the Smithsons, Archigram, or Charles and Ray Eames, could see the potential of mass media, then it was at a similarly grand scale to the game itself, a daily news piece communicated to billions. Although this work predates the internet age and the many writings that followed on the subject, Fuller's assessment that photogenic, digital games could captivate and motivate an audience has proven to be true. Streaming platforms, such as Twitch and YouTube Gaming, attract millions of viewers, and the rapid expansion of the gaming industry has produced a second industry devoted to the performance of gaming through various other communication platforms. We could argue that both *Minecraft* and *Fortnite* have gained the type of universal communication Fuller desired, but the media landscape of streaming games remains far more fragmented and focused on entertainment, not universal problem solving.

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[11] Fuller, *The World Game*, ix.

[12] Felicity D. Scott, *Architecture or Techno-utopia: Politics After Modernism* (Cambridge MA: The MIT Press, 2007), 204.

[13] https://www.theverge.com/2018/11/5/18065048/tencent-chinese-user-id-age-video-games-playerunknown-battlegrounds-league-of-legends

[14] Fuller, *The World Game*, 47.

[15] Fuller, *The World Game*, 6.

The notion of one game to solve the world places a large and insurmountable emphasis on the complexity and suitability of a singular system. Firstly, this notion requires sufficient computation to process the perfect simulation that is required. However, Fuller was careful to make a caveat that *playing* the game must also be conducted in an environment in which such a system could be free to do its work: "Individuals not properly led by myself soon become aware of their own inadequacy of experience and thought and become deeply and completely involved in self-examination,"[16] causing the global goals of the game to recede. For the *World Game* to function then, both the computational and immaterial structure of the game required perfection. As Ian Bogost argues, this is not so far from the position that the algorithm has assumed in popular culture today, as an arbiter of universal truth. For Bogost, this hides an essential reality: algorithms are human-made representations and, thus, caricatures of source systems that can bypass the messiness of reality. He asks: "if algorithms aren't gods, what are they instead? Like metaphors, algorithms are simplifications, or distortions. They are caricatures. They take a complex system from the world and abstract it into processes that capture some of that system's logic and discard others."[17] Fuller's game remains both a speculation and a caricature, because it smoothed over political and computational reality. In contrast, Bogost argues that videogames are the only form of algorithm that is truthful about this caricature – and can suffer a designation as toys or diversions. In fact, Fuller admitted to the fact that even his total game would produce distortions that are positive, arguing the game would "accelerate the too slow and decelerate the too fast [...] to bring them dramatically within popular consideration and our world game's solution."[18]

Here, we could consider the socio-political simulation of the *Civilization* series that takes humanity through history, from its beginnings to its end, in a matter of hours. The entire world is shown divided into hexagonal chunks; time marches to the beat of the player, and huge populaces are represented by virtual game pieces. Perhaps, the most convincing total simulation videogame to date is *Dwarf Fortress*, where a whole society, in terms of its language, history, and architecture, are all produced by an algorithmic system. Yet, this world is tied to a heavily abstracted, visual language, with the base game being articulated using only ASCII symbols. Both then are caricatures, albeit in different ways. In our own studio, we use procedural systems to generate histories and urban morphologies that can be analysed and manipulated by players. This has involved projects that collect the 'folksonomies' of the internet, systems for generating infinite versions of real-life urbanism. Players can mine these systems for 'liveability' characteristics or tak Malevich's abstract *Arkhitekton* as a unit of space that players could explore, from the scale of a gallery to an infinitely repeating city. In each case, our simulated systems adopt some elements of the real world and leave others behind, accelerating and decelerating others to produce inhabitable speculations.

The future may well lie in AI generated world simulations that are derived from our existing algorithmic tools. The recently released *Microsoft Flight Simulator 2020* uses the company's world-imaging infrastructure to model the whole planet. Yet, even here, the caricature rears its head again, with handmade elements being required to solve more complicated spatial problems in urban areas, where the algorithm fails. At the launch of the game, Buckingham Palace in London had been replaced with a generic office block, an amusing output of the system that chooses from a pool of building models whenever it cannot resolve real-world

[16] Fuller, *The World Game*, 5.

[17] Ian Bogost, "The Cathedral of Computation", The Atlantic, https://www.theatlantic.com/technology/archive/2015/01/the-cathedral-of-computation/384300/.

