

# Tiny Town

## PROJECT MANAGER

Kyla Ross

## TEAM LEAD

Eric Forest

## TEAM MEMBERS

Lillian Leung

Mai Nguyen

Randy 'sJongers

Kendra Savard

Isabella Sniatowski

Renita Vaswani

Victoria Yeboah



# Land Acknowledgment

Humber College is located within the traditional and treaty lands of the Mississaugas of the Credit. Known as Adoobiigok [A-doe-bee-goke], the “Place of the Alders” in Michi Saagiig [Mi-Chee Saw-Geeg] language, the region is uniquely situated along Humber River Watershed, which historically provided an integral connection for Anishinaabe [Ah-nish-nah-bay], Haudenosaunee [Hoeden-no-shownee], and Wendat [Wine-Dot] peoples between the Ontario Lakeshore and the Lake Simcoe/Georgian Bay regions. Now home to people of numerous nations, Adoobiigok continues to provide a vital source of interconnection for all.



# Tiny Town Team



**KYLA ROSS**



**ERIC FOREST**



**RANDY JONGERS**



**LILLIAN LEUNG**



**MAI NGUYEN**



**KENDRA SAVARD**



**ISABELLA SNIATOWSKI**



**RENITA VASWANI**



**VICTORIA YEBOAH**

# Tiny Town



# Existing Model

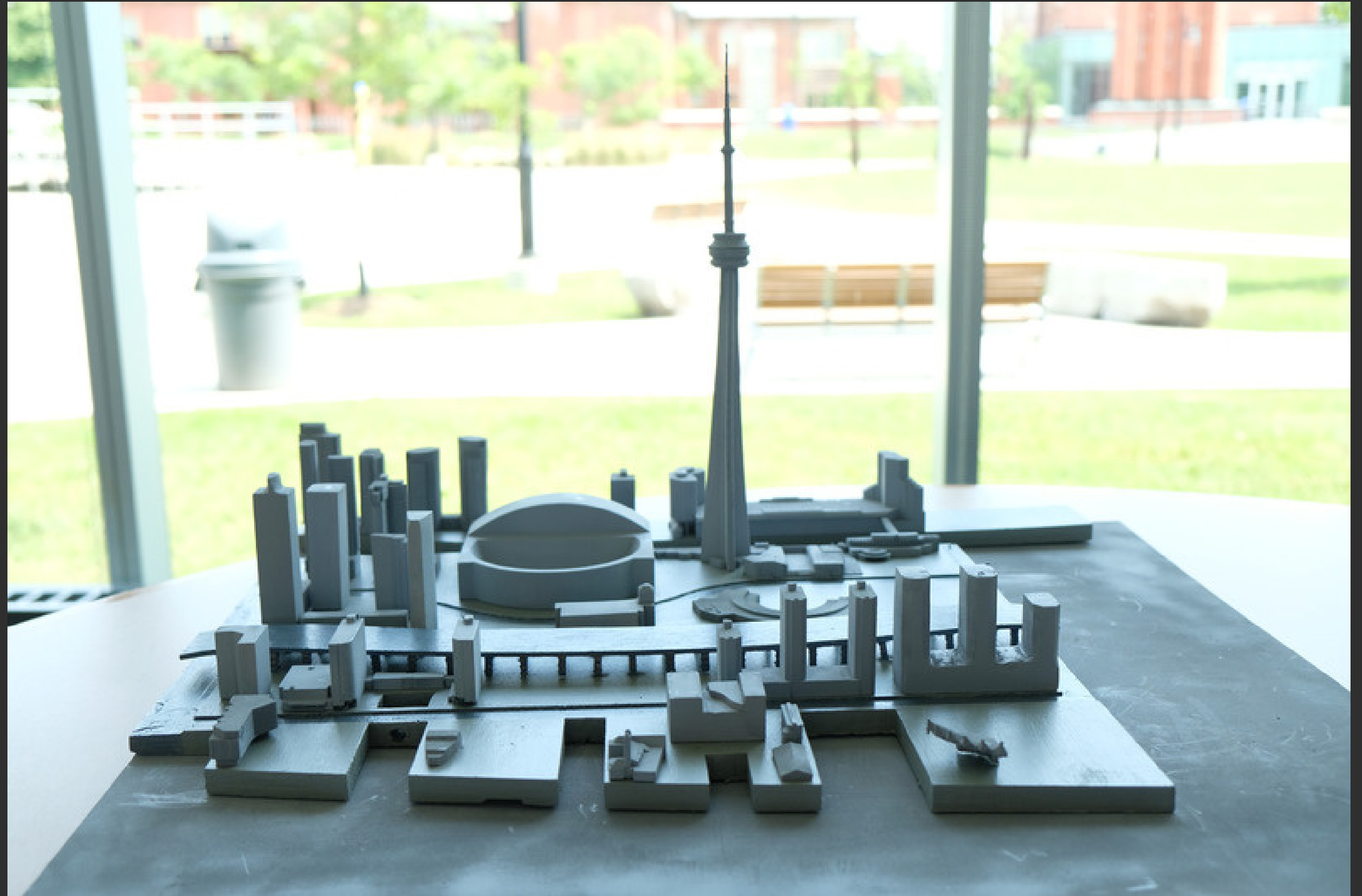


Enclosed  
Hard to update

# Existing Model



# Model Prototype

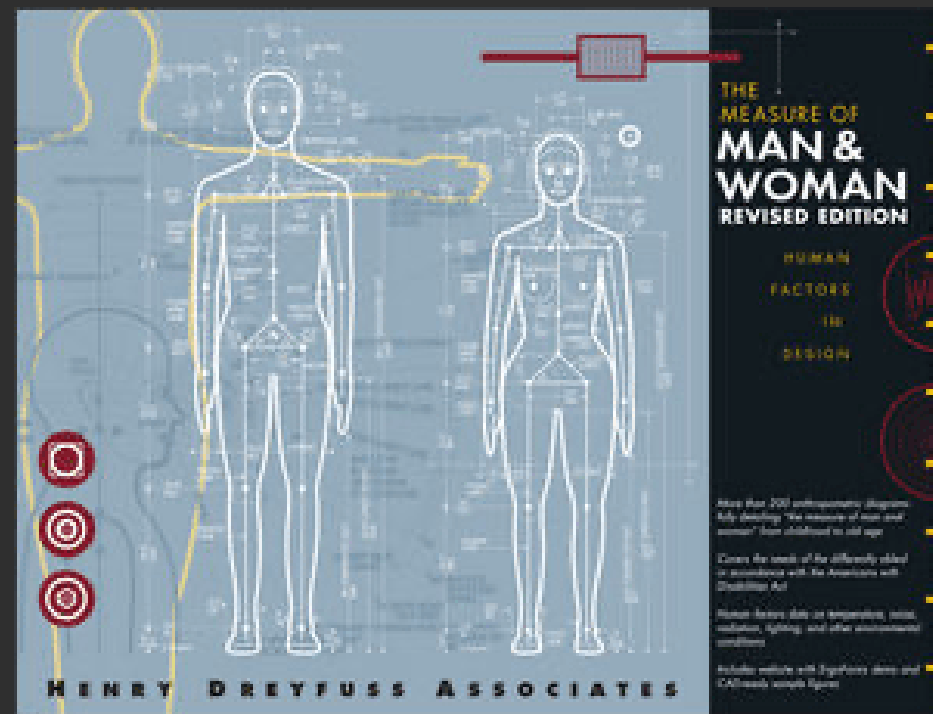
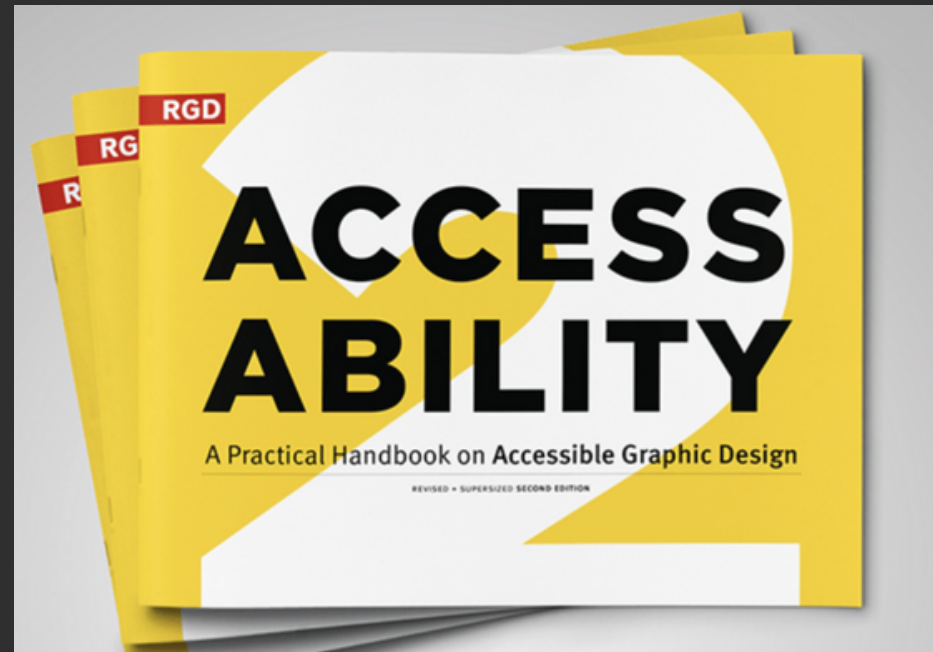


A man in a white lab coat and a striped tie is pointing with his right hand towards a complex diagram on a wall. The diagram consists of various lines, arrows, and handwritten text, including the word 'REVIEW' in large letters. The man has a surprised or excited expression on his face. The background is a wall covered in papers and diagrams, suggesting a research or laboratory setting.

