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Delaney, James

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Article

## Minecraft and Playful Public Participation in Urban Design

James Delaney

The Bartlett Development Planning Unit, University College London, UK; [james.delaney@blockbyblock.org](mailto:james.delaney@blockbyblock.org)

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### Abstract

Digital networks are transforming the way in which our built environment is planned, designed, and developed. Whilst many have heralded this technology as a solution to the problems of citizen engagement and participation in planning and design processes, the state of public participation in this field still arguably leaves much to be desired. In the last decade, academics and practitioners have explored the possibilities of 3D, multi-user, digital environments in planning and urban design contexts. These “inhabited virtual spaces,” where stakeholders are represented through digital avatars, hold the possibility of engaging a much wider audience in participatory processes, creating a more democratic and bottom-up process, and improving the outcome of community consultations. These multi-user environments can take many forms—and among the most promising are game environments. The benefits of using play and games in creative tasks and decision-making have been widely recorded, leading to the developing field of “serious games,” games which have been designed to accomplish a serious task. Despite this, there has been a reluctance to entertain the idea of appropriating more commercial and widely played games for serious tasks, rather than designing ones from scratch. One game in particular, Minecraft, has shown promising results as part of a participatory design methodology pioneered by UN-Habitat and the Block by Block Foundation. Through an analysis of this program, I will explore how the videogame Minecraft might be used as an innovative tool to improve public participation in urban design, whilst offering a virtual alternative to traditional models of consultation.

### Keywords

city-making; co-design; games; geogames; participatory approaches; playful city; public participation; urban planning

### Issue

This article is part of the issue “Gaming, Simulations, and Planning: Physical and Digital Technologies for Public Participation in Urban Planning” edited by Andrew Hudson-Smith (University College London) and Moozhan Shakeri (University of Twente).

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### 1. Introduction

It is widely accepted that public participation in urban planning and design is a good thing (Abbot, 1996). Not only does it help to create inclusive, accessible cities and public spaces, but it is a democratic right of citizens to be involved in how their cities are planned and designed (Sewell & Coppock, 1977). “Consultation, communication, and participation” have been at the forefront of planning discourse for over 60 years, and yet the level and quality of public participation still leave much to be desired (Hudson-Smith, 2003, p. 109). Balancing the needs of multiple stakeholders, communicating effectively between professionals and laypersons, and engag-

ing with all social groups in any community are just some of the problems facing public participation in urban design.

In recent decades, the leading response to the challenges of community consultation has come from information communication technology, or ICT. Digital solutions to these challenges come in many different forms, ranging from computer-aided design (CAD) visualisations and flythroughs to online discussion forums and digital questionnaires. This article will focus on virtual interactive environments, which can offer valuable solutions to the issues of visualisation, engagement, and participation in design consultations. Whilst existing research has focused on the possibilities of “serious games”—games

designed for a purpose other than entertainment—little attention has been paid to the opportunities of using existing commercial games. This article focuses on one videogame in particular, Minecraft, which is uniquely equipped for use in participatory design processes. Although Minecraft has been central to a long-running and highly successful program of public participatory design called Block by Block, there has been little critical analysis or academic enquiry of Minecraft’s usefulness in relation to the wider intellectual traditions of urban design and game studies. I believe that bridging this research gap can help to realise the game’s full potential in the field of urban design.

The aim of this article is to understand the potential of Minecraft as a valid and useful platform for delivering public participatory processes in urban design by answering the following research questions:

- Can Minecraft be used to communicate with and engage new audiences in urban design processes?
- What does Minecraft offer over existing digital tools? What are its advantages and disadvantages?
- Why is Minecraft useful? What characteristics and features of the game lend themselves to this particular use?
- What can Minecraft offer to participatory processes in a Covid-19 and post-Covid-19 world?

To answer these questions, I will start with a brief analysis of the existing use of Minecraft in public participation in urban design, and how this relates to the wider intellectual traditions of play and game studies. From here, I developed my own methodology for public participation with Minecraft, before demonstrating and evaluating this methodology via a digital workshop inside the game.

## 2. Public Participation in Urban Design

The idea of citizen participation originated in the 1960s with the advocacy planning movement in the US (Kurzman, 2000). Two key approaches to participatory design derived from this movement; the first, developed in the US, can be categorised as a “bottom-up” movement with the aim of empowering citizens and democratising the design process, as developed by Arnstein (1969) in her article “Ladder of Citizen Participation.” In Scandinavia in the 1970s, a “top-down” approach to participatory design took hold, striving towards a quality of design that better served its users (Spinuzzi, 2005). The publication of Arnstein’s seminal article “Ladder of Citizen Participation” in 1969 coincided with the release of the *Skeffington Report* in the UK (Ministry of Housing and Local Government, 1969). This was the first attempt to set out a systematic approach to community involvement in UK planning, influencing an entire generation of activists, planners, and designers. The report divided the public into two categories:

joiners (those interested in local issues and likely to participate in societal matters) and non-joiners (those who, although affected by planning decisions, are unwilling or unable to register their opinions). Fifty years later, the challenge of engaging society’s “non-joiners” is still at the forefront of citizen participation discourse.

Though revolutionary at the time, citizen participation is now commonly accepted as a key part of the urban design and management process by governments and local authorities. It is also widely agreed that the continuing growth and increasing density of cities demand the provision of high-quality public spaces which are “safe, accessible, healthy and sustainable” (Gehl, 2010, p. 68). To create such spaces, urban planners and designers must consider the needs and interests of different stakeholders, in particular the “end-user” of those spaces (Amado et al., 2009).

A less-discussed challenge of public participation in urban design is that of youth involvement. Young people are under-represented in consultations of all kinds, and their exclusion from decision-making processes often leaves this demographic socially and politically marginalised (Chawla et al., 2005). Despite more recent efforts from practitioners to include children in public participation (Bornat & Shaw, 2019; Tan, 2019; Wood et al., 2019), this remains a significant challenge to all stakeholders in participatory processes. The cities we design and build now will be inherited by today’s youth, and so there is a certain irony that this group is so often excluded from decision-making processes in urban design.

