Planting Imagination

Community Co-Design for Chinatown Toronto

**Executive Summary
July 2023**

About the Project

Planting Imagination ran from April 2021 to March 2023 (during a pandemic recovery period) in Toronto's Chinatown West neighbourhood. It brought together a group of local Chinatown community organizations and Toronto Metropolitan University researchers to recruit 60 diverse 'Chinatown Activators' (CAs) and six Facilitators from across the community.

Community Facilitators and Activators used virtual reality (VR) technology to co-design a local community garden and develop new visions for the future of Chinatown. This process strengthened community solidarity to enable local residents to more readily steward the future of the built environment and respond collectively to challenging events like the pandemic.

Context

Pandemics not only impact individuals' physical health, but pose long-term challenges for public health, community mental health and the built environment. An adequate response and recovery plan requires interdisciplinary collaboration and innovation that extends beyond the narrow scope of physical health. Planting Imagination brought together architects, cultural psychiatrists, interior designers, critical race theorists and public health scholars to address and unsettle dominant responses to COVID-19 challenges, including the impact of racism, stigma and exclusion on individuals, communities and neighbourhoods.

The site of this work was the neighbourhood of Chinatown West in downtown Toronto. Chinatowns work with what they have and create what they need through ecosystems of mutual aid. They're member-led, innovatively resourceful and above all, inclusive—characterized by radical acts of community care against a system which continuously excludes them. The Planting

Imagination Team believes that the future of sustainable city design must be a collaborative act, so this work set out to explore new processes of working, designing and building together. Bringing together diverse disciplines and practices, Planting Imagination developed models of therapeutic VR co-creation through community co-design and co-fabrication sessions that prioritized the communities and neighbourhoods disproportionately impacted by COVID-19.

This project provided an opportunity for community members to transform their physical environments as a direct action against the deterioration of the physical environment of Chinatown West, due to COVID-19 related impact (i.e. restriction measures, racialized discrimination, disproportionate infections amongst its senior community members, exacerbated gentrification and more).

Using cutting-edge VR visioning and the principles of co-design, the Chinatown West community was provided with a platform to virtually envision the future of their own community and neighbourhood as a collaborative process. In doing so, they explored how we might transform the way we build and mobilize communities, (re)construct community identities, and strengthen the community's resilience to promote social justice and equity.

Project Investigators

Nominated principal investigator:
Prof. Linda Zhang, *Waterloo University School of Architecture (previously Toronto Metropolitan University (TMU) School of Interior Design)*

Co-applicants from PROTECH (Pandemic Rapid-response Optimization To Enhance Community-resilience and Health):
- Dr. Josephine P. Wong, *Ph.D., Professor, Daphne Cockwell School of Nursing, Toronto Metropolitan University, PROTECH*
- Dr. Kenneth P. Fung, *MD, Psychiatrist and Clinical Director, Toronto Western Hospital, University Health Network, Associate Professor, University of Toronto, PROTECH*
- Dr. Alan Tai-Wai Li, *MD, Physician, PROTECH*
- Dr. Mandana Vahabi, *RN, Ph.D., Professor, Daphne Cockwell School of Nursing, Toronto Metropolitan University, PROTECH*

Formal community partnerships:
- Danny Anckle & Beryl Tsang, *Cecil Community Centre*
- Nadine Villasin Feldman & Sarah Tumaliuan, *Myseum of Toronto*
- Veronica Ing, *Asian Queer Alliance Toronto (AQUA)*

Community organizers affiliated with various Chinatown grassroots organizations and community groups (not formal partnership):
- Amy Wang, *Long Time No See*
- An-Qi Shen, *Cecil Plant Friends*
- Bryn Rieger, *Cecil Plant Friends*
- Chiyi Tam, *Friends of Chinatown Toronto*
- Christie Carrière, *Tea Base*
- Dany Ko, *Asian Community AIDS Services*

Project Collaborators:
- Tyler Fox, *Community Engagement & Impact Evaluation Consultant*
- Janak Alford, *Technology Ecosystem Designer*
- Dr. Jimmy Tran, *Research Technology Officer, Toronto Metropolitan University Library*
- Michael Carter-Arlt, *Immersive Technology Specialist, Toronto Metropolitan University Library*
- Kelly Prevett, *Social Worker (gender-based violence), Mental Health Counsellor, Humber College*