[18] Fuller, *The World Game,* 11.

geometry. In each of these cases, we can either read these ruptures as a deficiency in fidelity or as an intrinsic nature of game-worlds. Espen Aarseth describes these as "deviations" that "make the illusion playable."[19] Elements that might be considered ruptures in a perfect simulation allow them to be accessible and intelligible for players. However, these errors also reflect the friction of reality, which Bogost describes as the "confluence of physical, virtual, computational, and non-computational stuffs—electricity, data centers, servers, air conditioners, security guards, financial markets.'[20] Even if technology has caught up to Fuller's desired computational levels, the smoothness of the world has not.

Roughing up the Smooth

In the Videogame Urbanism studio, this is the context for playful thinking about architecture and urbanism. The studio seeks to make clear the distinction between an idealised system and the reality of videogames as a medium. In contrast to the global scale of Fuller's game, and its reliance on an unrealised, perfect algorithm to facilitate it, the studio's work breaks the relationship between games and urbanism down into a network of smaller studies that emphasize the unique convergence of rules and representations that are implicit in videogames. This is done by building upon the interests of the player, encouraging them to obsess over specific details and isolated scenarios. Even the metropolis-scale systems of *SimCity and Cities: Skylines* are often too large a scale for experimental speculation, where the god's eye view traps a player in the overview, and the logic of the game privileges a zoned American-style urbanism that is inappropriate for other cultural contexts.[21] Instead, the studio's research pursues games that peel apart the city and remake it in stranger in more unexpected ways.

The students of Videogame Urbanism have produced over 50 games of varying scope and scale, from quirky geometric 'toys' to complex, networked multiplayer environments. Together, this body of work is a set of speculations, critiques, and proposals for urban futures that can be read as one approach, rather than one unifying game or virtual environment to solve the world's problems. There is no one genre, viewpoint, or system that defines videogames. Likewise, the studio attempts to avoid a single and fixed method. Ideally, games should allow people to experience cities through different eyes, different levels of agency, and with different motives.

While there is much to admire about Fuller's all-encompassing game, this alternative approach suggests that future *World Games* could be held through a diffuse network of more focused games, applying abstraction and systems at a more digestible level. Each of these games would pick a subject, structure, or situation and extrapolate it into a speculative world that emphasizes and magnifies that condition. In abstracting systems, games also intensify them. So, to make these situations comprehensible, Videogame Urbanism's projects work through the compilation of smaller ideas. Each game represents a lived system but not one that purports to answer every question. If one game contradicts another, then that friction is productive.

Here, we present a series of speculations for *World Games 2.0*: games yet to be made, games half-made, and ideas semi-formed. These are a tiny set of proposals drawn from a larger pool

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[19] Espen Aarseth, "Allegories of Space. The Question of Spatiality in Computer Games", in *Cybertext Yearbook 2000*, p.169.

[20] Bogost, "The Cathedral of Computation".

[21] Daniel G Lobo, "Playing with Urban Life: How SimCity Influences Planning Culture", in *Space Time Play: Computer Games, Architecture and Urbanism: The Next Level* (Basel: Birkhäuser Verlag, 2007), 208.

of ideas of what Videogame Urbanism is and what it could be. This speculative practice needs to embrace the illogical, fragmentary, and ironic nature of videogame space, because, as Galloway argues, they are ultimately "allegories for our contemporary life under the protocological network of continuous informatic control."[22] If that sounds hopeless, then these types of games can be used to extricate ourselves from this situation level by level, like a plumber jumping up from girder to girder. These *World Games* will continue to be developed, each one a small part of a wider speculative project. Each of these proposals speaks about the past, present, and future of architecture, but they will also provide a valuable reflection point as software and algorithms that question the nature of computation.

The *World Games 2.0* will be as broad as they are numerous. Designing them will produce new studies of the physical world, to expose its logics in novel and meaningful ways. And they will allow architecture to revisit more of the projects from the past that proved so influential on the discipline but were never built. Here, we can realize the speculative through interactive, virtually inhabitable environments that contain representations of architecture while also instituting a set of rules for *being* within it. Through this approach, people can better explore architecture's bounds. Using the immediacy and intensity of games can tap into the public's collective desire for games and game-like experiences. In this regard, Fuller was particularly prescient.

