

## **Sustaining Chicago**

Investing in the South and West Sides of Chicago

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The city of Chicago's North and South side are two very distinct areas. These two sides are separated by a significant chasm, both in terms of their economic and social conditions. The North enjoys funding and good infrastructure, while the South is left to the wayside, fighting against crime and poverty. For a person residing on Chicago's North or Northwest side, the average annual net income is \$92,767 [2]. On the South or Southwest side of Chicago, the average yearly net income for an individual is \$68,755 [2]. The two locations, which aren't that far away in distance, have a clear net value disparity. One approach would be to make significant investments in infrastructure, particularly in Chicago's Pullman neighborhoods. The city of Chicago's "INVEST South/West" plan includes this particular location on the south side of the city. Chicago is seeking to invest in infrastructure in a select number of towns and villages that the city has identified using its data [1]. We will create a recreational area in one of the plots given to us by the city's database. We will clear out the abandoned lot that is full of debris and will create a fully functional and usable park within the community of Pullman.

**Keywords and Phrases:** Virtual Reality, VR, Design, Sustainable, Creative Coding, Communities, Cities, Chicago

### **ACM Reference Format:**

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## **1 INTRODUCTION**

Virtual Reality has taken big steps in the business and social world. Originally it seemed like a device that gamers would use to play video games individually and with their friends. However, it has taken on a new path in the last decade. It is now being used to fix infrastructure and cultural, and social issues.

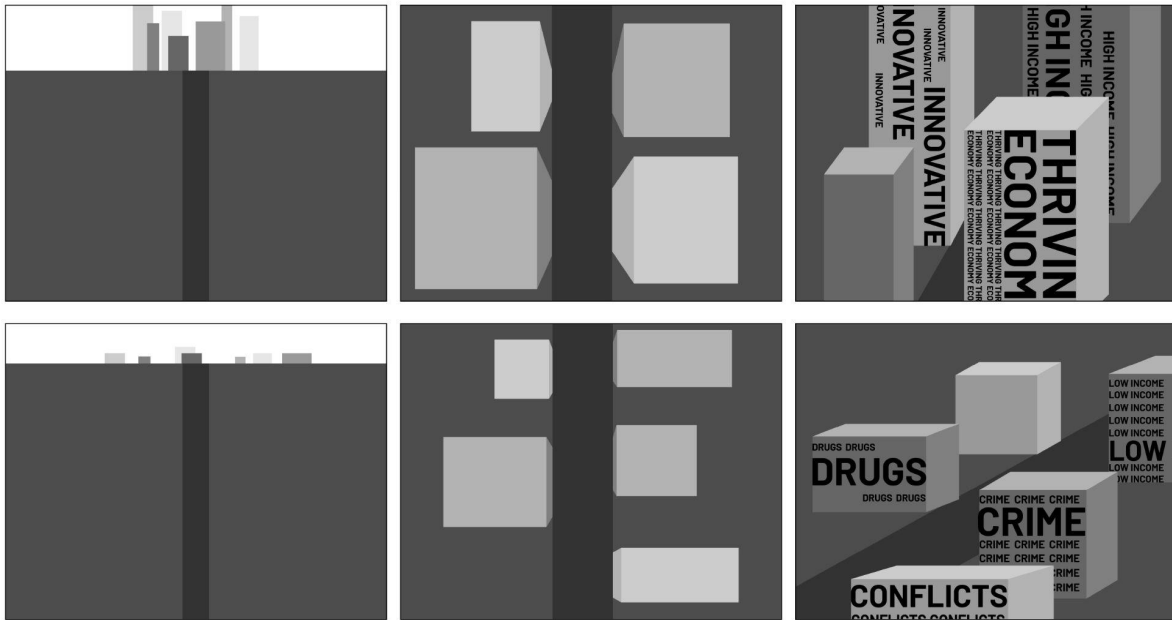
Our project, Sustaining Chicago, aims to contribute to the United Nations's Sustainable Development Goals, specifically Sustainable Cities and Communities. Developed in collaboration with the global IBM Design+Technology+Theater Group, this project was created in the Electronic Visualization Laboratory (EVL) at the University of Illinois Chicago to fully utilize the CAVE2™ Virtual Environment along with Unity and C-sharp to explore our solution. Why are some cities and communities more sustainable than others? The answer isn't always easy. You could look at the GDP of the city or even the annual net income of a person living there, but we don't see the means to that end number. This project explores a solution that can help all communities in Chicago to revitalize communities and help continue and sustain that revitalization.

