Tapan Parikh, Cornell Tech

Remaking the City

Visions of the "Future"









A NOD TO NEW YORK'S BELOVED GUGGENHEIM, THE TWISTING RAMP RESHAPES THE TRADITIONAL PEDESTRIAN PATHWAY AND REPOUTES VISITORS TO A NEW VANTAGE POINT. THE SIMPLE SPIRAL DRAWS FROM THE ICONIC PLAYGROUND SLIDE, EVOKING NOSTALGIA AND A DESIRE TO EXPLORE





How do we engage youth in visualizing the future of our cities?

Outline

- Local Ground: Participatory mapping for civic advocacy
- Civic DIY: Civic Design Internship with Youth
- Remaking the City: Urban Planning and User-Centered Design
- Future Work and Directions

Local Ground

- Local Ground is a web-based tool that allows youth to collect, visualize and share various forms of spatial data
- Students learn data and technology skills while participating in civic advocacy
- Open source and free

w/ Sarah Van Wart, Northwestern University

Maritime Center

Nystrom Elementary

ry

Nystrom Village Housing

Martin Luther King Jr. Park

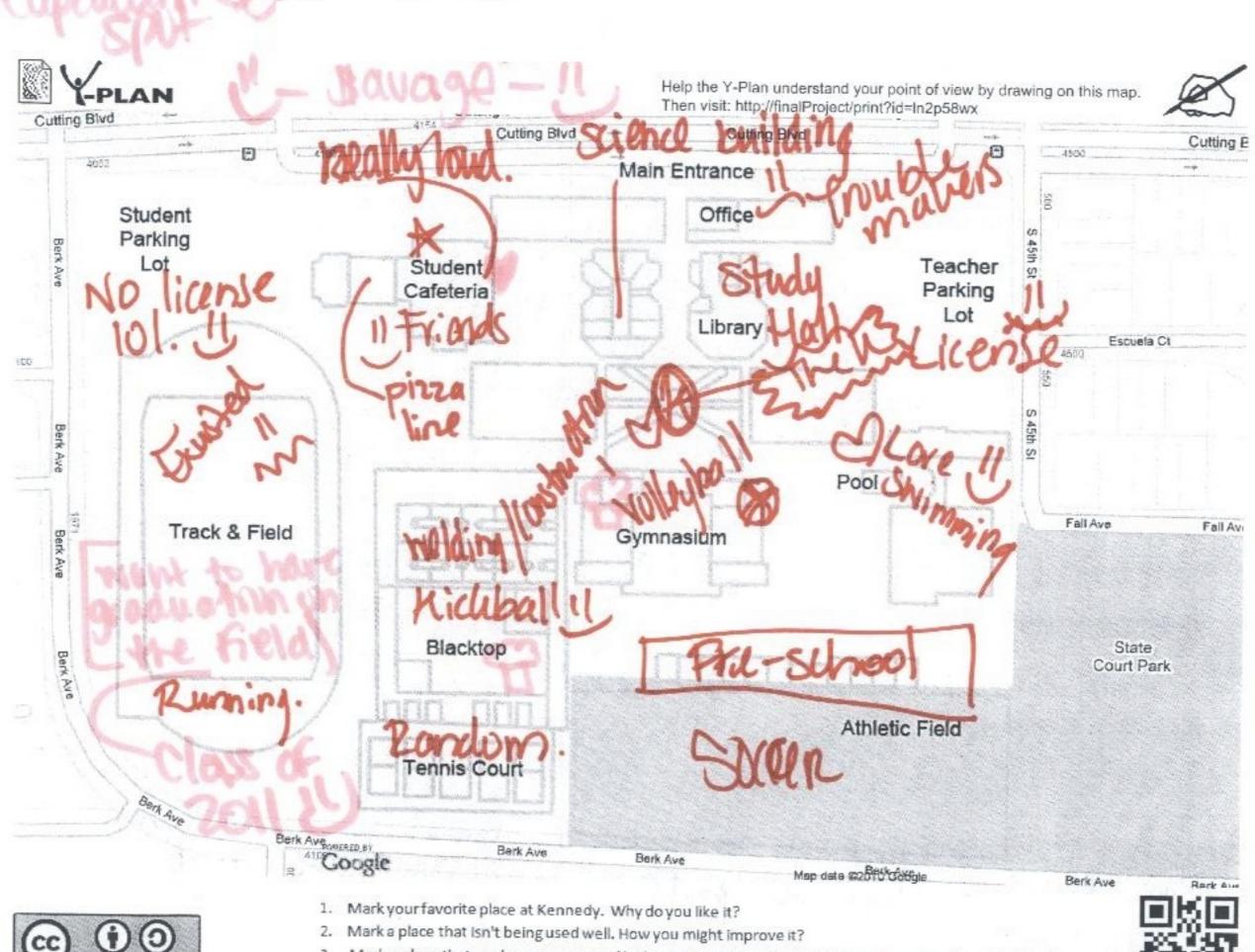
NURVE (Nystrom Urban ReVitalization Effort)