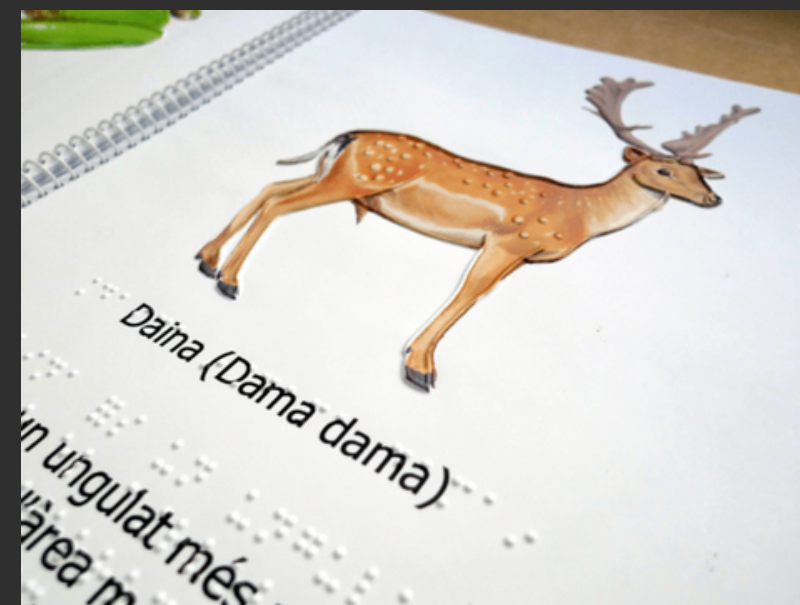
# Research



# Literature Review



Used to determine measurements for the table that would be accessible .



<http://touchgraphics.com/portfolio/tactile-maps-and-guides/>



<http://touchgraphics.com/alcatraz-interactive--touch-model/>

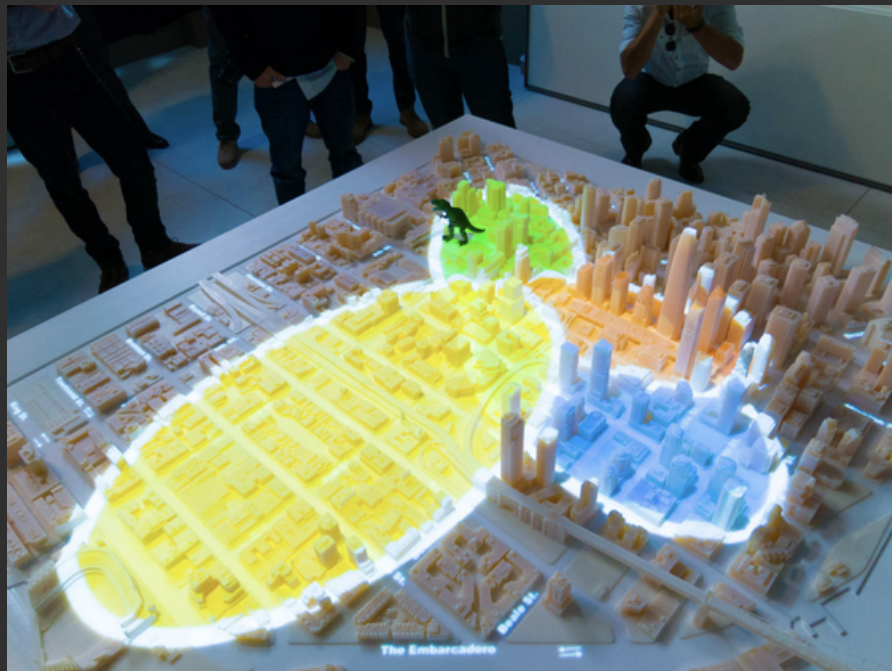
**AFB** American Foundation<sup>®</sup>  
for the Blind

Expanding possibilities for people with vision loss

<https://www.afb.org/aw/13/2/15848>

# Environmental Scan

## Existing Solutions



### Strengths

- Tourism
- Fidelity and Detail
- Attractive
- Lifelike
- Mass appeal

### Opportunities

- End-user ownership
- Customization
- Long term development
- Low-cost, sustainable
- Utility