## **2 CONCEPTS**

Once we chose the concept: of sustainable cities and communities, we had many early thoughts about how this VR project could look. Our first thought was to compare similar communities within the city of Chicago (Figure 1). We would research the area to get an explanation of why the one area was more self-sustaining than the town of Pullman. Then we would apply that research to Pullman and through interactions we would demonstrate a growing Pullman town. As fun and engaging as that concept would have been, would have been too time-consuming for the time allotted in class. Our second concept based on the comparative research of the town of Pullman and Bucktown was that Bucktown had affordable housing around the area of Depaul University and there was none of that in the town of Pullman (Figure 2). So the town of Bucktown is able to keep its own graduates and have them pour money back into its economy. There is absolutely little of that in Pullman. Leading to our second idea of designing an affordable housing complex taken from a plot of land from the Invest South/West initiative and a data map. This would be super close to the University and a large enough space for space to be allocated for recreational areas. This however was deemed unacceptable because it is not something we as designers could do right now. This landed us on our third and final concept, creating a recreational area with the space allotted to build a community with the existing people in Pullman (Figure 3).

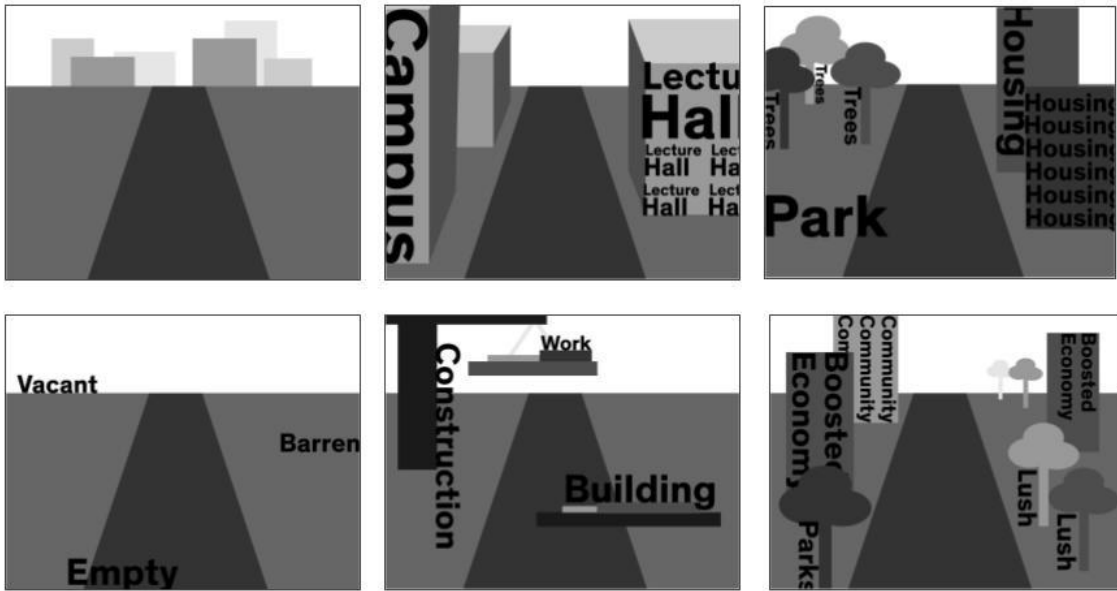
A big idea within sustainable communities is that the people within the community have to know each other and understand what it means to have a successful community. You do this by going to a public palace that is clean and safe like a park. So in this park, we have added a flower garden, an area with benches to sit and talk, and some basketball courts with bike racks so children can play sports and have fun.

Figure 1:



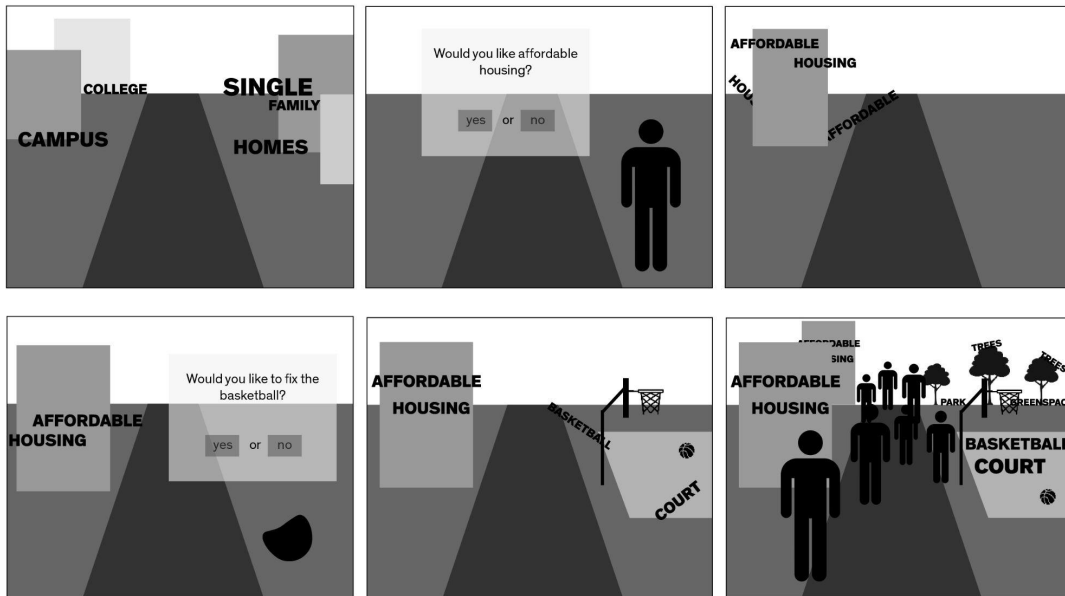
Our initial storyboard outlining layout of our projects.