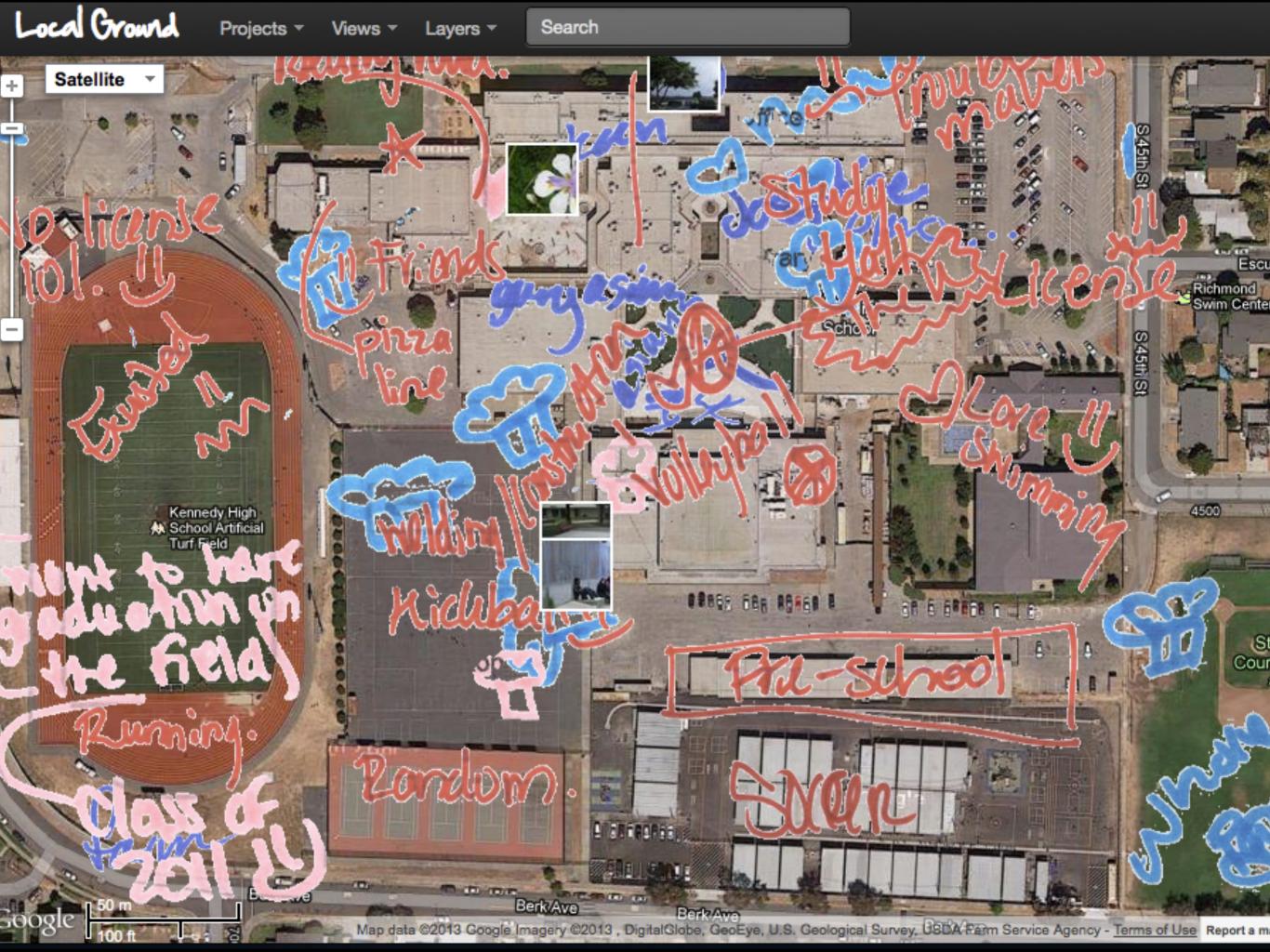




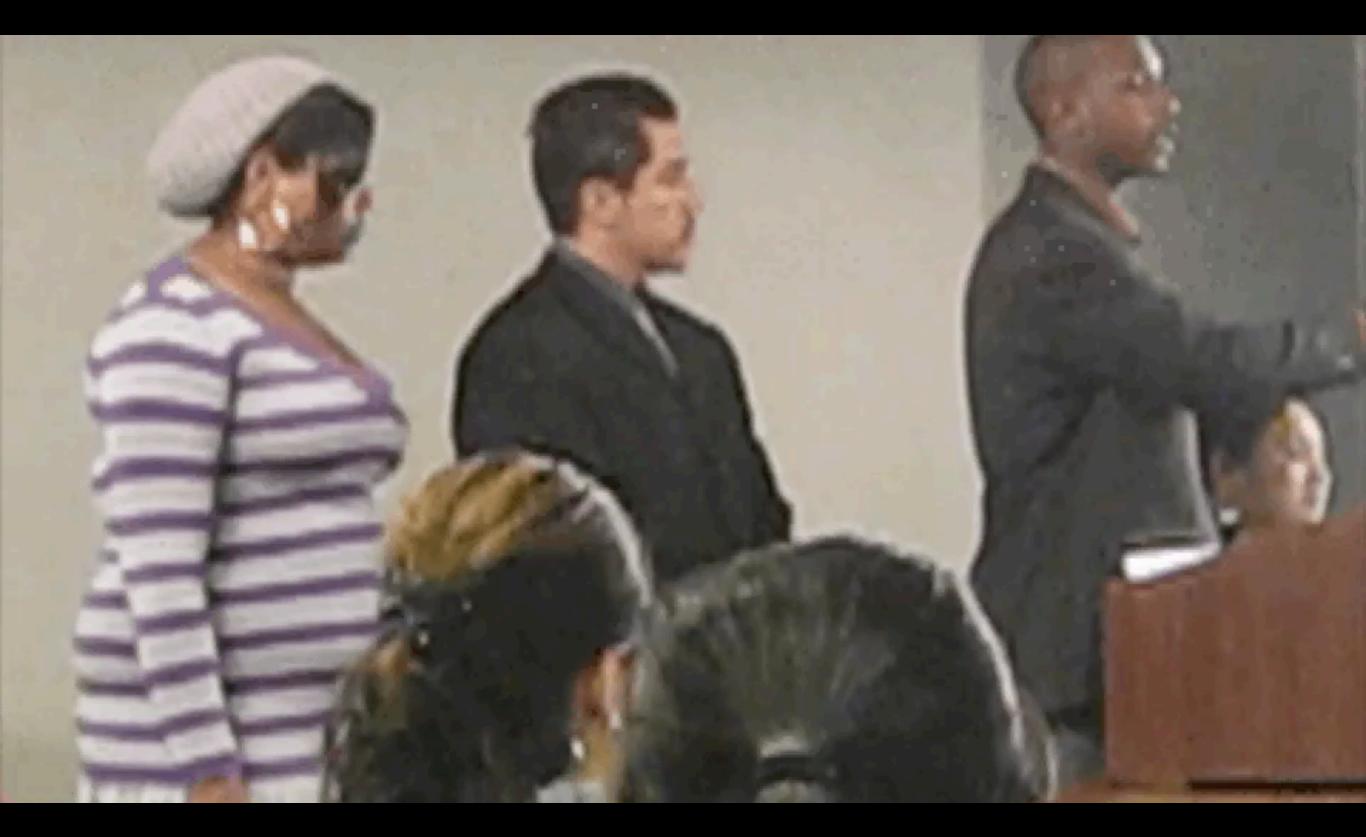




3. Mark a place that you've never noticed before today. Why do you think you haven't noticed it before?







Scripts and Counterscripts

- Young people's engagement with data challenged normative accounts of civic data
- From discovery/action, to truth/advocacy
- Putting the politics back in data