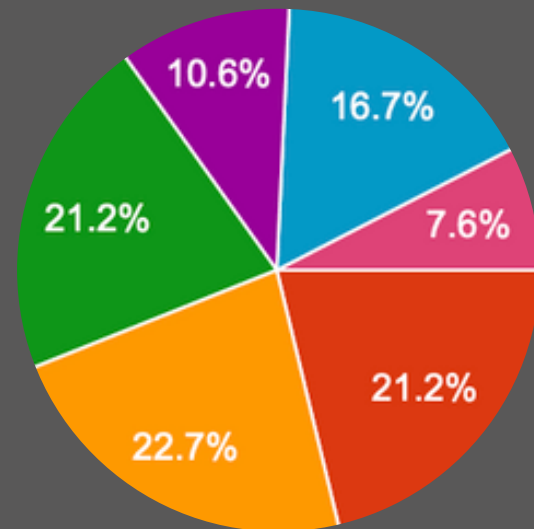
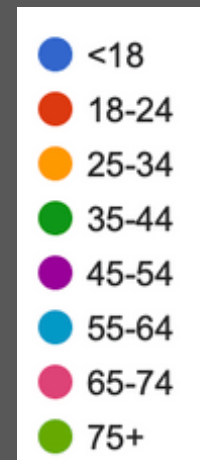
### Weaknesses

- Non-interactive
- Non-tactile
- Spectacle Focused
- Accessibility
- Static
- Cost

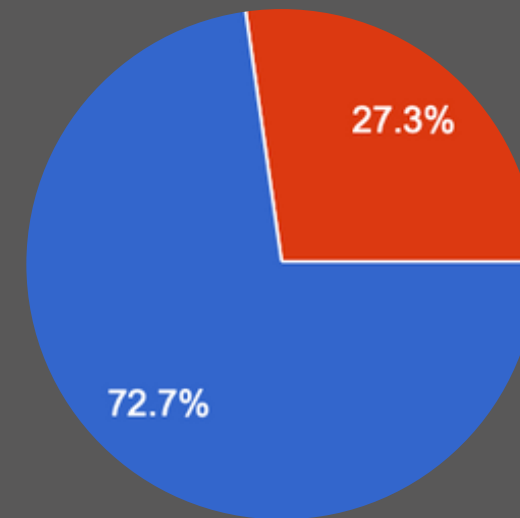
# Survey Results

66 Participants

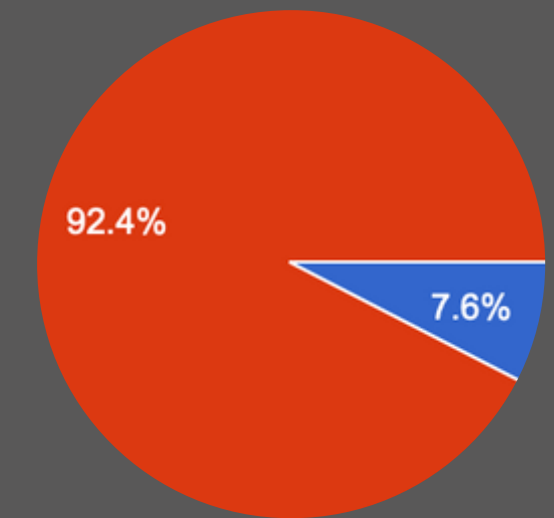
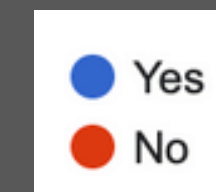
## Age



Would you be interested in a tactile map of the city



Are You Visually Impaired



## What tools could be incorporated to help you overcome those barriers?

- Signs referring to where the ramps are
- More outdoor galleries or interactive spaces during lockdowns
- Captions on everything
- Dedicated sensory friendly times
- No flashing lights or loud sounds
- Step stools? Hanging art lower so that smaller stature people and wheelchair users can view? or something movable height-wise
- Redesign to allow more mechanical options to see exhibit at different perspectives
- Ramps, hearing impaired aids , visually impaired aids