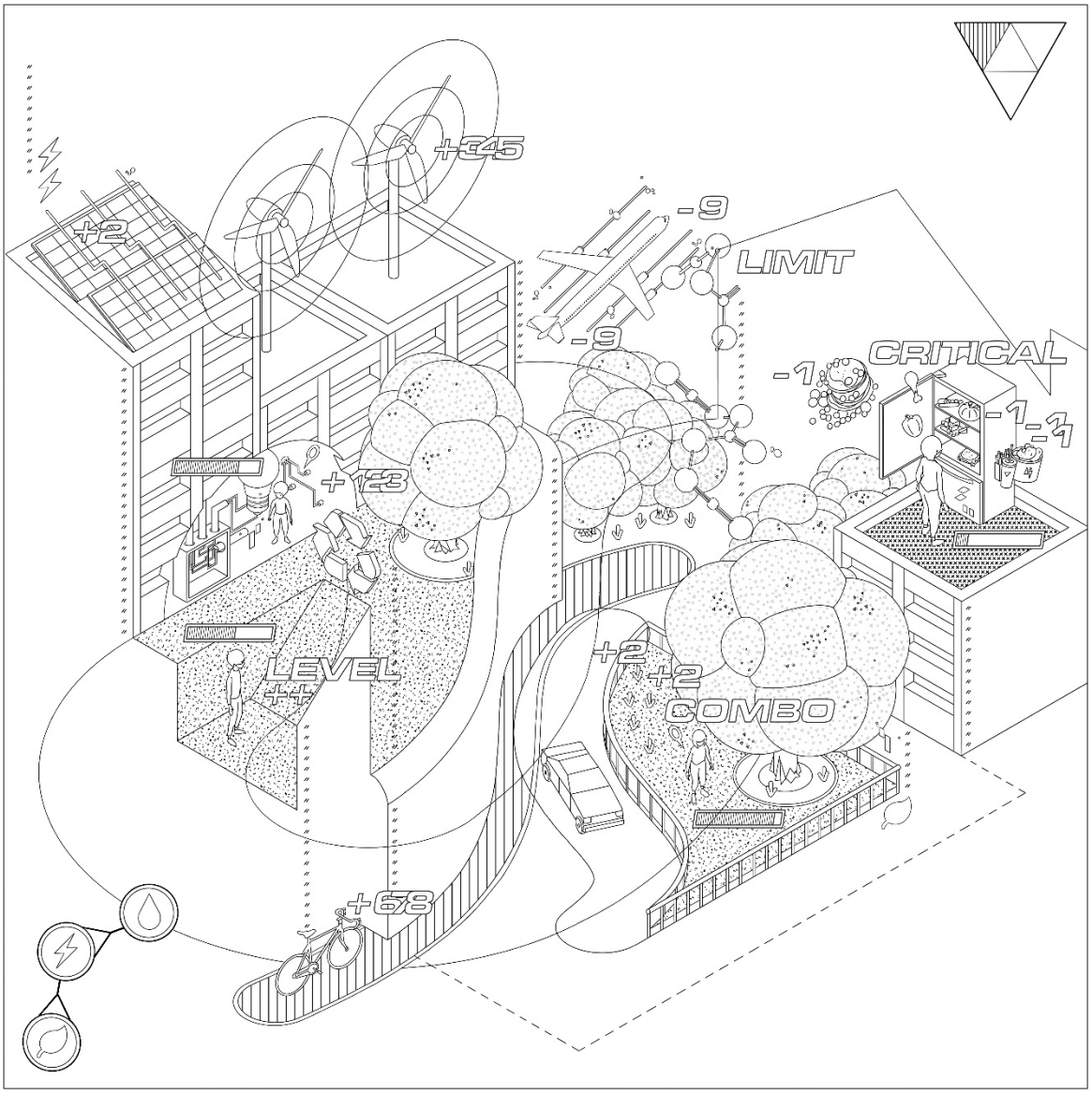
Ultimately, the *World Games 2.0* are concepts that will emerge fully formed in the future, when the disciplinary boundaries are so fluid that the distinction between projects realized physically or virtually disappears. This is a future in which online game environments, such as *EVE: Online,* have fully formed social, legal, and economic structures that transcend the developers who created them. It is also a future in which Presidential candidates use custom *Animal Crossing* islands to connect with young voters, and art museums rush to rehouse their collections in virtual museums. Architecture must meet and work across these eradicated boundaries, because this future is now.