Van Wart et al, <u>Scripts and Counterscripts in Community-Based Data Science: Participatory Digital</u> <u>Mapping and the Pursuit of a Third Space</u>, Journal of the Learning Sciences, January 2020

CivicDIY

- Civic Design Internship for Youth
- 6-week summer internship for middle schoolers from Roosevelt Island
- Building on a prior project we did on local oral histories













Prototyping



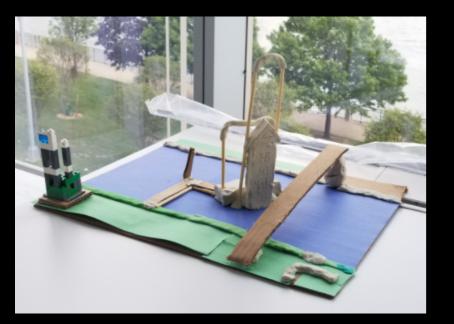




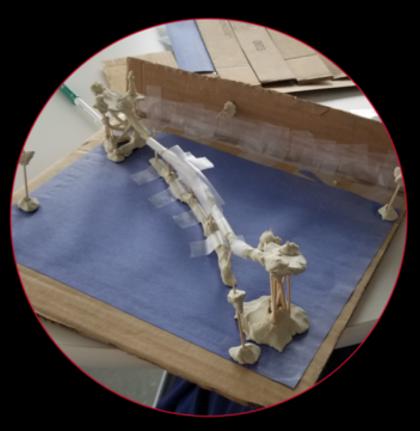
Youth Proposals

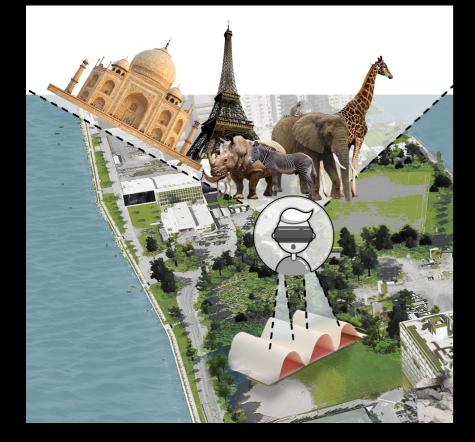
- VR Zoo
- Spa Kingdom
- BMX Park and Mall
- Underwater Train

- Cultural Center
- Floating Shopping Mall
- Destroying the Pinnacle!













VR Zoo

Spa Kingdom

Destroying the Pinnacle!



Friction at the Senior Center

- "Excuse me!! What's your problem with the Pinnacle?...Cornell Tech has lots of land... Don't fool with my lunatic asylum!"
- The VR zoo received a favorable response, and was adapted on the fly
- Youth were nonplussed by their reaction