The ICT revolution has transformed the way in which both individuals and communities communicate, interact, and engage. This shift in methods of communication has generated both a need and opportunity to change the way in which we engage and invite the participation of the people that the built environment serves (Kohn, 2015). Having evolved from the early days of CAD visualisations and e-government, contemporary discourse on digital tools for participatory design and planning can be separated into two main categories: 2D platforms, such as online discussion forums, and 3D platforms, for instance, virtual reality environments.

## 3. Play the City

We are only human when at play. (Schiller, 1794, Letter XV)

The history of using games and play for serious tasks is rich, as is the literature that this idea stands on. Our philosophical understanding of games and play has been elaborated on by many thinkers—Schiller’s sentiment is echoed by Huizinga’s (1938) *Homo Ludens*, in which he presents play not as an aspect of culture, but culture itself as a manifestation of play. Caillois’ (1958) *Man, Play and Games* and Piaget’s (1962) *Play, Dreams and Imitation in Childhood* also offer a perspective on games

and play in relation to philosophy, sociology, and psychology, opening up a wide range of possible uses for games in real-life tasks.

The importance of play in creative processes was deeply appreciated by the Bauhaus, Weimar Germany's iconic modernist school. One of the school's professors, László Moholy-Nagy played a crucial role in understanding the relationship between play and creativity—and the importance of maintaining the spirit of play that is lost in adulthood. The work of Moholy-Nagy (1947), among others, identifies play as one of the most important companions of creativity, and an essential element of the creative problem-solving process.

Given the value of play and games in creative processes and decision-making, it is unsurprising that practitioners have sought to incorporate play into urban design processes. Design thinkers and theorists have looked at the relationship between games and spaces, conceptualising a form of “ludic architecture” (Walz, 2010), whilst practitioners have published handbooks and guides to the incorporation of games into architecture and planning processes (Dodig & Groat, 2019). Tan's (2019) Amsterdam-based practice, “play the city,” leads the field in developing game-based solutions to urban design and planning consultations. Whilst her team has experimented with a range of game types, most projects are analogue games such as board games and card games, rather than digital games (Tan, 2019). Digital games for public participatory processes are usually in the form of “serious games,” games designed for purposes other than pure entertainment. These have proven popular with researchers who develop their own serious games in response to the challenges of public participation in urban design (Ahlqvist & Schlieder, 2018; Scholten et al., 2017). Whilst serious games enable researchers to directly address the problems they are attempting to solve, their success is often limited by the logistical and financial difficulty of developing a good quality, enjoyable videogame. The use of commercially developed videogames has not been seriously considered as an alternative to serious games, though the use of games such as Minecraft to research a wide range of issues has started to change this trend (Delaney, 2019; Pearson, 2019; Tan, 2019).

#### 4. Minecraft

Notch hasn't just built a game, he's tricked 40 million people into learning to use a CAD program. (Sumter in Cheshire, 2012)

The easiest way to describe Minecraft is as a form of “digital Lego.” It is a sandbox game, an open world without a pre-determined course for players to follow. The player makes up their own rules and can play the game in any way they wish. It is also a voxel world. Voxels are 3D pixels—The entire Minecraft universe is set on a 3D grid and made up of blocks that can be placed or

destroyed by the player. Crucially, players can animate these blocks, and add characters and objects, all of which the player can interact with. The versatility of Minecraft allows new games and fully interactive experiences to be created within the game, which challenges us to consider Minecraft as a game design tool rather than a game itself—or, as Sumter (Sumter in Cheshire, 2012) of the MIT Media Lab describes, a CAD program.

Having been released in 2009, Minecraft is now the most successful videogame in history, with over 480 million players worldwide and 112 million monthly active players (Bailey, 2019). Minecraft's consistent growth since its release in 2009 demonstrates a long-lasting appeal which is retaining the game's loyal fanbase, whilst also attracting a growing young audience. Thanks to its versatility, Minecraft has been used as part of an innovative global public space program called Block by Block, a non-profit organisation and partnership between Mojang, the creators of Minecraft, Microsoft, and UN-Habitat. Block by Block uses Minecraft as a community participation tool in urban design, with a focus on poor urban communities in developing countries. Block by Block's Minecraft methodology sees the game as central to a community engagement process, whereby workshop participants design and build their ideal public space inside the game. A consolidated Minecraft model containing the most popular design ideas is then presented to local government and planners who translate the Minecraft model into a final plan. The Block by Block Foundation then funds the building of the public space according to this plan, making it the only project in the world where Minecraft-designed projects are built in reality. Since the first trial in 2012, over 100 projects have been completed in 30 locations around the globe. This program is also the subject of the only literature which discusses Minecraft as a public participation tool in urban design (Delaney, 2019; von Heland & Westerberg, 2015), which, despite the success of the program, remains limited.

In recent years, the role of architecture and architects in the design of video games has been given much attention; game developers have sought the advice and assistance of trained architects and architectural historians to create increasingly more convincing and engaging virtual environments (Saga, 2015). On the other hand, little attention has been paid to how video games and game developers might benefit the field of architecture. The Bartlett School of Architecture's “Videogame Urbanism” unit is a rare example of this. Led by architectural design studio You+Pea, this research unit promotes the use of videogames in architectural education and is concerned with how the production and play of games can provoke and assist conversations about urban issues in the real world (You+Pea, 2019).

Minecraft is often cited when the intersection of videogames and architecture is discussed; as a game primarily about “building,” it has an obvious connection to the field. However, when discussed, the

game's mechanics and technical properties are rarely mentioned. From my own experience using Minecraft, I hypothesise that there are several characteristics of the game which make it a valid and successful tool for urban design in the context of citizen participation.

Firstly, Minecraft is an adept, accessible, and effective tool for visual communication. It is quick to learn, easy to use, and, most importantly, can be used by professionals and non-professionals alike. Unlike many existing design and visualisation tools, Minecraft does not discriminate between those with architectural training and those without—an essential factor in the making of any open and democratic design consultation. Not only does Minecraft allow participants to easily see and engage with the content created by professionals, but it provides them with the agency to adapt that content and submit their own ideas and proposals in a 3D form. The flexible and adaptive nature of the game makes it easy to test and change proposals: Nothing is permanent in Minecraft and the speed with which such changes can be made contributes to its strength as a visualisation and design tool. Even those who are entirely unfamiliar with the game can easily be taught during a short teaching session, as proven by the methodology employed by the Block by Block program, which I will discuss later.