Student researchers from Toronto Metropolitan University:
Reese-Joan Young (project coordinator), Lauren Chan, Alice Huang, Jialing Li, Michelle Ng, Victoria Nip, Vicky Wei Wang, Shuning Xie, Meimei Yang and Annabelle Zu

Translators:
Ashley Yim
Hanh Le

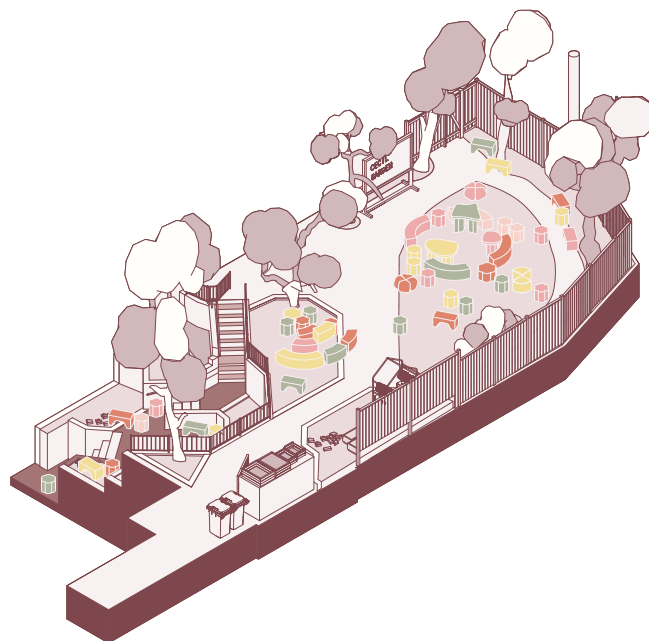Figure 1. A rendering of an early garden design on the VR browser.

Figure 2. Illustartion of different configurations of the co-designed garden.

A New Model

The research project's intervention methodology and design included the three key elements explored below.

1. Collaborative Community Engagement Model (CCEM)

Our CCEM model situated knowledge within the community and championed community members as empowered 'knowledge carriers' at all project stages. From the development of the research questions, to implementation and knowledge dissemination, this model worked to enable the community - as opposed to external researchers - to own the knowledge being produced. This shifts the traditional power disparity between professional and community researchers (which exist in models like community research and peer research). See Figure 3-4.

2. Virtual Reality for Community Building & Empowerment (VR-CEB)

The technologies developed as part of this project provide shared VR experiences that are inclusive and collaborative, for the purposes of community wellness, resilience, and empowerment. The project explored how community-led and shared VR experiences can serve as tools for building community participation, agency and power to address a given community's psychosocial needs.

The project team built a bespoke VR system to support residents to virtually imagine and collabvoratively shape their own Chinatown gardens. These platforms are show in Figure 5.

3. Community-led Empowerment through Design Action (CEDA)

This final phase of the work transitioned CAs from virtual environments to augmented realities, and finally to direct action on the real physical environment. It culminated in the collaborative fabrication and installation of the community-led design on the Cecil garden site. This included planting, gardening, developing community programming and legacy planning.