Unmaking as Agonism

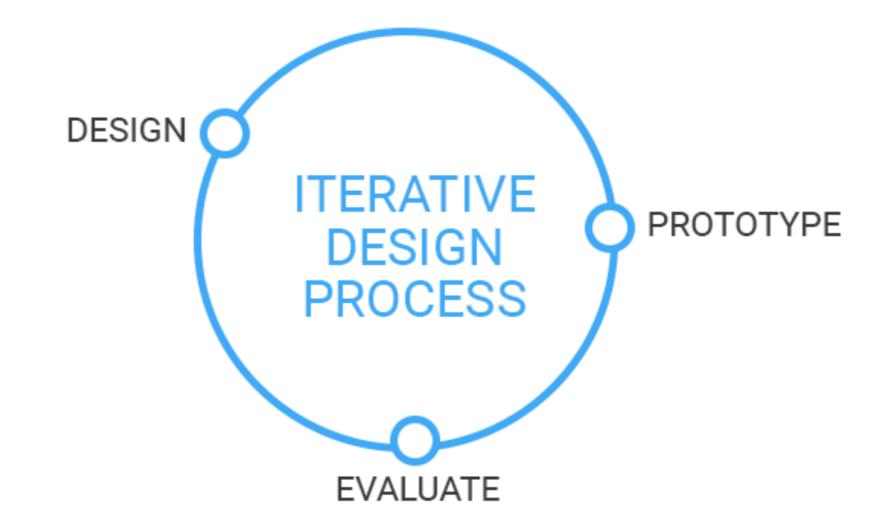
- Young people's engagement with design challenged normative ideas of "making"
- "Unmaking" can also be a powerful tool in design and advocacy
- Conflict (agonism) can sometimes be useful for surfacing new ideas and perspectives

Samar Sabie et al., <u>Unmaking as Agonism: Using Participatory Design with Youth to Surface</u> <u>Difference in an Intergenerational Urban Context</u>, ACM CHI, April 2022

Current Work

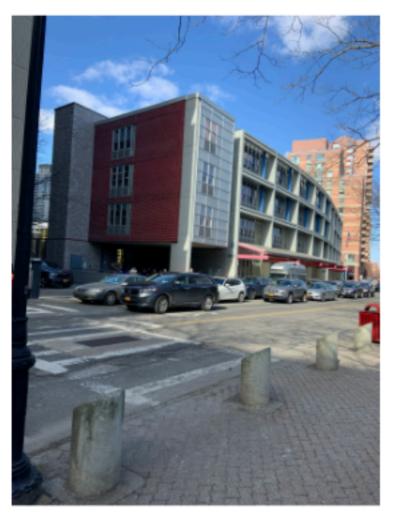
Remaking the City

- Graduate workshop at Cornell tech
- Integrating Planning and UI/UX to create a more inclusive urban design process
- Using photogrammetry to engage the local context in the classroom
- Physical making, photogrammetry and VR



Photovoice

- Participatory research technique inspired by the work of Paulo Freire
- Conceived in fields like public health to engage people in community reflection
- Taking images from every day life, and engaging in conscious, collective reflection on underlying causes and effects