[22] Alexander R. Galloway, "Playing the code: Allegories of control in Civilization," 2004, https://www.radicalphilosophy.com/article/playing-the-code

World Games 2.0: Season One

Carbon Crush

> *Adventure to a city where your every action changes the world. Live ecologically and exciting new journeys await! Make the wrong decision, and witness how even the smallest of actions can affect our planet.*



Carbon Crush: drawing by You+Pea

Carbon Crush is a roleplaying (RPG) game with a difference, where players are defined not by their growing mastery in swords and spells but by their real-world carbon footprint. Upon starting the game, players answer a series of questions about their lifestyle in the character creator, producing a virtual avatar that represents their real-world carbon footprint. In the game, players must live and work within a city, taking daily decisions that impact their footprint. How ecologically their characters live determines what parts of the city may be opened or closed to them. Played from a typical RPG third-person viewpoint, the actions taken by the

individual are always seen and witnessed by the dispassionate eye of the virtual camera, forcing the player to judge the actions of the avatar, even as it embodies them.

By using the classic roleplaying mechanics of 'self-improvement' through repeated action, players can understand the impact their every-day decisions have on a larger scale. Furthermore, the game emphasizes that one's personal actions within the world are the first and most meaningful decisions we can exert control over. These decisions can run from what transport method to take, what food to cook, or how to route energy within the home. The introduction of a responsive city allows players to test the successes and failures in their approach. A player who lives ecologically may get access to public transport, unlock new leisure spaces, such as parks, and obtain new skill trees within the game. Both the world and the avatar can change in response to produce a more pleasurable game through which one succeeds in the systems of ecologic living.

Yet, to fail in such a game is to fail in a synthetic world, not the real one that is under such imminent threat. *Carbon Crush* would exploit Jesper Juul's definition of games as "the art of failure, the singular art form that sets us up for failure and allows us to experience and experiment with failure."[23] The game-world is a facsimile designed to take the burden off the player's failures, all while they cultivate their expertise for application in their everyday lives.

[23] Juul, *The Art of Failure*, 30.

World of Wenrenhua

> *Visit cities defined through impressions and watch as landscapes unfold around you piece by piece. Release your reliance on perspective and celebrate new sensibilities for viewing the world!*

World of Wenrenhua: drawing by You+Pea

What would it be like to alter cities through painterly eyes? *World of Wenrenhua* is a game for breaking down Western perspectives of the city. The *Literati* approach of the Southern School of Chinese painting rejected formal realism for an impressionistic composition of space, a way of seeing that seeks the inner truth of objects.[24] Game objects always have an inner truth, a synthetic behaviour assigned by the designer, and it is up to the player to find it and intuit it. The game works in contrast to the Western desire for an ever more complex digital mapping of the world, as evidenced by the vast infrastructure of Google Earth, Bing Maps, or even Fuller's

[24] The term literati in this context denotes scholar-painters who emerged during, and after, the transition from Tang to Song dynasties in the 10th Century.