Another benefit to Minecraft's use in architectural design is that it offers a new way of designing and constructing within a digital workspace. When a user builds in Minecraft, they do so from the perspective of their avatar, a virtual character that represents the player inside of the game. All interactions within a Minecraft world must be done so through this avatar; to build a wall, you need to walk up to where you want the wall and place the blocks in front of you. Although this first-person view is a common interface for players to use in video games, it is rarely used in design software and professional digital tools. On the other hand, architects using CAD have a "birds-eye" view. As a result, it is extremely easy to lose a sense of scale or human perspective with traditional design software, whereas Minecraft users are entirely immersed in the environment they are designing, moving through their designs as they create them.

The "multiplayer" feature of the game allows users to access the same virtual environment remotely, from anywhere in the world, and interact with the environment in real-time. For instance, a change made by one user will be seen by all other users in the same environment without delay. This kind of responsive technology does exist in the professional field, with software such as BIM (building information modelling), however, Minecraft also allows users to view the avatars of other users as they adapt the environment. This makes collaborative design in Minecraft highly effective, as evidenced by projects like BuildTheEarth, with more than 210,000 people worldwide participating in one Minecraft mega-project (BuildTheEarth, 2020).

Minecraft is also unique in its offer of a playful approach to design. Whilst most digital design tools

have been designed specifically to create technical drawings, there is little consideration for conceptualization or experimentation of design ideas in a playful manner. The links between design and play are well documented; play is a natural mechanism for humans to solve problems—albeit whilst enjoying the activity at the same time. The similarity of the nature of play with real-life situations has generated a whole field of study, led by thinkers such as Johan Huizinga and Jean Piaget, which looks at how game and play can complement our real-life tasks. The concept of "playful design" is something that all Minecraft users are familiar with; Minecraft is a sandbox game without instructions, and when left without instruction the player is forced to come up with creative solutions to the design problems that face them in their own game world.

Finally, Minecraft allows users to create a narrative in and around the environments they build. Existing digital tools require users to create their designs on a blank digital canvas; prior to the user's interaction with the program, there is no existing context or environment. Conversely, Minecraft users design and build within a universe which has existing environmental features and assets; for instance, a day/night cycle allows players to experience their designs in changing lighting and weather conditions which roughly match real-life environments. Players can also add characters, animals, written books, and other content into their environments which they can adapt and interact with. When used in this way, Minecraft becomes a narrative-based design tool that facilitates the creation of inhabited, living digital spaces rather than the inoperative and unresponsive 3D models which are the product of traditional design software.

Inevitably, there are limitations to using Minecraft in a consultation process. Minecraft was not designed to be used in this way and the game's low resolution makes it ineffective for producing technical models or detailed proposals. There is also the possibility of distraction; younger children may struggle to focus on a set task inside a gameplay environment. The use of Minecraft also risks the potential segregation of different age groups; rather than mediating between older and younger participants, older participants may be limited by their technical competence, whilst younger participants who are more familiar with Minecraft, or game environments, in general, would dominate the process.

## 5. UCLCraft

To test these assumptions, I designed my own Minecraft participatory design workshop. Due to the Covid-19 situation, it was not possible for me to design a workshop that was directly comparable with Block by Block's in-person workshops—Mine would have to be a virtual workshop rather than a physical one. My workshop was of an experimental type, with a purely speculative design brief. My primary interest was how participants engaged

with the Minecraft tool, more so than what they ended up building with it.

For my workshop, University College London’s (UCL) Main Quad was used as the context for a speculative design brief, to create an outdoor learning space inside the quad itself. This site was chosen to allow comparison between the responses of participants who were totally unfamiliar with the Quad with those who were familiar with it, such as UCL members. From this, I could investigate the nature of a form of “crowd-sourced” participatory design, including participants from anywhere in the world instead of exclusively local participants. It is also a well-documented space that participants who were unfamiliar with it could easily research and find online references. Thirdly, the Quad itself is currently home to the Main Quad Temporary Pop-Up (Figure 1), a five-year facility providing additional learning space in the heart of the UCL campus, giving some real-life relevance to the speculative brief. Finally, when built at a 1:1 scale (where one Minecraft block is equal to one metre), the Quad is an ideal size—big enough to accommodate interesting and detailed proposals, but small enough so that it would not take participants too long to build their designs.

Having selected my site, the first step was to build the existing Main Quad in Minecraft. This was done by importing a scaled satellite image of the Quad as a flat layer and then building upwards using photographic references. The use of community-made building tools such as “WorldEdit” greatly sped up the process, allowing for sections of the build to be copied and pasted, and for one side of the build to be mirrored due to its symmetrical design. The build (Figure 2) was complete after a few hours, after which point I could set up the workshop environment itself—a Minecraft server.

A Minecraft server is a multi-player virtual environment which can accommodate multiple users in the same digital space, each of whom can access the server entirely remotely. In the process of setting up a Minecraft server, the server operator can determine how the environment is laid out, how users can interact with that environment, and the rules which those users are bound to. Assuming that most of the workshop participants would be strangers (to myself and each other), it was important that each participant would have their own model to work on, which would be protected from others to avoid any “griefing” (destruction of Minecraft environments by another player). Despite this, I still wanted participants to be able to see each other’s designs and have the option to work in groups on a single model if they chose to. To achieve this, I created a “plots” system, dividing the Minecraft world into a grid of plots (Figure 3). Each participant would be automatically assigned their own plot upon logging in, which would then be populated by the pre-built model of the UCL Main Quad. Participants were not able to build on other people’s plots unless consent had been given by that person in order to collaborate.

The workshop was open for five days and the server was live 24/7. All of the information required for users to take part was included in the server itself so that participants could drop in at any time to initiate their design—and could also leave at any time (with the server automatically saving their progress). By advertising on a number of platforms, I hoped to attract a range of participants—who may or may not be familiar with the Main Quad, who may or may not have a background in architecture and urban design, and who may or may not be at all familiar with Minecraft.