The project championed community decision-making through democratizing design technologies and tools that are often out of reach of the general public. In order to enable community empowerment throughout the design process, the project team had to remove barriers both in terms of access and resources. See Figure 6.
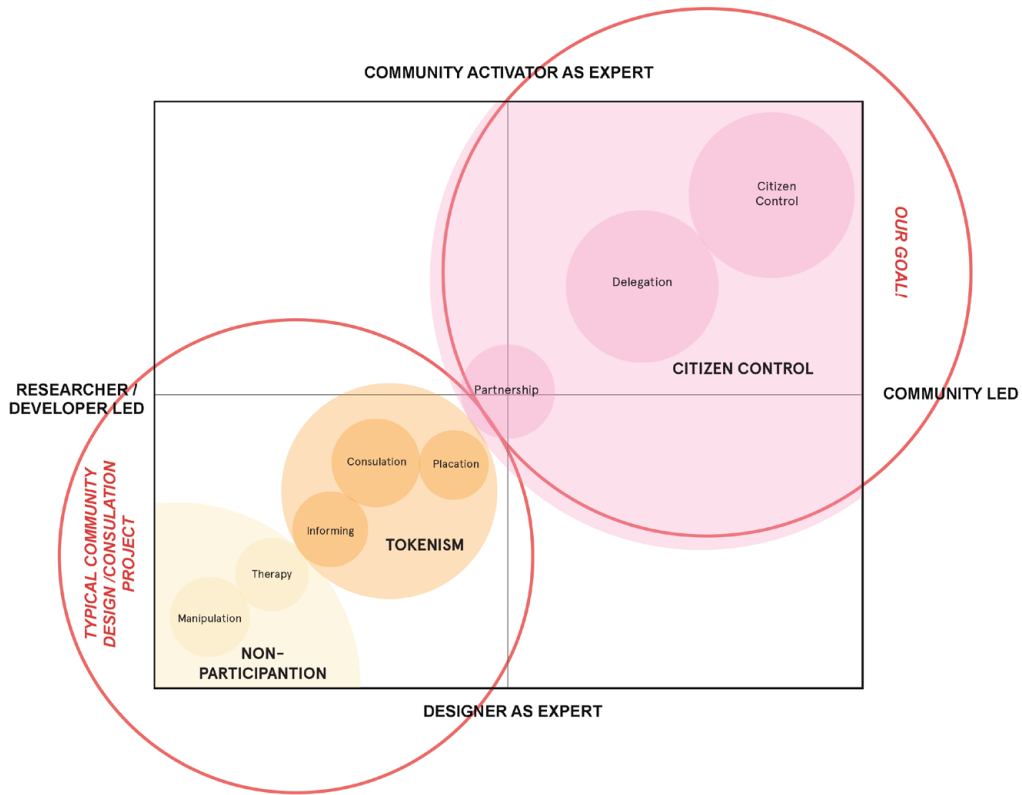
Figure 3. Two-axis representation of Arnstein's Ladder of Citizen Participation as mapped against design and community expertise.
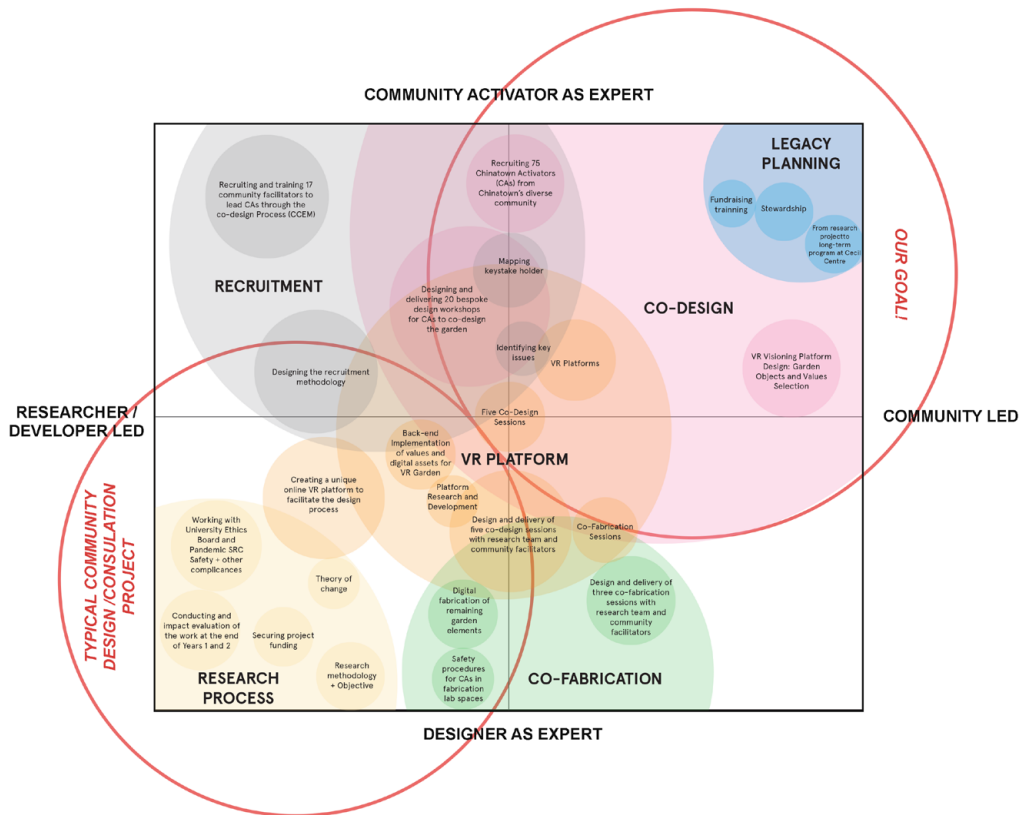

Figure 4. Planting Imagination's various project activities as mapped against two-axis representation of Arnstein's Ladder. This acknowledges the different realities of degrees of citizen participation needed throughout the project in order to prioritize the co-design process and community decision making in the design process.