## Tell us something about the City of Toronto that you would like to know more about.

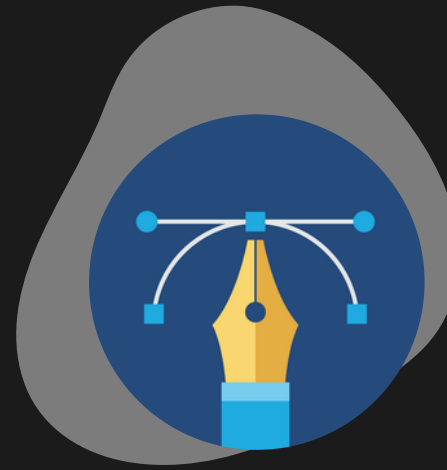
- History and things to do.
- The newly developed areas, whats been changed, etc
- Parks, bike trails, public events, history, fun facts
- New places to eat
- What Toronto is doing about the housing crisis.
- Neighbourhoods outside of downtown
- Indigenous routes, trails and burial sites
- What events are youth (14-29) interested in?
- The LGBTQ2+ Scene
- Kid friendly design in the city

# Interviews



Architect, Project Manager,  
Instructor in Design for Public Health at  
OCADU

- Look into representing less wealthy areas
- Social determinants of health
- Researcher needs and access to archival information from the model
- Layering effect to show underserved vs overrepresented
- Can use to look into the past and future of the city
- Use AR to see air rights mapped onto the model.



Graphic Designer, Film Creative,  
previously a fellow in the  
Indigenous CCBI

- Could be used to explore pieces of art
- There is a lot of culture surrounding murals and spray paint
- Cultural dance. Zoom based dances. Tiny town can showcase bits of all of these little things. We want to make sure there is indigenous representation included. I am Ojibway in the Ojibway State we operate differently from other indigenous groups because there are so many.

## 3 Participants



Director Of Community Living  
Ajax-Pickering & Whitby

- Use as a tool to discuss accessibility / lack thereof
- Could be used as a trip planner to plan an accessible route
- Could give a voice to people to advocate for changes in the city (eg ramps, wheelchair access)
- Become a tool to create an accessible city
- Would be interesting to click on something and see what was there before

# Personas



**MARCUS**

34  
Street Artist  
Toronto

## NEEDS

- Local channels to promote art, and connect others to the Anishinaabe people
- Bring more First Nation representation into the general public view.
- Wants his peoples perception to evolve - the Anishnabeg present and living.
- Wants the representation to be self determining
- Easily reach more locals as well as tourist to attract to his work.
- Expose more people to the Anishnabeg art and culture



**REMI**

18  
Chemistry Student  
Tourist

## NEEDS

- Activities that are suitable for Ontario minors
- Activities that are engaging for young adults
- Is not of legal drink age in province, is frustrated by limited options
- first time in the city; does not know where he may most enjoy himself beside google suggestions.
- Get to know the all ages attractions of Toronto before he returns as the legal age for nightlife.