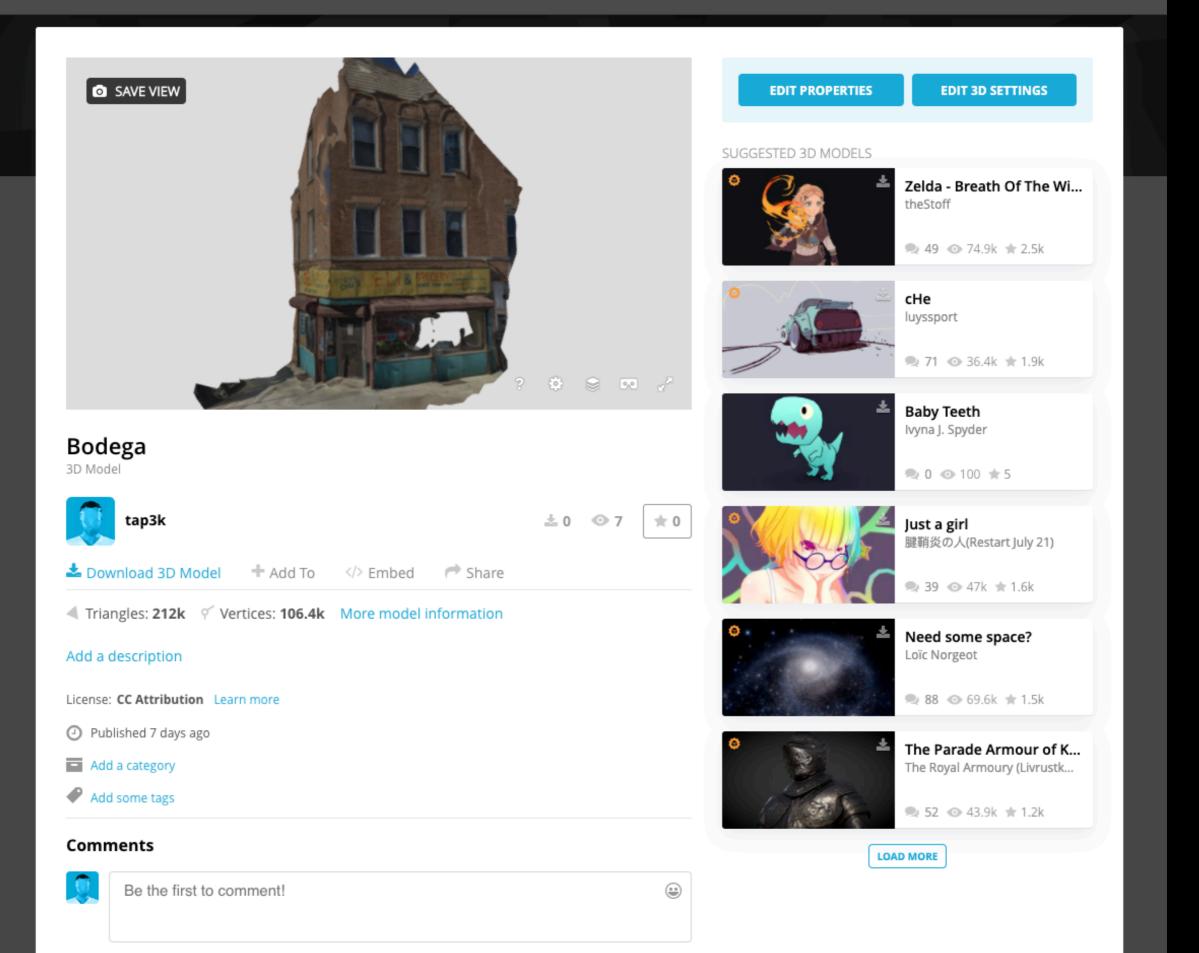


This is a picture of the elementary school where parents had lined up in their cars to pick up their children. It made me wonder why the parents were driving there - it really caused a lot of traffic and the island is so small that I was surprised they didn't just walk.

Photogrammetry

- 3D reconstruction technique that uses many images of an object or scene
- Increasingly tractable due to GPU accel, machine learning and depth-sensing (LIDAR)
- Active and enthusiastic hobbyist community