Bespoke VR Platforms:

1. **A web-browser-based VR design platform** enabling live interaction between multi-users (up to 100 CAS) building on the gaming platform three.JS;

2. **A headset-based VR visualization platform** enabling users to review the latest collective design in 360 degrees, complete with interactive viewing and feedback interactions. This was created via Yulio and could be viewed via a mobile/tablet device and web browser.

3. **A tablet-based Augmented Reality (AR) visualization platform** enabling users to review the latest collective design in 360 degrees, which could be collaboratively viewed on a shared via Adobe Aero App.

4. **An in-person, live and interactive 360 degree VR projection dome** with physical VR controllers enabling up to 15 users to interact and move virtual objects. This was based in TMU Library's 360 Immersion studio VR dome.

5. **A 360 degree AR visualization platform** of the various stages of the design process, via Spekwork's mobile App platform for Hypercity AR Festival.

Figure 5. Five bespoke VR technology platforms developed for Planting Imagination.

Access to Technology:

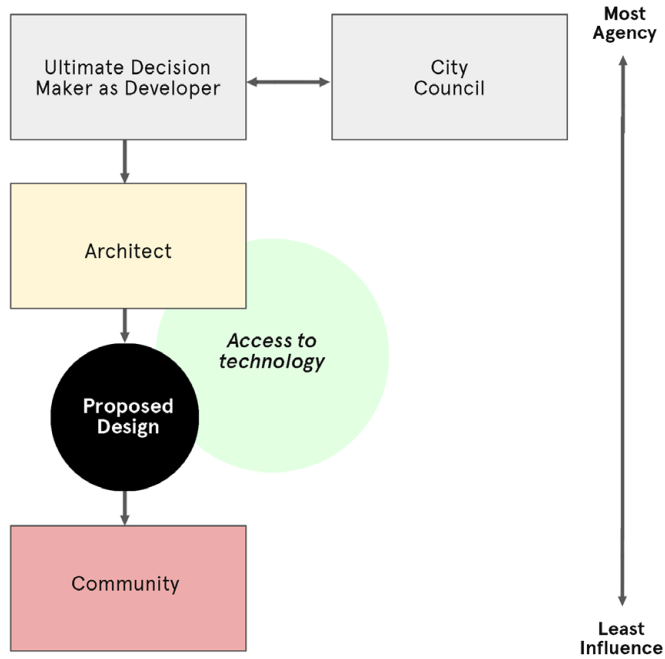Increase in technology access and design control before and after the project

Figure 6a. BEFORE: Community participation in the design process of a prototypical community consultation model, where community members are often excluded from the design process and do not have access to design technologies. On Arnstein's Ladder, community consultations are considered tokenism used to gain public buy-in for predetermined designs and outcomes.
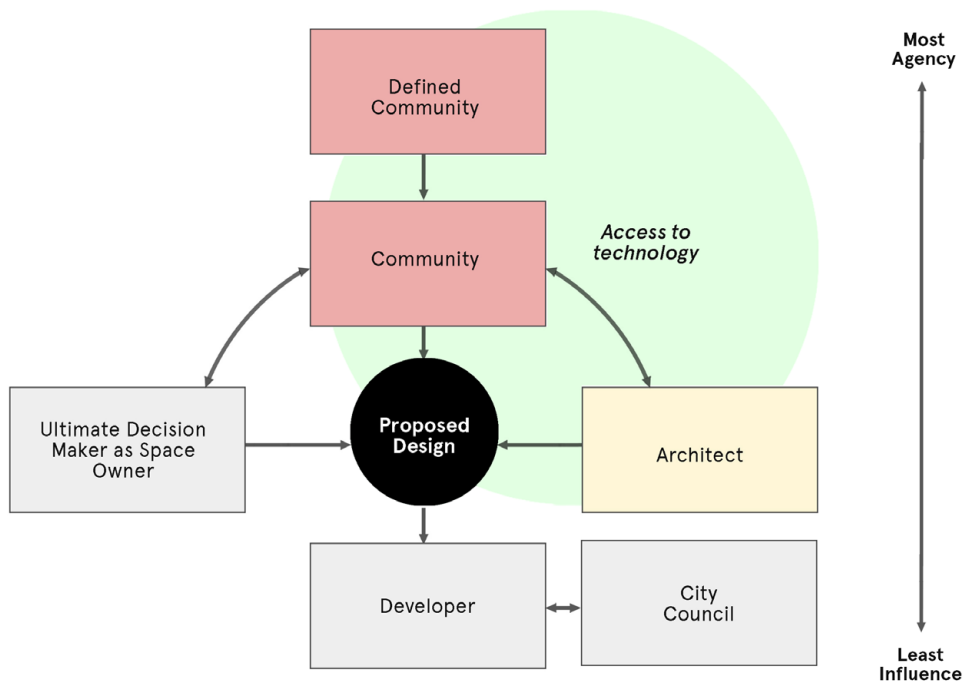