**JESSICA**

61  
Architect  
GTA Suburbs

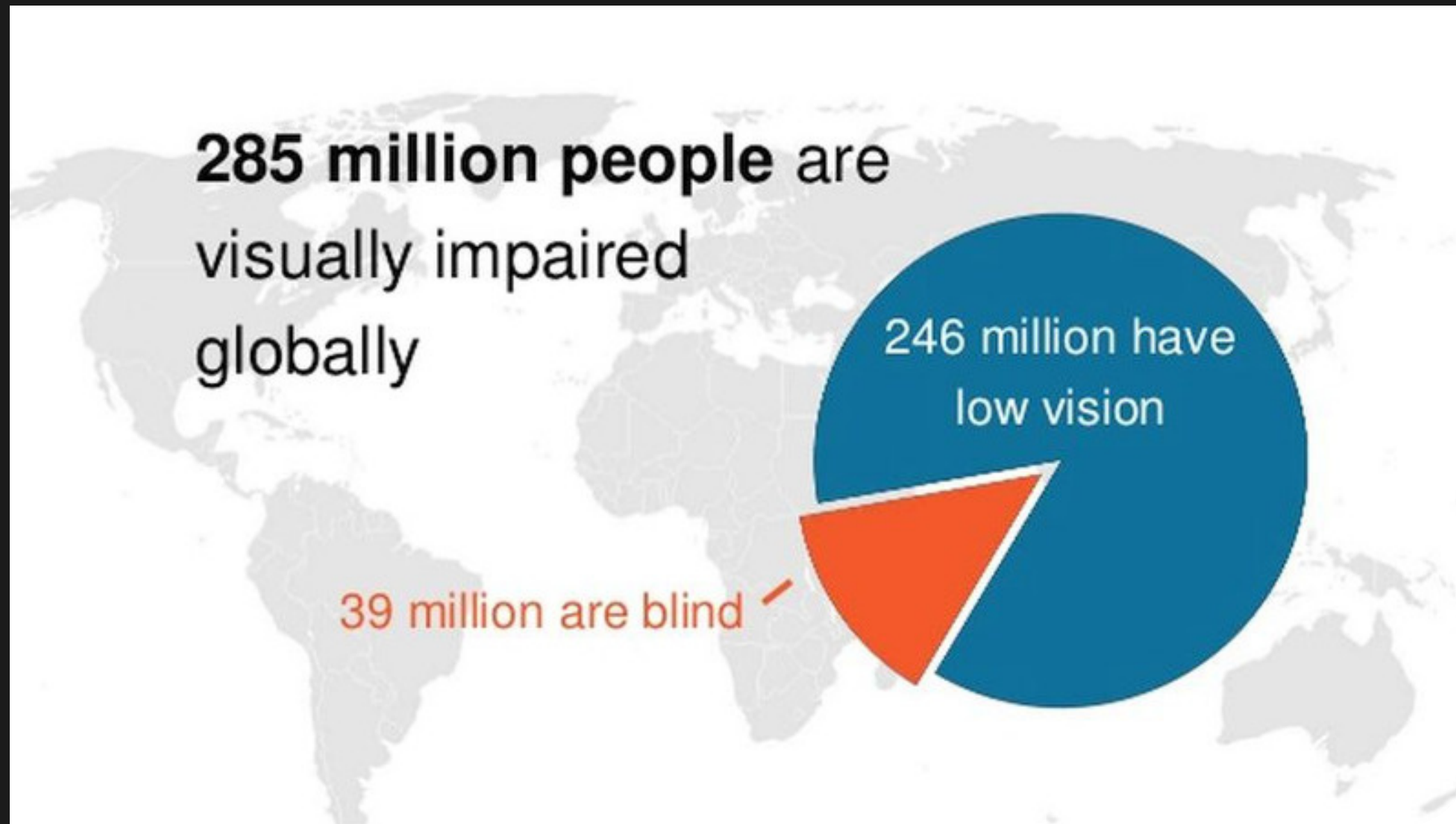
## NEEDS

- Data visualization: Air Rights, map view, transit info, building data
- Have a fun and memorable day trip with her grand kids
- Have a low impact day and avoid walking long distances.
- Is limited by mobility; would rather not be walking around for extended periods, has friends who are in wheelchairs