**Figure 1.** UCL’s Main Quad Temporary Pop-Up. Source: UCL (2018).

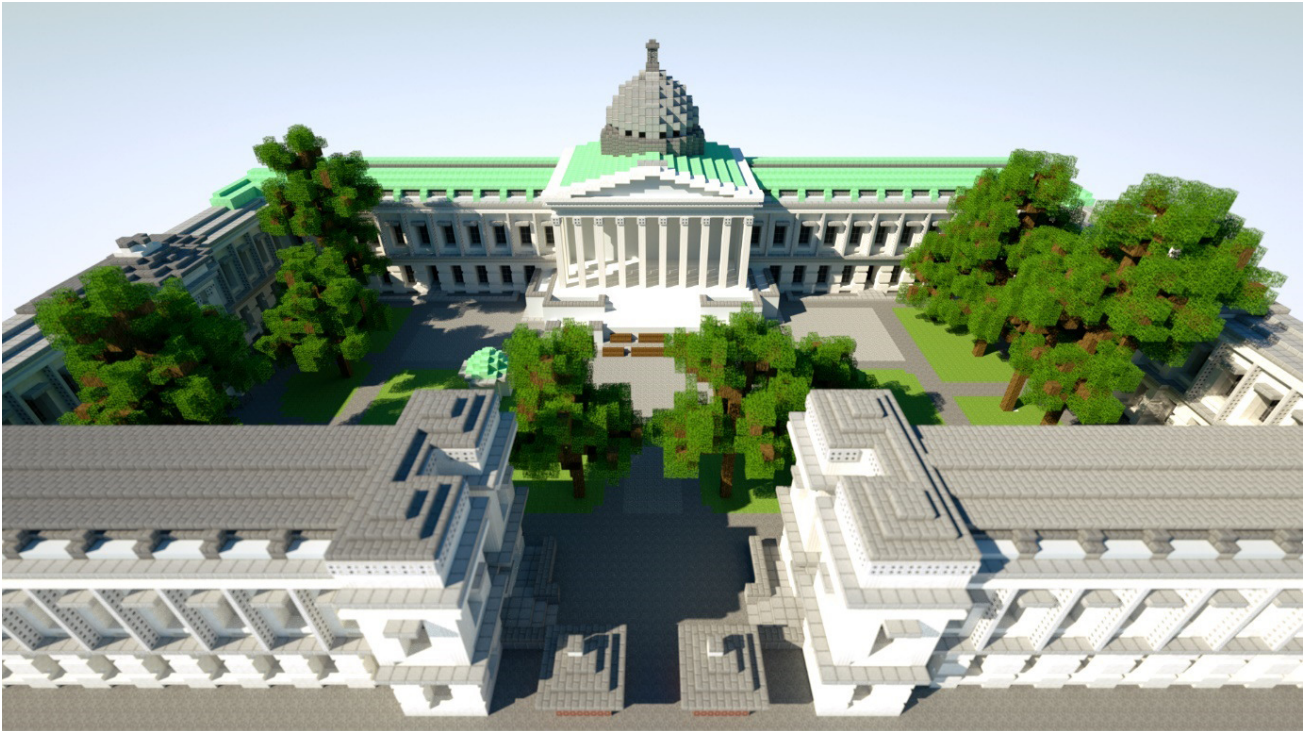


Figure 2. UCL's Main Quad: Minecraft model.

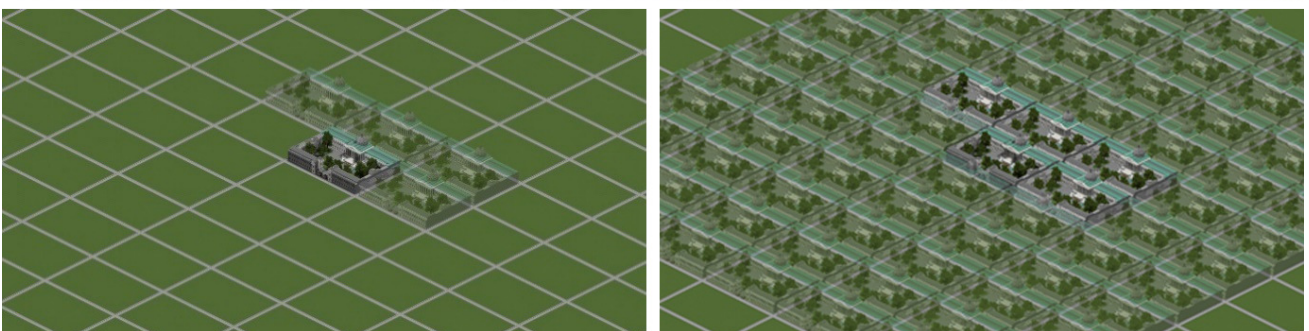
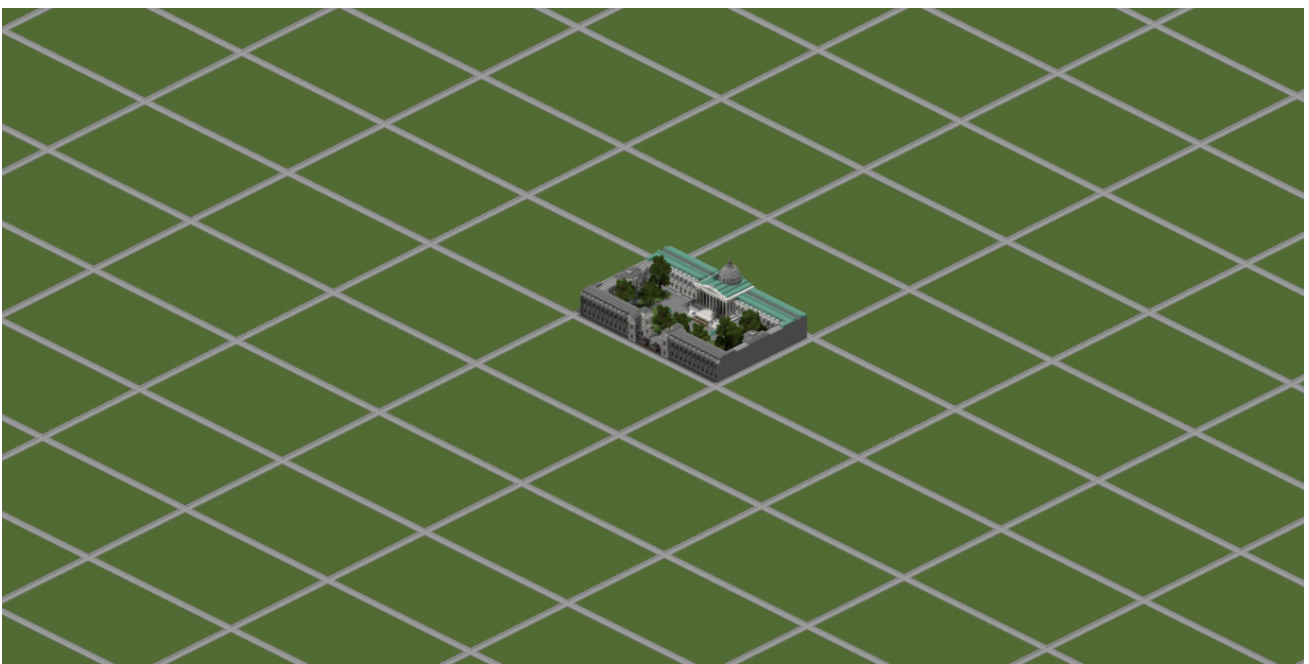