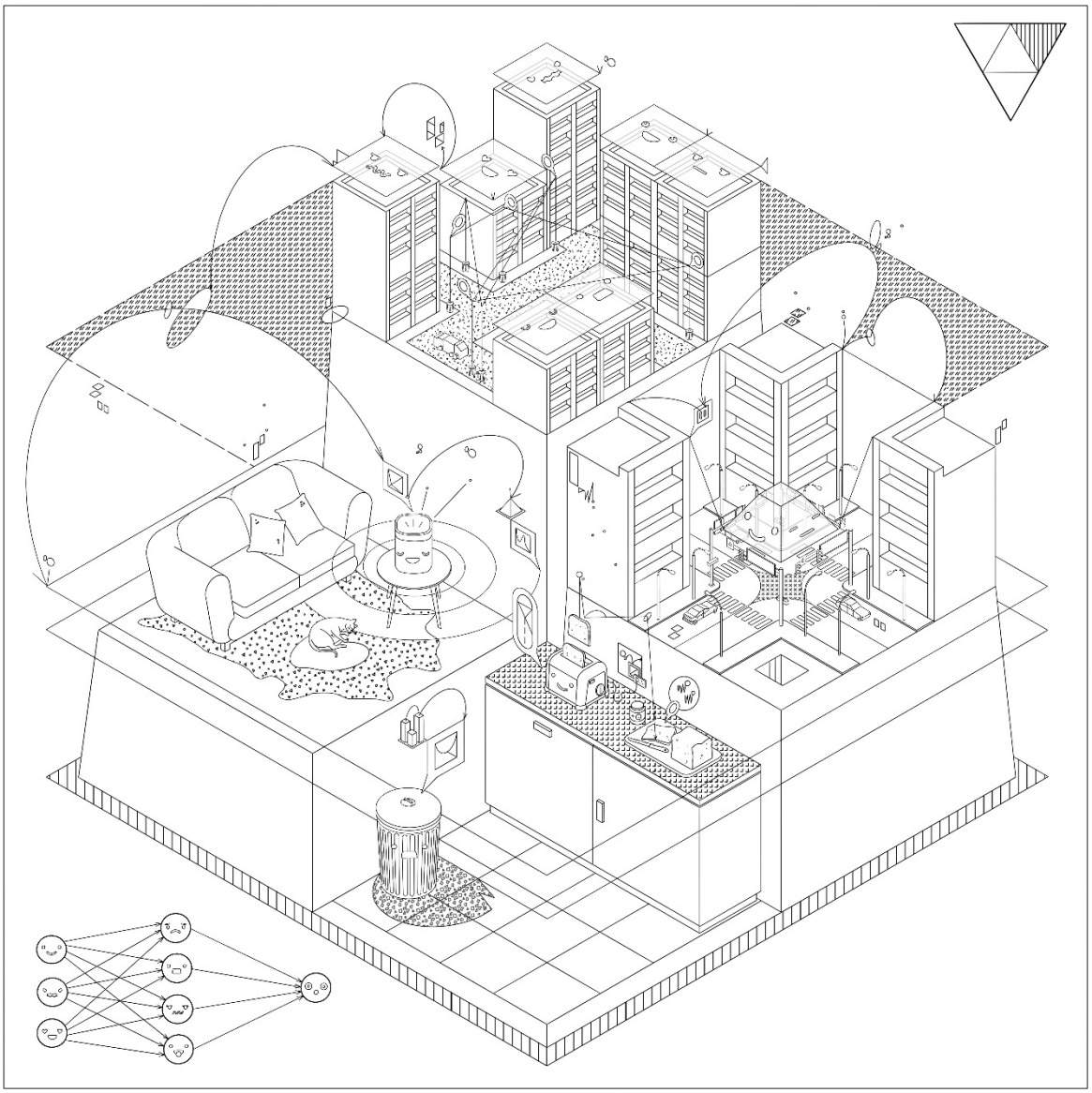
Dymaxion map, all of which privilege geometrical precision over the innate meaning of specific landscapes.

In *World of Wenrenhua,* players operate a 'Street View' style car, scanning the world around them through the logic of a landscape painting. As they drive the streets, they shape the environment, as a landscape of meaningful and interrelated objects. Objects, in turn, behave differently in proximity to other spatial fragments. Each of these elements produces blocks of urban space that are constantly shifting in relation to how they are viewed from a human-eye viewpoint. However, these elements also possess an interior logic that must be intuited by the player. Players view the world through each of the six fisheye lenses of the car's panoramic camera, using each camera's viewpoint to assemble a constellation of objects into the visual order of a *Literati* scene that follows the vehicle.

As players move through the game, they trace a path around the vehicle, where the aesthetics of Eastern art reshape the city into branches of distorted fragments, indicating where people have been, what they have viewed, and what meaning the objects have imparted on one another. As these paths cross, players must work together to reconcile their different viewpoints, reconfiguring the landscape of objects to create new visual orders within blocks of urban space. While the *Literati* reading of the landscape was introspective and moved beyond accurate physical reproduction, it also tended to be singular, as contained within the intellect of the artist. In *World of Wenrenhua*, the game-world itself becomes the repository of all the created meanings and associations that players produce together. Each version of a city, as played through the game, ultimately constitutes a new inner truth drawn from different points across the network.

Stupid City

> *Peel behind the curtain of the information that governs us! Wreak havoc with the internet of things! Collaborate with others to make the smart, stupid!*



Stupid City: drawing by You+Pea

Stupid City responds to the contemporary drive towards 'Smart City' technologies, framed as super-efficient futures: ones in which friction will be smoothed over in the service of capital, and citizens will be treated as data sources to be monitored by corporations. In such a situation, an understanding of the underlying systems is reserved for a digital elite, while the rest of society regards these systems as Villem Flusser's "black boxes"[25] -- in that everyone knows that these technologies do things, but they are unaware of the internal processes by which that happens. *Stupid City* is a game which takes us inside these procedures, to expose the levels at which our contemporary cities are folded into these new logics. Graeme

[25] Vilem Flusser, *Towards a Philosophy of Photography* (London: Reaktion Books, 2006), p.26.