Figure 6b. AFTER: In comparison, the community participation in the design process of our VR-CEB model places community members at the centre of agency and control by providing access to design technologies and platform. Here the architect works for the community versus the ultimate decision maker or developer in the prototypical model above.

Session Plan

Over the course of a year, Chinatown Activators participated in the sessions pictured below. The arc of the project took them through the journey of learning about the project, the garden and AR/VR; to co-designing and working together to physically build the garden; to collaboratively planning future programming for the space; and finally, to learning how to fundraise to ensure the sustainability of the garden and its programs.

SESSION 0: PRE CO-DESIGN

SESSION 1: ONBOARDING + VALUES

SESSION 7: REFLECTION

SESSION 6: PROGRAMMING

SESSION 8: CO-FABRICATION 1

SESSION 9: CO-FABRICATION 2

Figure 7. Collage timeline of the Planting Imagination sessions showing technologies used.
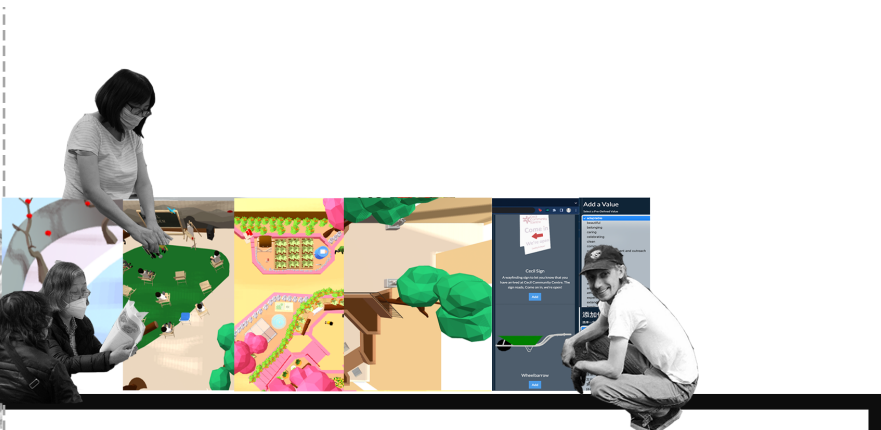
SESSION 2: CO-DESIGN 1

SESSION 3: CO-DESIGN 2

SESSION 5:CO-DESIGN 4

SESSION 4: CO-DESIGN 3

SESSION 10: CO-FABRICATION 3

SESSION 11: LEGACY PLANNING

Findings

1. The project improved participants' wellbeing and strengthened the community networks and resilience of the Chinatown residents involved.

- Planting Imagination improved connection between Chinatown locals and deepened community networks through its ability to bring people from different backgrounds together.
- In particular, it facilitated significant intergenerational connection amongst residents involved, in many cases for the first time. This enabled participants to build community and solidarity at a particularly trying time.
- The project also had the unintended but welcome outcome of making newer immigrants to Canada feel included and involved in the community - contributing more widely to increased unity.

2. The project enabled access to new technologies for a diverse group of Chinatown residents; but a lack of detail around how the technologies work in practice prevented participants from fully grasping how they might use them in wider civic design contexts.