Figure 3. Workshop server, plots system.

Once participants joined the server, they would “spawn” in a plot at the centre of the Minecraft world. As well as the Main Quad recreation, this area contained information on how to navigate the server, the design brief, and information about the original Quad itself. Whilst the workshop brief was designed to be open-ended, I introduced some basic rules restricting participants’ building choices within their plot. Any changes to the existing Main Quad build were disabled, on the grounds of the Quad being Grade I and II listed. This forced participants to build inside of the Quad grounds, rather than editing any of the buildings.

The Minecraft server had been programmed to track a number of data points from each participant, such as the number of participants who joined, the times at which they joined, how long they spent on the server, and how many times they returned. In order for users to be assigned a plot and start building, they were required to complete an automated questionnaire first, which was designed to establish their experience with Minecraft, their familiarity with the Main Quad, and whether they had any formal training in architecture, urban design, or a related field. Of the 105 users who joined the server, 72 completed the initial questionnaire, and can therefore be considered participants.

The data from the questionnaire (Figure 4) shows that the vast majority of participants had no architectural or urban design training, were not familiar with the UCL Main Quad, and were already familiar with Minecraft. Only three of the participants were Minecraft novices, 10 were familiar with the Quad, and 10 had an architectural or urban design background. The questionnaire also showed an age range of 12 to 49 across participants, with an average age of 18. The majority of participants said they were from the US (14.4%), followed by the UK (9%), with the rest from 21 other countries.

Throughout the workshop, screenshots were taken of participants’ designs as they were being built (Figure 5). There was an impressive variety and quality of the Minecraft builds, with most participants making a clear effort to engage with the brief and design serious proposals.

Once participants were finished with their design, they were prompted to fill out another automated questionnaire, recording their experience of using Minecraft. Of the 72 participants who filled out the initial questionnaire, 40 submitted responses to the final questionnaire having completed their designs. Responses to most questions were almost unanimous, with all participants saying “yes” (with a small number of “maybe”) to the following questions:

- Did you enjoy the workshop?
- Was Minecraft useful to visualize different ideas?
- Were you able to express your design ideas?
- Was Minecraft easy to use?
- Would you join future workshops with Minecraft?

### 5.1. Results of the Workshop

In describing the most and least successful aspects of the workshops there was a wide range of responses. In describing the most successful aspects, the most common responses were on the themes of:

- Easy to visualise different design ideas and an immersive view of the environment;
- Introducing urban design to a new audience;
- Creating a comfortable environment and collaborating with others.

Regarding the least successful element of the workshop, half of the participants commented on the difficulty of adding realistic details due to Minecraft’s “blockiness.” A number of participants also expressed that they would have preferred to have more advanced building tools made available to them in order to speed up their design process. Twenty-nine out of 40 participants suggested Minecraft could be a valid alternative to more traditional consultation methods, with the remainder arguing that it should be used in addition to (not in place of). Both the initial and final questionnaires suggest a highly positive response to most aspects of the workshop and are a strong endorsement of Minecraft’s value as

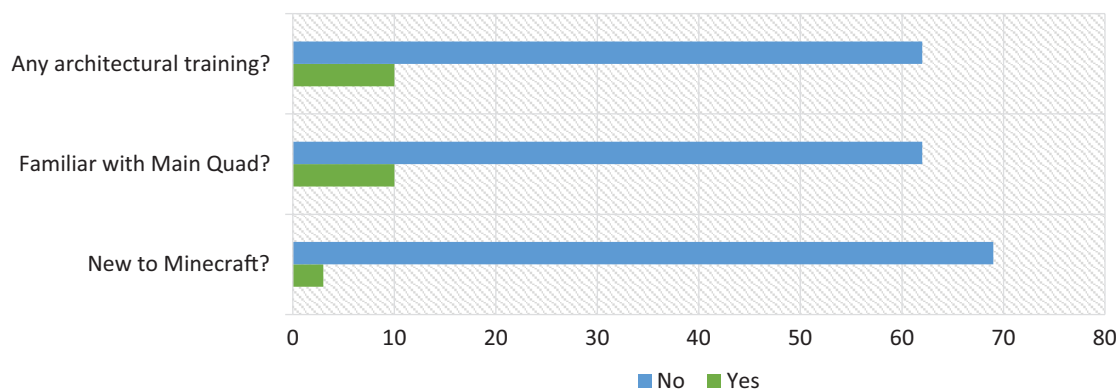


Figure 4. Initial questionnaire.