Figure 2:



Part of the initial storyboard showing the aesthetics that integrate typography.

Figure 3:



Another part of our storyboard outlining how interactions would be handled initially.

### **3 INTERACTION**

Interaction within our project is used as progression, when you complete this action you can now do this or something happens. In our project, once you clear all the rubble you can then press a button on the control if you are within a certain distance of a sign that explains what is being built in the park. Audio feedback is given to the user and ambiance relevant to what was just built is added to the surrounding atmosphere. This sort of interaction happens many times throughout the building of the park and acts as a continued progression until everything else is built and completed.

#### **3.1 AUDIO**

There are also audio interactions, when you get closer to the highway you hear the hustle and bustle of cars driving around. When the basketball court is completed you can press a button and hear the swoosh of a basketball. When the final pavers and fence are activated by completing the park you hear people coming out of their homes and communing in the park.

### **4 TYPOGRAPHY**

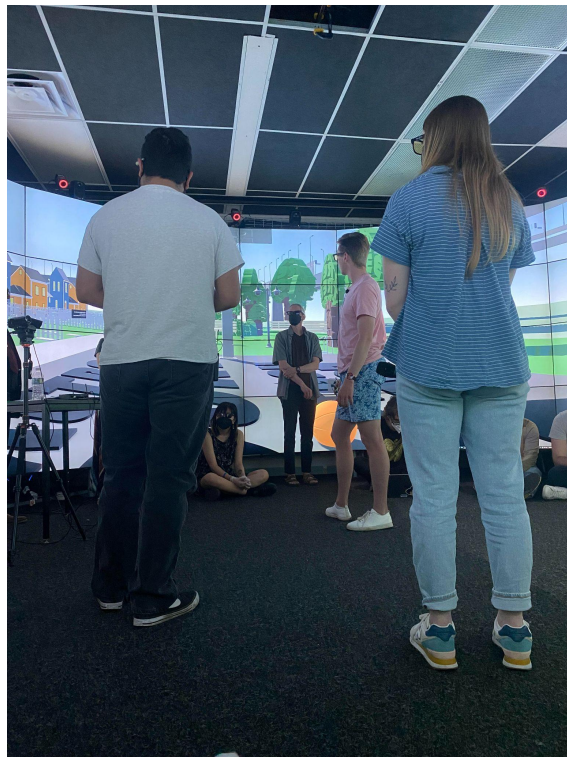
Type was an essential part of this VR project. It created the forms of rocks, trees, flower gardens, and basketball courts. We determined these objects with their form would look best with type added in. Overall adding type in for these objects makes it a more playful style, it continues to add to the low poly style. This playful style makes it super easy to communicate with children and adults alike.

### **5 CHALLENGES**

The biggest challenge for us as a group was the software. None of us had ever worked with Unity or C# before. The beginning stages of the project are where our group really struggled the most. Learning how to design in Unity was extremely difficult because it was nothing like any of the Adobe suite workspaces. The problems with C# are like any learning curve with new code. It's understanding the language and learning the way the code computes compared to other coding software we have used before. Once we all got a handle on the new software it was pretty smooth sailing.



*An example of the final version of the interactions the user is met with.*



*During the exhibition in the CAVE2 in EVL/UIC with 50 audience visitors providing feedback.*

## 6 SOLUTION

Sustainable cities and communities are something every country and state has a problem with. Some areas are extremely prosperous while others are not, even when they are only 18 miles away. There is not one simple solution to fix all these problems. Obviously, some communities have areas where there are jobs while some towns become ghost towns due to companies going overseas for cheaper manufacturing. There seems to be a common theme within the rust belt and the continuous fall of cities and communities within that area. With jobs continually leaving overseas for cheaper manufacturing how do we keep these cities and communities sustained? A short-term option, which is what we developed, is allowing them to see what could be if jobs were to come back due to college students from the university staying in Pullman.

This project recognizes that revitalizing a neighborhood goes beyond just physical changes, but by highlighting the potential benefits of investing in neglected neighborhoods, Sustaining Chicago hopes to spark conversations and action around equitable development. By creating a space for community members to come together and connect, Sustaining Chicago hopes to promote social cohesion and improve the quality of life in underserved areas of the city. It takes a whole community for growth, not just one person and not just government help.

## REFERENCES

- [1] *Open space*. Open Space. (n.d.). Retrieved April 16, 2023, from <https://www.chicago.gov/city/en/sites/block-builder/home/Open-Space.html>
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