- The process of designing and building the garden with community members improved their access to, and confidence working with, VR tools throughout the project.
- The project's focus on democratizing mixed reality technologies provided participants with new knowledge about both the way AR and VR tech works, as well as their functional application within design.
- However, some participants and Community Facilitators felt that there could have been a greater focus on technical skills, as opposed to just awareness-raising.

3. The project provided an opportunity for participants to pick up new hard and soft skills, as well as the tools to reimagine changes to the built environment.

- Both CAs and Community Facilitators were upskilled through their experiences participating in training, as well as designing and building the garden.
- Both groups recognised the unique ability of the project to bring together diverse skill sets from across the community.
- Overall, this project has helped both CAs and Facilitators build confidence around various skills and equipped them with some of the skills to reimagine community space.

4. The inclusive approach to the design and delivery of the project enabled Chinatown residents who would normally be excluded from local design processes to participate in the collective visioning and design of a community space.

- The inclusive approach to design taken throughout this project inspired confidence in community members who would not normally get involved with wider civic processes to become more involved in public, design-related consultations.
- This project tested a level and depth of engagement that is never employed in urban design contexts. Providing over 50 hours of direct engagement over 20 sessions, the project provided ample space for inclusive learning and skill-building, and in turn, genuine input.
- According to the CAs and Facilitators, a major success of the project was its inclusive approach to design and community building, which even inspired some to get more involved in other civic processes.

5. The research project doubled as a small-scale social intervention in a pandemic context.

- As a piece of socially engaged design research, the project ended up serving as a small-scale social intervention for part of the Chinatown community during the pandemic.
- It did so through reducing participants' social isolation and providing additional spending money for those who needed it at a particularly precarious time.

Conclusions

Overall, the project brought about a number of the short and medium-term outcomes it set out to achieve. This was particularly clear in relation to individual and collective skill-building, personal confidence, feelings of empowerment and agency, and community resilience.

It is too soon to determine whether the project will achieve its desired longer term outcomes, like increased stewardship of the wider built environment (outside the garden itself), improved collective responses toward future challenges and to what extent participants will continue getting involved in wider civic processes.

Recommendations

The learning from this research has produced recommendations for both future projects in this space, as well as wider recommendations for the design and public sectors.

For future projects

1. Research team and facilitator support during sessions could be reduced to allow for community leaders to naturally emerge and become more involved in delivery over the course of the project. This would require building in 1:1s with potentially interested participants, as well as providing opportunities and pathways for increased leadership from CAs as the project develops.
2. More in-depth coverage of the 'back end' of different types of AR and VR technologies should be included in any further work on the democratization of new technologies, to ensure participants finish their engagement with full confidence in their ability to both use these technologies and have an understanding of how they might employ them in their own contexts.
3. Additional conflict mediation should be included in facilitator training to prepare them to address any conflicts during sessions, including how to effectively deal with disrespectful behaviour, sexism, ageism, etc.
4. In future projects, the research team should prepare to be more immediately responsive to the feedback collected over the course of the project to ensure the work is iterative based on lessons learned throughout.
5. Legacy planning should be included as a final phase of any future co-production project, allowing time for exit strategy planning and a detailed handover to the lead community partner.
6. Any further research in this area should push to build political power within its context. This might include identifying city councilor allies who can platform the work, or a progressive social housing developer who might be interested in testing the model, in order to achieve wider buy-in, influence and overall impact.