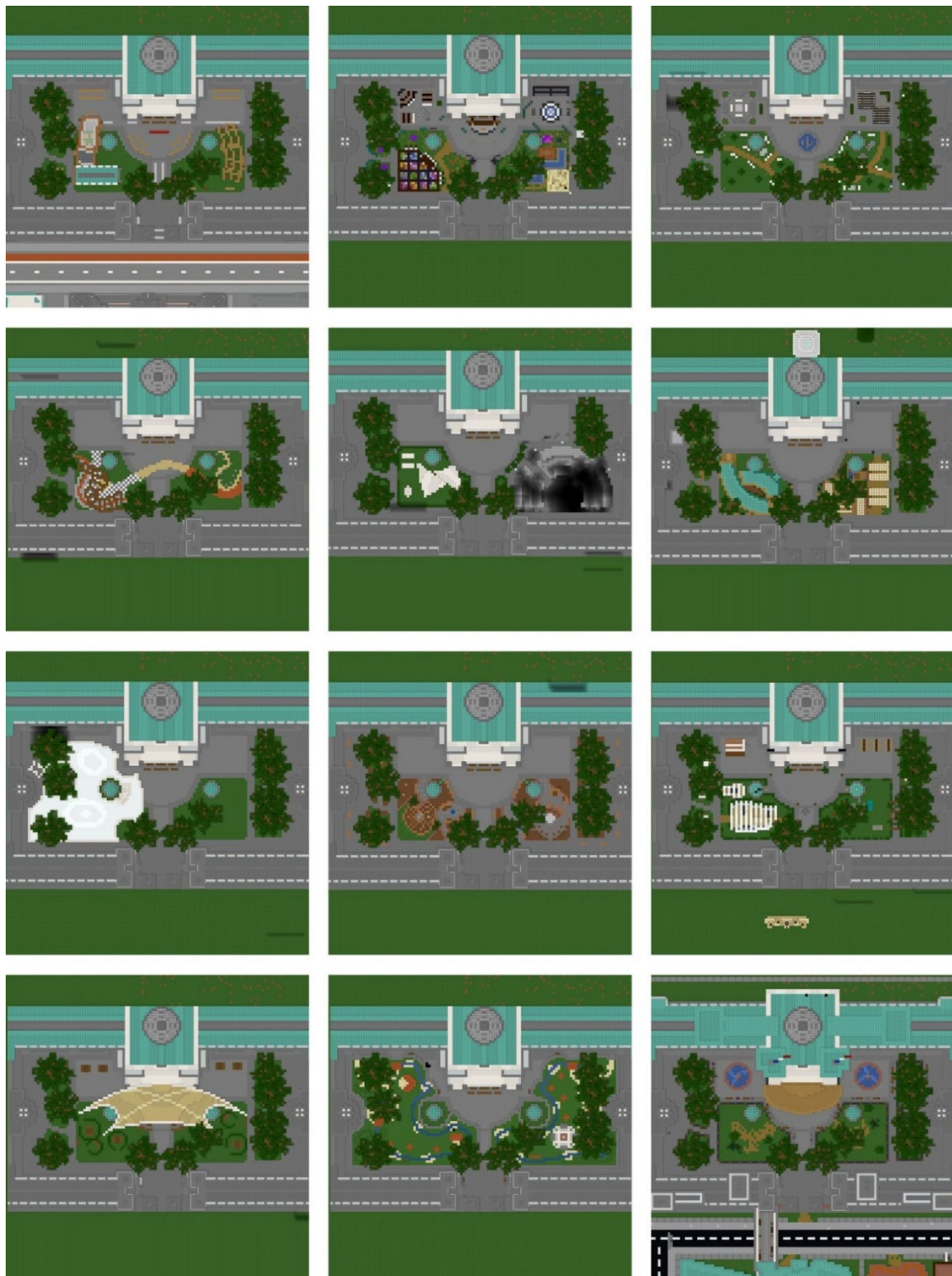


Figure 5. Sample of Minecraft plots: Plan view.

an accessible, fun, and effective visualisation and design tool. The background of participants must be taken into account, however, with the vast majority having had previous experience using Minecraft.

In both the questionnaires and plot builds themselves, there was evidence that participants had con-

ducted at least some additional research on the Main Quad. There was no suggestion to do this, and it was encouraging to see participants explore the wider context of the brief unprompted. In some cases, participants went beyond the brief by building some of the Main Quad’s surrounding context.

Some participants took this a step further and used features such as the game’s weather patterns to invoke a digital environment that represented Central London. As a light-hearted comment on the UK’s notoriously rainy weather, one participant permanently changed the weather cycle to “rain” on their plot, meaning that both themselves and any visitors could only experience their design amidst a digital downpour in Minecraft (Figure 6).

Whilst some participants displayed a clear interest in the history, heritage, and context of the chosen site, there were some who chose to recontextualize and relocate the UCL Main Quad by building a fictional setting surrounding it. One participant filled the entire available plot by adding a newly imagined road to replace Gower Street and designing new buildings opposite the Quad’s entrance. Furthermore, they made significant changes to the historic structure of the Quad itself. Whilst the server rules prevented participants from editing existing blocks, this participant was able to re-design the building by adding a façade around the existing build. This kind of inventive defying of the rules represented some level of frustration amongst a small number of participants regarding what they could or could not do. This is perhaps unsurprising for more experienced players, as for many Minecraft is a game defined by its lack of rules and total, unrestricted creative freedom.

A measure of success can be found in the age range of the participants, with an average age of 18. The youngest participant was 12, and there were 16 participants under the age of 16. This demonstrates a high level of engagement with a young audience, largely thanks to Minecraft’s popularity with this age demographic. In answering the final questionnaire, 85% of participants said they would join a future urban design work-

shop if Minecraft was used, with the remaining 15% saying maybe. This makes a strong case that the tool is highly effective at engaging young people, who are notoriously difficult to attract, in participatory design processes.

A challenge of attracting such a young audience can be the difficulty of maintaining the maturity required to engage in a process such as this. Although a design brief had been set, I was fully expecting many participants to ignore this entirely and enjoy creating their own designs irrelevant to the site and brief. Although some designs were far more playful than practical, all the participants bar one engaged with the brief in some way by adding spaces for outdoor learning or teacher. The participant who did not (also a UCL student), built a giant trampoline and airborne assault course inside the Quad (Figure 7). Whilst this may seem incongruous to its surroundings and unhelpful to the brief, this playful approach should not be instantly dismissed. Minecraft provides a “safe space” for participants to experiment and test ideas without fear of criticism or failure.