Kirkpatrick argues "all video games are a kind of opening up of the machine."[26] Similarly, *Stupid City* allows players to peer inside and play with systems that will regulate our urban futures – from the serious to the absurd.

Rather than in a contemporary urban hacker game, such as *Watchdogs*, the game is played *as* an AI, or Artificial Idiot, whose expertise and influence grows as the player completes the tasks fed to it through big data interfaces. Of course, a human mind playing at being a mechanical or digital one is at least as old as the late 18th century Mechanical Turk.

Starting as the lowly brain of a smart toaster, the player must learn and grow to become an ever more complex intelligence, capable of understanding more complex tasks. As an AI, the player moves from the kitchen, to a Sonos sound system, to a self-driving car, becoming an intersection controller, graduating to regulate the waste of a whole city, before finally encountering the singularity. *Stupid City* lets us understand the processes behind the broad semantic designations of 'smartness.' Here, the game can be a foil for Ed Finn's contention that "big data and machine learning systems might generate spectacular results but offer no new human-readable insights into the subject at hand".[27] The game illustrates Finn's point by placing us within the system itself, to discover some sense of the deep connections being made.

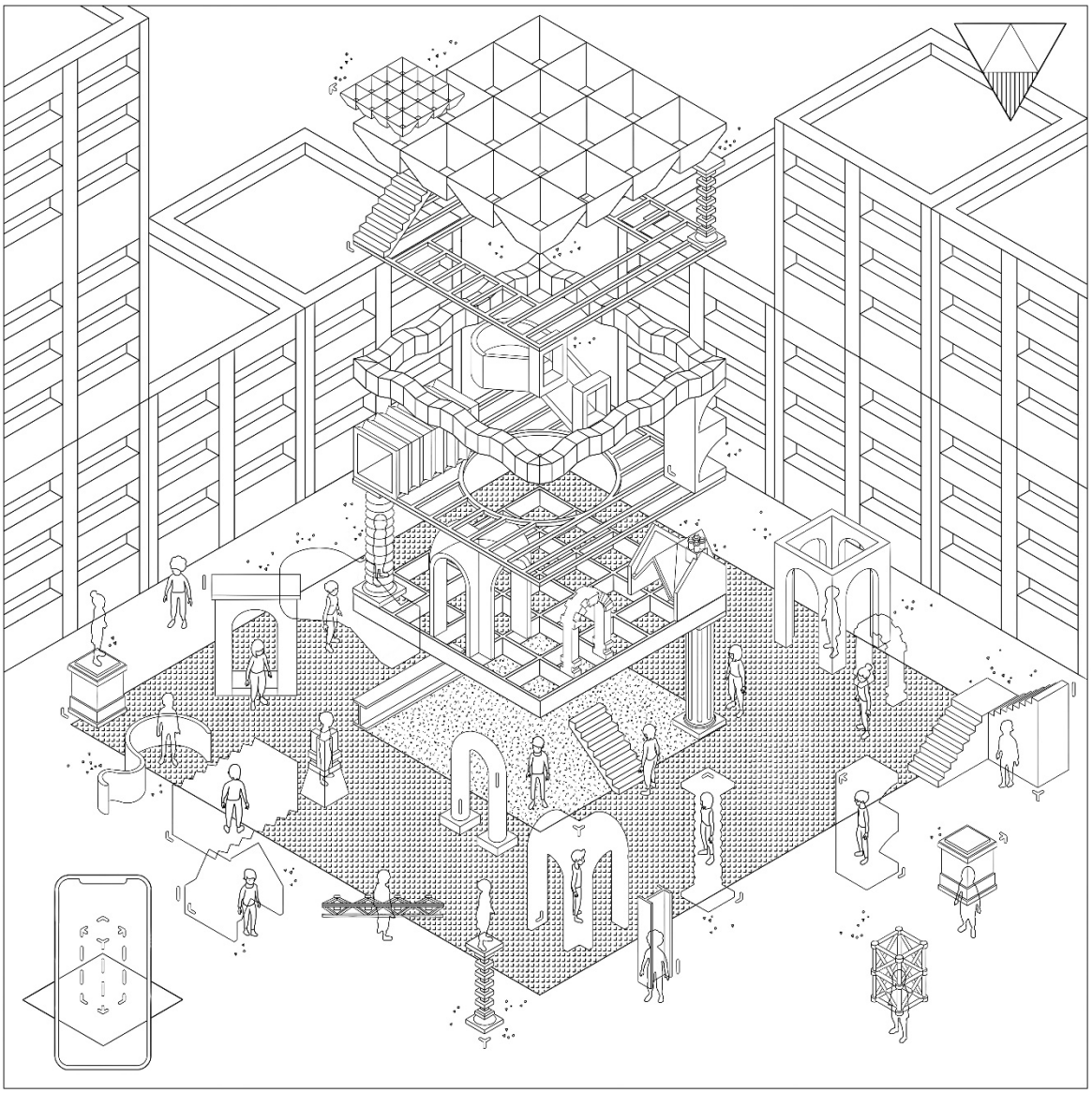
By making players be the AI itself, the game also explores the position of humans within these systems. *Amazon Mechanical Turk*, for example, connects humans to systems through the performance of small, discrete tasks that are difficult for computers to perform – to produce a hybridized, problem-solving network. In taking players inside the mind of the AI, *Stupid City* suggests that there will still be frictions, inconsistencies, and illogical moments in urban life that can only be addressed through the culture of the human mind.