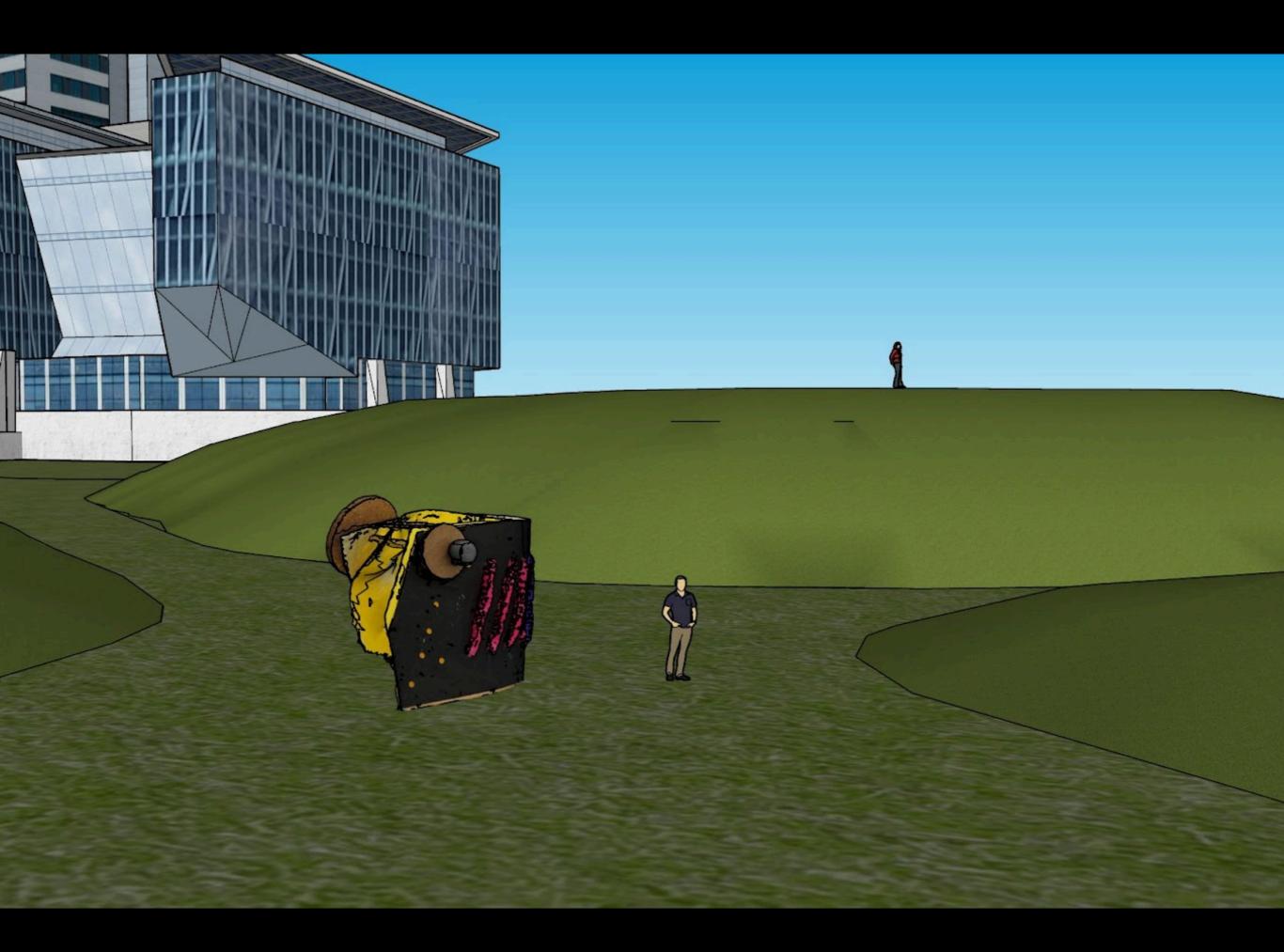
Niti-model

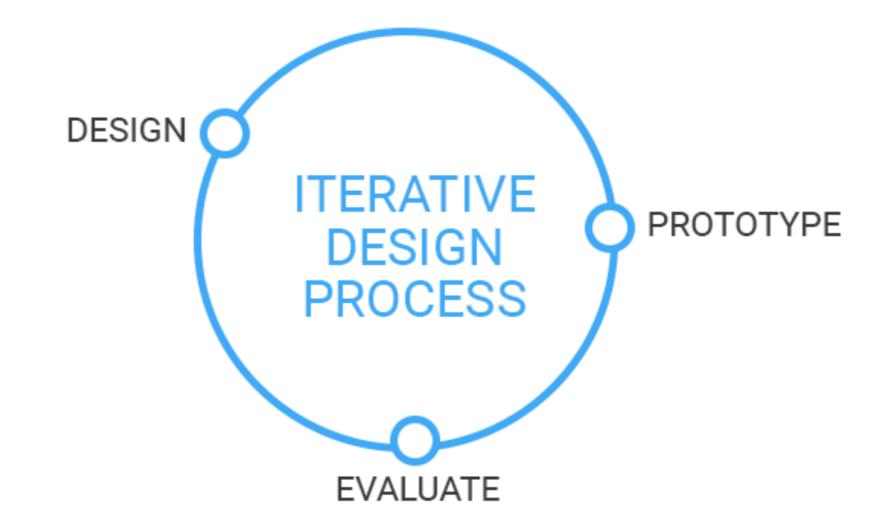


± 0 • 2 ★ 0

📥 Download 3D Model

+ Add To </>> Embed Add To





"The Platform"