# Accessibility

## Design for Visual Impairment and Blindness



# Accessibility

Design for Visual Impairment and Blindness

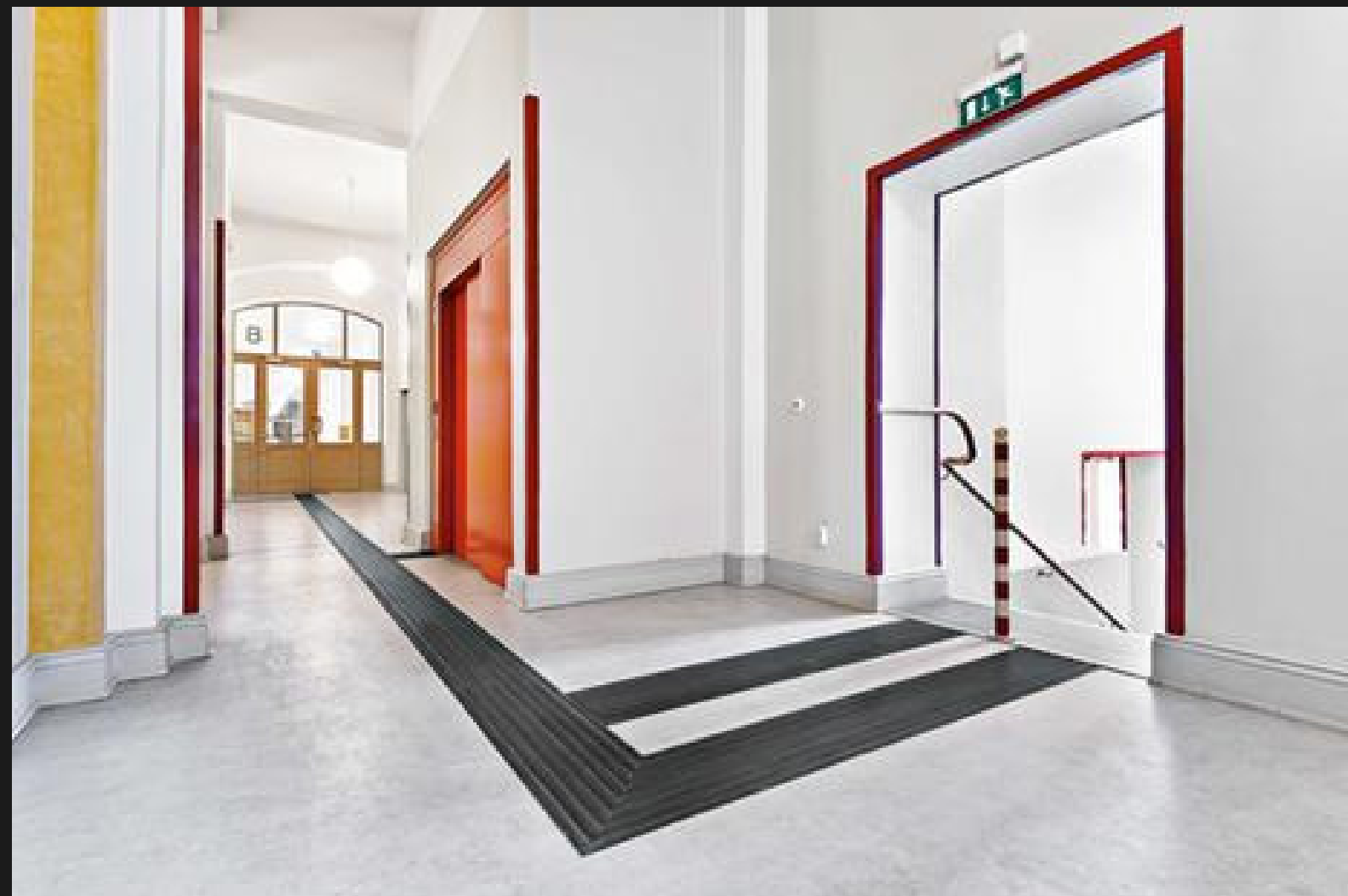


The model must support a tactile experience.



# Accessibility

## Design for Visual Impairment and Blindness



[https://professionals.tarkett.com/en\\_EU/collection-C000285-tactile-strips](https://professionals.tarkett.com/en_EU/collection-C000285-tactile-strips)



<https://adatile.com/detectable-warning-surfaces-keep-schools-airports-mass-transit-environments-safe/>

# Accessibility

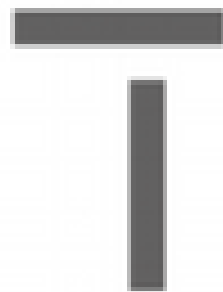
## Design for Visual Impairment and Blindness



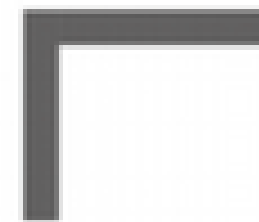
stop



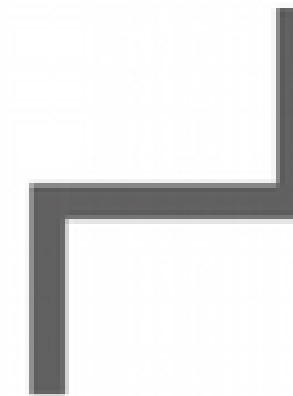
continue



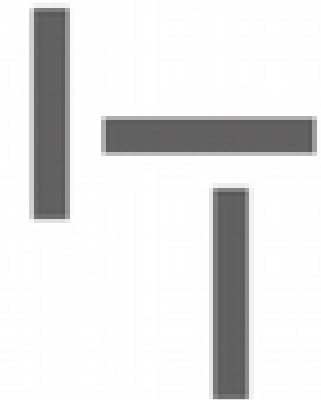
functional  
connection



directional  
indicator



multi-  
directional

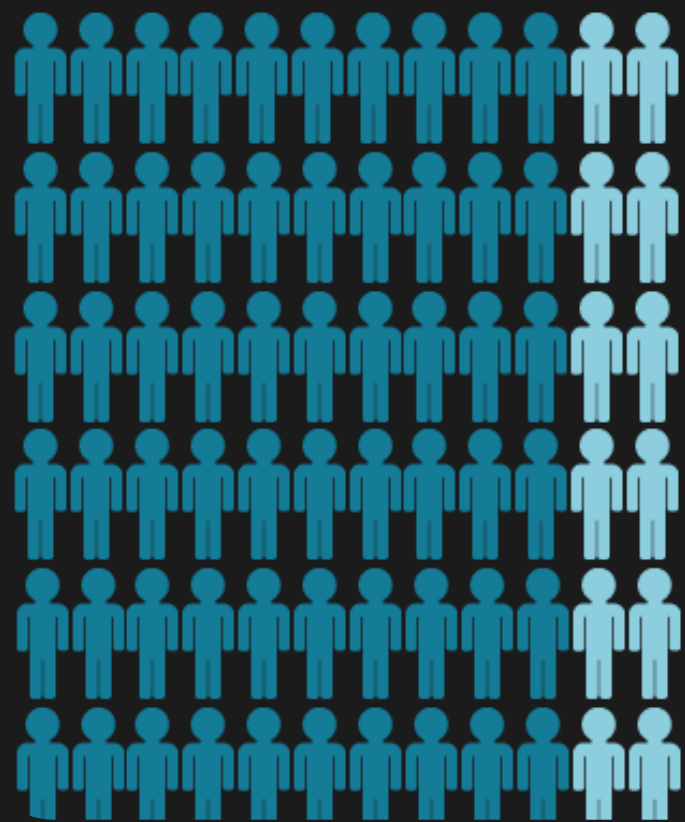


functional  
combination

# Accessibility

## Design for the Deaf and Hearing Impaired

About 1 billion people in the world live with disabilities.