For the design and public sectors

1. Because public trust in institutions is so low, participants may conflate those responsible for running public consultations (the government) with those building new structures (developers) and those delivering community design projects (researchers and community organizations). As a result, it is extremely important for any type of community co-production project to have clear comms, to ensure participants are fully aware of who is both delivering and supporting the work, so they can trust the work enough to get fully involved.
2. Researchers should be clear about which elements of a given project will be open for co-design, total community control, or shared decision-making. A balance should be struck between the need to draw on necessary technical expertise while grounding decision-making related to the wider vision within the community.
3. Designers should factor in considerations around cultural education (e.g. land acknowledgement, political tensions within given communities, differing definitions of gentrification and beauty, etc.) whenever they try to involve community members in co-production processes. They must also be aware of the political implications of translation choices and the differing political beliefs of various language communities.
4. Research teams should be led by 'insider-outsiders' where possible. Including researchers with lived experience of the issue at hand who can bring their existing networks, as well as an intimate understanding of the community's needs, will improve both the delivery and wider outcomes of the work.
5. Projects of this nature should strive to provide the skills and confidence necessary for participants to both get involved in existing civic processes, as well as the agency to build their own initiatives and processes that could influence existing civic structures, where there is interest.
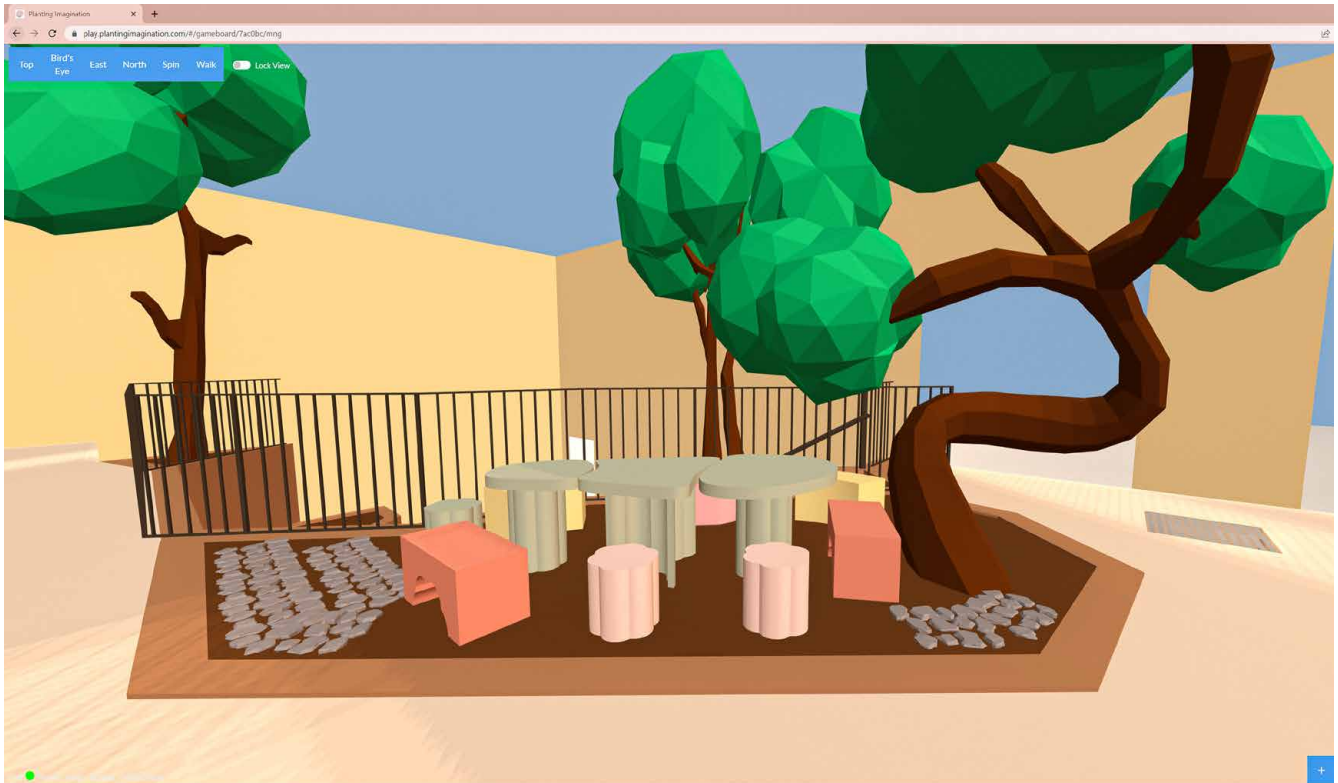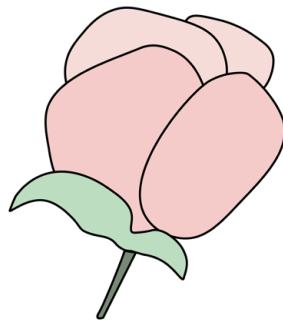
Figure 8. Web-browser-based VR design platform of Cecil Community Centre's garden, with furniture design of modular seating and terracotta tiles.

Figure 9. View of Cecil Community Centre's garden with built furniture layout of modular seating and terracotta tiles.

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