When asked what the least successful element of the workshop was, by far the most frequent answer was that Minecraft was too blocky to add detail or create realistic designs. As the Quad was built at a 1:1 scale, the smallest module/block that participants could place would be 1 m<sup>3</sup> in reality. As the user SHORKS put it: “It’s pretty challenging to express intent for small details in Minecraft at least for me. That makes it hard to really flesh out an idea and consider how it could be made in reality.”

Yet, when considering that on average participants spent three hours and 17 minutes on their designs, I would argue that this was one of Minecraft’s greatest strengths as a design tool. The lack of possible detail meant that participants were not bogged down



**Figure 6.** Minecraft plot by PixelatedSun: UCL Quad in the rain.



**Figure 7.** Minecraft plot by kennC05: Trampoline and assault course.

in creating accurate and realistic representations of their concept. Instead, Minecraft was used as a three-dimensional sketching tool and proved useful for quickly depicting an idea or concept in the virtual space. In some cases, participants would supplement their designs with a written explanation (using a Minecraft sign) to remove any doubt (Figure 8).

Although the plot layout of the Minecraft world allowed each participant to work on their individual design, participants were able to work as groups if they

wished. A plot owner could “approve” other users, thus giving them access to their own plot. In several cases, participants chose to work together to produce one design. Most teams consisted of two participants, the largest consisting of four. Given the remote nature of the workshop, it was surprising to see participants who had never met before deciding to collaborate in this manner.

Many participants commented on the positive social aspects of the tool; for instance, being able to visit other participants’ plots, talking, and, in some cases,



**Figure 8.** Minecraft plot by BWEvents1: “Water fountain... I guess.”

co-creating with them. Eighty-five per cent of participants talked with each other and the 3,800 messages sent suggest a high degree of social activity. In answering whether they enjoyed using Minecraft, 18% of participants specifically mentioned that interacting with other players was an enjoyable feature, with some requesting that they would have preferred a system that made visiting other plots easier. As inhabited virtual spaces, Minecraft servers are highly sociable in their nature, and this was clearly a great benefit to the workshop. In hindsight, this could have been improved by running the workshop for a shorter term, or perhaps only specific hours on each day. This would have led to a higher concentration of concurrent users, fostering a livelier and more collaborative environment. One participant suggested the following: “I would suggest implementing a hub in-game for people to meet and chat in order to exchange ideas and discuss issues and constraints.”

Whilst the discussions in the workshop were largely spontaneous between participants, it would have certainly helped to have a dedicated space for discussion and meet in-game. Allocating a specific time for users to present their ideas to each other could have also helped with the cross-pollination of design ideas.

Yet another element of the workshop results worth discussing was the creative use of narrative and storytelling within participants’ plots. Participants were able to use Minecraft not simply as a design tool, but as an immersive, interactive environment through which other ideas could be expressed beyond a design schematic. Participants’ abilities to place characters and animals, readable books, and change environmental factors such as time of day and weather opened up a much wider range of creative possibilities than most other 3D tools afford. Furthermore, it helped to create environments that were enjoyable to explore and interact with.

## 6. Conclusions

This study confirms that Minecraft has a great deal to offer as a public participation tool in urban design and planning. The outputs of the UCLCraft workshop demonstrate that the use of Minecraft can help engage a wide audience (youth in particular) with consultation processes. Furthermore, the tool itself provides a useful visualization of existing sites and is an accessible platform for participants to present their own opinions as 3D virtual designs.

Minecraft improves upon the existing uses of 3D multi-user environments in several ways. Firstly, it is a well-established and highly popular platform, especially with a younger age demographic. The act of including Minecraft in a design consultation helps enormously in attracting the “non-joiners” (Ministry of Housing and Local Government, 1969) to the process. The importance of a user-friendly interface cannot be underestimated in the use of technology in democratic processes, and, in this regard, Minecraft is well-suited to the task. The total

amount of time spent by users in my workshop (14 days and nine hours), confirms that Minecraft is not only effective at attracting participants, but also maintaining their attention and interest.

Secondly, when used in the right way, Minecraft offers a unique opportunity for a truly collaborative and inclusive co-design process, especially when there are multiple users in the same virtual space at the same time.

The results of my workshop confirm that a number of Minecraft’s features and core characteristics enhance its value as a participatory design tool. Some of these features were highlighted by the participants in their questionnaire responses, the benefit of Minecraft’s first-person point of view for instance. The low-resolution, “blocky” nature of the game was also valued by participants as it allowed them to quickly sketch ideas without “wasting time in details” (as described by user *italosena*).

Other useful features of the game became apparent through my observations of participant activity throughout the workshop. The ability to add narrative and storytelling elements to their designs helped many participants create more immersive experiences within their Minecraft models. The benefits of Minecraft’s playful nature can also be seen in the creativity of participants’ proposals. In a number of more fantastical proposals, participants were not limited by regulations or practical considerations, even finding ways to circumvent the boundaries that had been put in place.

Urban and societal change is typically a slow process. In this respect, Minecraft can be used as a catalyst to improve the efficiency and quality of decision-making in planning and urban design. There is still a long way to go before Minecraft would be considered a mainstream participatory process; advocates of it, such as the Block by Block Foundation, need to engage more with universities, NGOs, and policy-makers to raise awareness of the tool and its benefits.

Despite its benefits, Minecraft is not a panacea for the inherent difficulties of community consultation. In its implementation, it must be used in combination with other tools and methods, some of which can be integrated into the game, and some of which are best carried out in the physical rather than virtual realms.

One major shortcoming of this research was the lack of variety in my own workshop’s participants. Participants were overwhelmingly experienced Minecraft players who were unfamiliar with the site in question. This is in direct contrast to the participants of the Block by Block workshop, who were completely new to Minecraft and local to the site. This makes it difficult to draw comparisons between the two, as the positionality of both groups of participants was so different. To remedy this, I should have ensured participation from groups outside the Minecraft gaming community—for instance, targeting student groups.

Furthermore, the term of the workshop was too long. With participants spending an average of just over three

hours on their designs, the availability of the server for 120 hours was not needed and only served to lower the average population of the server at any one time, reducing the opportunity for collaboration and interaction between participants. The workshop could also have contained more information about the site and the context of the brief. Although many participants successfully researched the site online, by integrating images, video, and text into the “spawn” area of the Minecraft world, I could have helped participants better understand the environment they were being asked to re-design.