[26] Graeme Kirkpatrick, *Aesthetic Theory and the Videogame,* 9.

[27] Ed Finn, *What Algorithms Want: Imagination in the Age of Computing* (Cambridge MA & London: MIT Press, 2018), 90.

Everyone is Architecture

I am a window. I am a stair. I am a monument. I am architecture.



Everyone is Architecture: drawing by You+Pea

Everyone is Architecture is a cooperative spatial game, using geolocational positioning and augmented reality to create a system for public participation. Inspired by Hans Hollein's famous declaration that "*Alles ist Architektur,*"[28] the game challenges what it means to construct architecture today, offering a new building environment that brings people together through collaborative design. As Hollein argued, architecture would be widened through technology in a way that new disciplines would melt into it. In doing so, everybody would become architects. *Everyone is Architecture* is played on smartphones and uses a multiplayer AR system, where users embody architectural elements as avatars. Through virtual overlays,

[28] Hans Hollein, "*Alles Ist Architektur*", *Bau: Schrift fuïr Architektur und Staädtebau 1/2 1968* (Vienna: Zentralvereinigung der Architekten Österrreichs, 1968).

participants become architectural components, working together to choreograph new spatial experiences.

The game utilizes 'geofencing' techniques through which digital boundaries are used to control the functionality of devices and systems in the physical world. Geofencing is typically used for security reasons, but *Everyone is Architecture* incorporates the imposition of virtual edges and enclosures into a game that produces environments situated across digital and physical layers. In the game, participants invent *geodoors*, *geofaçades*, *geoplazas,* and innumerable other possible or impossible structures. Using the game app, players can assign themselves to building materials, structures, and other architectural details, taking on the materiality and form of that object. As they move around geofenced 'build zones,' players can interact together in a physics-based building game by organizing with other players to collaboratively construct virtual architectures. As structures are built within the game, they appear in a larger map, showing new cities growing building-by-building atop the physical world.

By connecting the game to the one-to-one experience of space, *Everyone is Architecture* provides a collaborative design tool that reinvents top-down approaches. Before the invention of formal architectural drawing, architects would actively participate on the site with craftspeople to direct them. Here, each player directs themselves and others collaboratively. By choosing to represent themselves through architectural objects, all containing different in-game levels of performance, players can also tie their identity to the semiotics of architecture, assuming or altering the identity of built elements.

Everyone is Architecture allows for the game-world to be switched from a gravity-free to physics-based environment. Here, the position of players in relation to one another contributes to the structural stability of virtual buildings, inverting the normative understanding of the virtual as a weightless representation of reality. As players move, gather, jump, or lie down, the architecture they create will respond in turn by cracking, falling, or recomposing itself in unexpected ways. In *Everyone is Architecture*, spaces will collide, congregate, or combine into unique forms that are not possible in the physical world, thereby prototyping new languages for architecture that reflect our daily interplay between the physical and digital.