- Oculus Quest application
- Supports sharing 2D/3D content in VR, with real-time audio chat
- Navigate using a map-based virtual interface

w/ Bryan Yee, Cornell Tech

Urban Farming in NYC

- Investigating use of VR to support p2p learning w/ Cornell Coop Extension
- Documenting farms in the South Bronx and Red Hook, Brooklyn
- Using VR and photogrammetry to engage youth

w/ Jenny Kao-Kniffin, Cornell Cooperative Extension



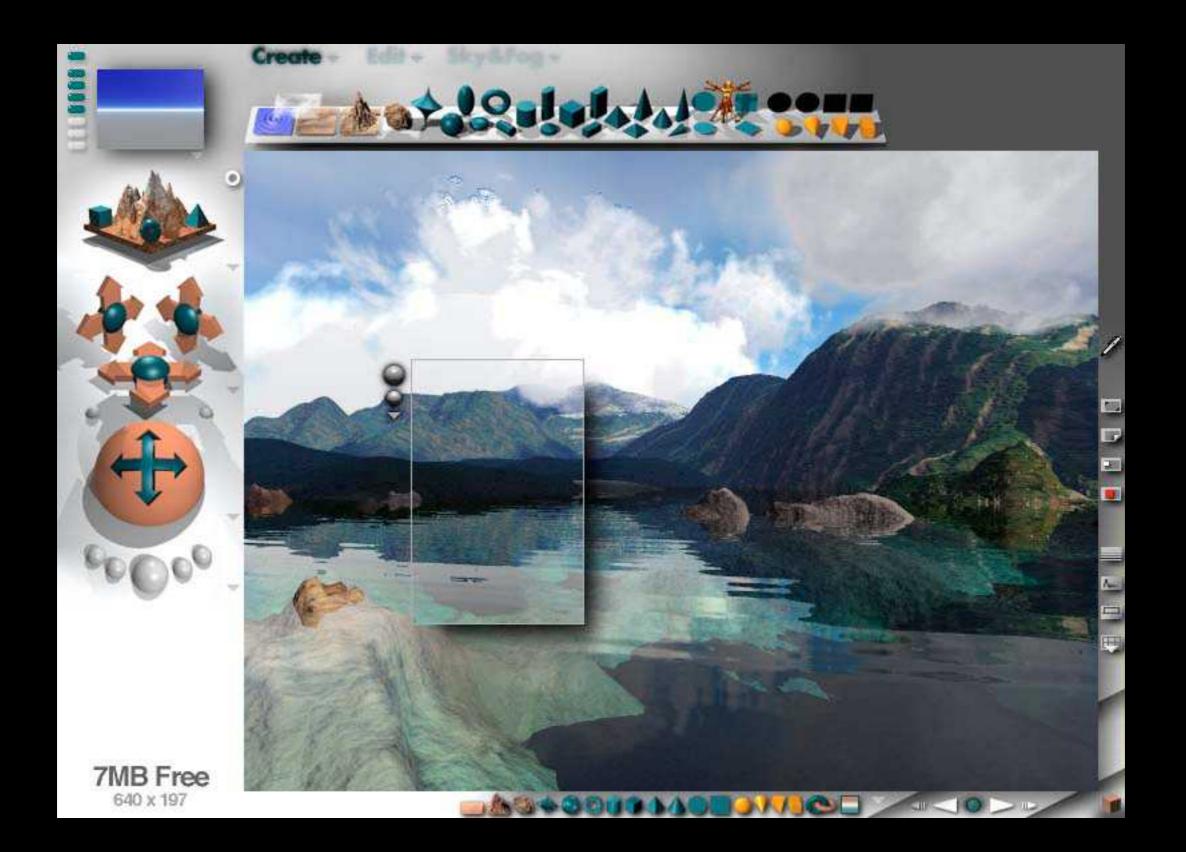






Future Work

- Physical Prototyping for/in VR
- VR for agricultural extension, urban planning
- Photogrammetry and VR in K-I2 education
- World-building in VR



Collaborators

- Samar Sabie, Sarah Van Wart
- Isaiah Murray (Urban Tech MS)
- Jenny Kao-Kiffin, Perl Egendorf (CCE)
- Bryan Yee, Ali Jamali (VR/3D)