Finally, my workshop has shown that Minecraft is suitable for hosting an entirely remote participatory process, an advantage that has particular relevance in the current Covid-19 climate. This is not to say that a remote Minecraft workshop is an improvement on a physical one; had circumstances allowed, I would have still preferred to carry out my research at a face-to-face Minecraft workshop. Nonetheless, it is a useful tool when this is not an option. Furthermore, it presents a unique opportunity to engage with citizens from anywhere in the world. Inevitably, this means that not all participants will have local knowledge of the site being discussed; however, it does allow for a much greater number of participants who are able to bring in a wide variety of cultural and societal influences into the discourse.

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### Conflict of Interests

This article discusses the work of the non-profit Block by Block Foundation, which I am a serving board member of. As a voluntary position, this does not present a conflict of interests; rather, I have been able to use my knowledge and experience from within Block by Block to further my research.

### References

- Abbot, J. (1996). *Sharing the city—Community participation in urban management*. Routledge.
- Ahlqvist, O., & Schlieder, C. (2018). *Geogames and geoplay: Game-based approaches to the analysis of geoinformation*. Springer.
- Amado, M. P., Santos, C. V., Moura, E. B., & Silva, V. G. (2009). Public participation in sustainable urban planning. *International Journal of Civil and Environmental Engineering*, 3(5), 597–603.
- Arnstein, S. (1969). A ladder of citizen participation. *Journal of the American Planning Association*, 35(4), 216–224.
- Bailey, D. (2019). *Minecraft player count reaches 480 million*. PCGames. <https://www.pcgamesn.com/minecraft/minecraft-player-count>
- Bornat, D., & Shaw, B. (2019). *Neighbourhood design: Working with children towards a child friendly city*. ZCD Architects.
- BuildTheEarth. (2020). *We are recreating the entire planet in Minecraft*. <https://buildtheearth.net>
- Chawla, L., Blanchet-Cohen, N., Cosco, N., Driskell, D., Kruger, J., & Malone, K. (2005). Don’t just listen—Do something! Lessons learned about governance from the growing up in cities project. *Children, Youth and Environments*, 15(2), 53–88.
- Cheshire, T. (2012, November 22). Want to learn computer-aided design (CAD)? Play Minecraft. *Wired*. <https://www.wired.co.uk/article/minecraft>
- Delaney, J. (2019). Democracy, video games and urban design. In A. Gerber & U. Gotz (Eds.), *Architectonics of game spaces: The spatial logic of the virtual and its meaning for the real* (pp. 277–292). transcript.
- Dodig, M. B., & Groat, L. N. (2019). *The Routledge companion to games in architecture and urban planning: Tools for design, teaching, and research*. Routledge.
- Gehl, J. (2010). *Cities for people*. Island Press.
- Hudson-Smith, A. (2003). *Digitally distributed urban environments: The prospects for online planning* [Doctoral dissertation, University College London]. UCL Discovery. <http://www.casa.ucl.ac.uk/andy/thesis.pdf>
- Kohn, M. (2015). *Designing democracy and democratising design*. The Design Commission.
- Kurzman, J. (2000). The politics of representation: Social work lessons from the advocacy planning movement. *Advocates’ Forum*, 6(1).
- Ministry of Housing and Local Government. (1969). *People and planning: Report on the Committee on Public Participation in Planning (Skeffington Report)*. Her Majesty’s Stationery Office.
- Moholy-Nagy, L. (1947). *The new vision: Abstract of an artist* (4th ed.). Wittenborn Schultz.
- Pearson, L. (2019). Videogame urbanism. In A. Gerber & U. Gotz (Eds.), *Architectonics of game spaces: The spatial logic of the virtual and its meaning for the real* (pp. 293–312). transcript.
- Saga, M. (2015). *What it’s like to be an architectural consultant for Assassin’s Creed II*. ArchDaily. <https://www.archdaily.com/774210/maria-elisa-navarro-the-architectural-consultant-for-assassins-creed-ii>
- Schiller, F. (1794). *Letters upon the aesthetic education of man*. Oxford University Press.
- Scholten, H., Fruijtier, S., Dias, E., Hettinga, S., Opmeer, M., van Leeuwen, W. S., Linde, M., Bos, S., Vaughan, R., van Kaam, H., van Manen, N., & Fruijtier, C. (2017). Geocraft as a means to support the development of smart cities, getting the people of the place involved—Youth included. *Quality Innovation Prosperity*, 21(1), 119–150. <https://doi.org/10.12776/qip.v21i1.784>

- Sewell, W. R., & Coppock, J. T. (1977). A perspective on public participation in planning. In W. R. Sewell & J. T. Coppock (Eds.), *Public participation in planning* (pp. 1–14). Wiley.
- Spinuzzi, C. (2005). The methodology of participatory design. *Technical Communication*, 52(2), 163–174.
- Tan, E. (2019). Play the city. In A. Gerber & U. Gotz (Eds.), *Architectonics of game spaces: The spatial logic of the virtual and its meaning for the real* (pp. 265–276). transcript.
- University College London. (2018). *Pop-up main quad*. [https://www.ucl.ac.uk/library/sites/library/files/styles/owl\\_carousel/public/pop-up-main-quad-01.jpg](https://www.ucl.ac.uk/library/sites/library/files/styles/owl_carousel/public/pop-up-main-quad-01.jpg)
- von Heland, F., & Westerberg, P. (2015). *Using Minecraft for youth participation in urban design and governance*. UN-Habitat.
- Walz, S. P. (2010). *Toward a ludic architecture: The space of play and games*. ETC Press.
- Wood, J., Bornat, D., & Biquelet-Lock, A. (2019). *Child friendly planning in the UK: A review*. ZCD Architects.
- You+Pea. (2019). *Videogame urbanism*. <https://www.youandpea.com/vushowcase>

### About the Author



**James Delaney** is the chairman of the Block by Block Foundation, a non-profit partnership between UN-Habitat, Mojang, and Microsoft which uses Minecraft as a community participation tool in urban design. James is also the founder and managing director of BlockWorks, an international design studio which has pioneered the use of Minecraft as a design tool for creating immersive digital experiences. James studied architecture before completing his MRes in interdisciplinary urban design at the Bartlett's Development Planning Unit.