...of those, about 275 million have hearing loss.

About **5** million have profound deafness.



# Summary of Research and Findings

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## CROWDS

Ensure good movability around the exhibition while addressing concerns of accessibility and social distancing

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## SENSORY

Encouraging physically interactions to promote accessibility and flexibility in the design

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## COST AND TIME

Paid exhibitions become a barrier to entry especially coupled with the frustrations of commuting and traffic

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## DISCOVERABILITY

Gaps in business information, city planning, opportunities socially and for activism

# How might we...

Create a model that anticipates all users and serves all of their needs, in all of their intersectionality at once and is flexible enough to facilitate user interaction on their terms, for their needs. **An open design.**

Tiny



Town

# Table Ideas



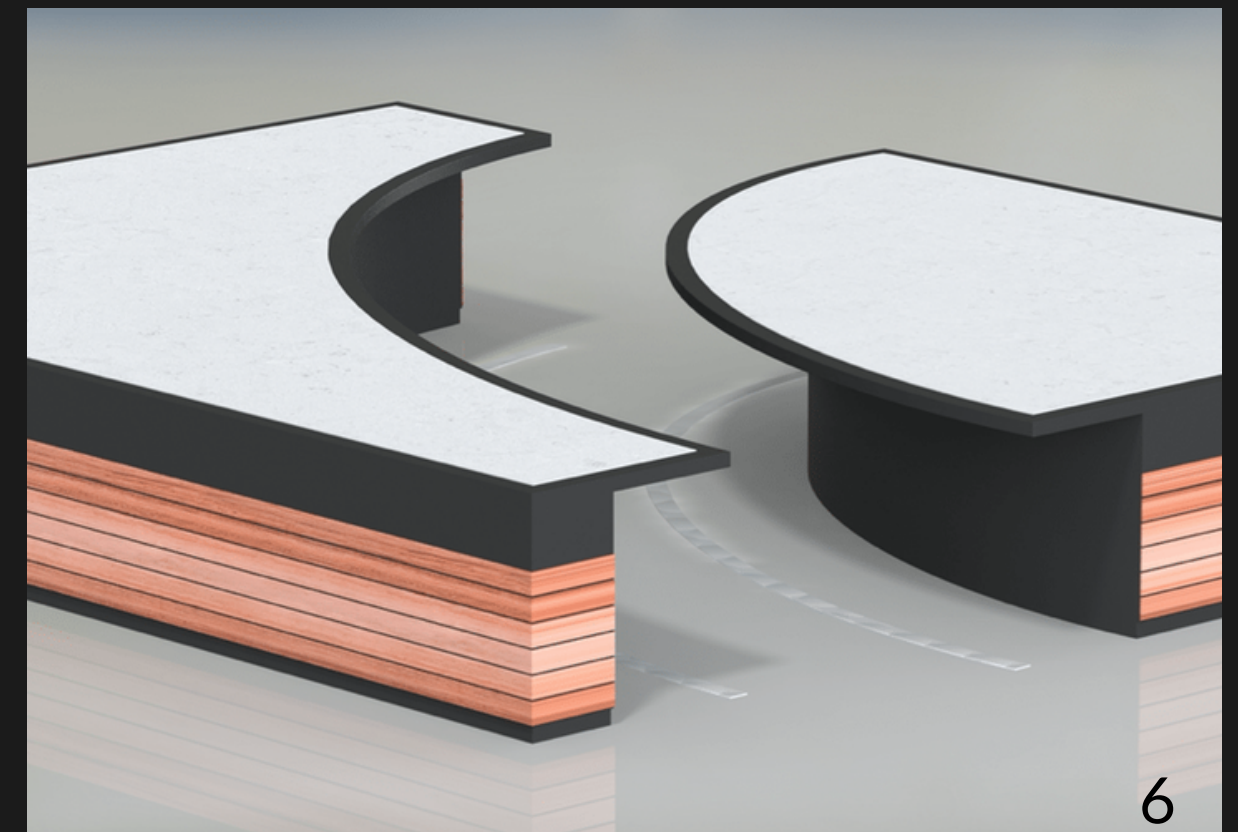
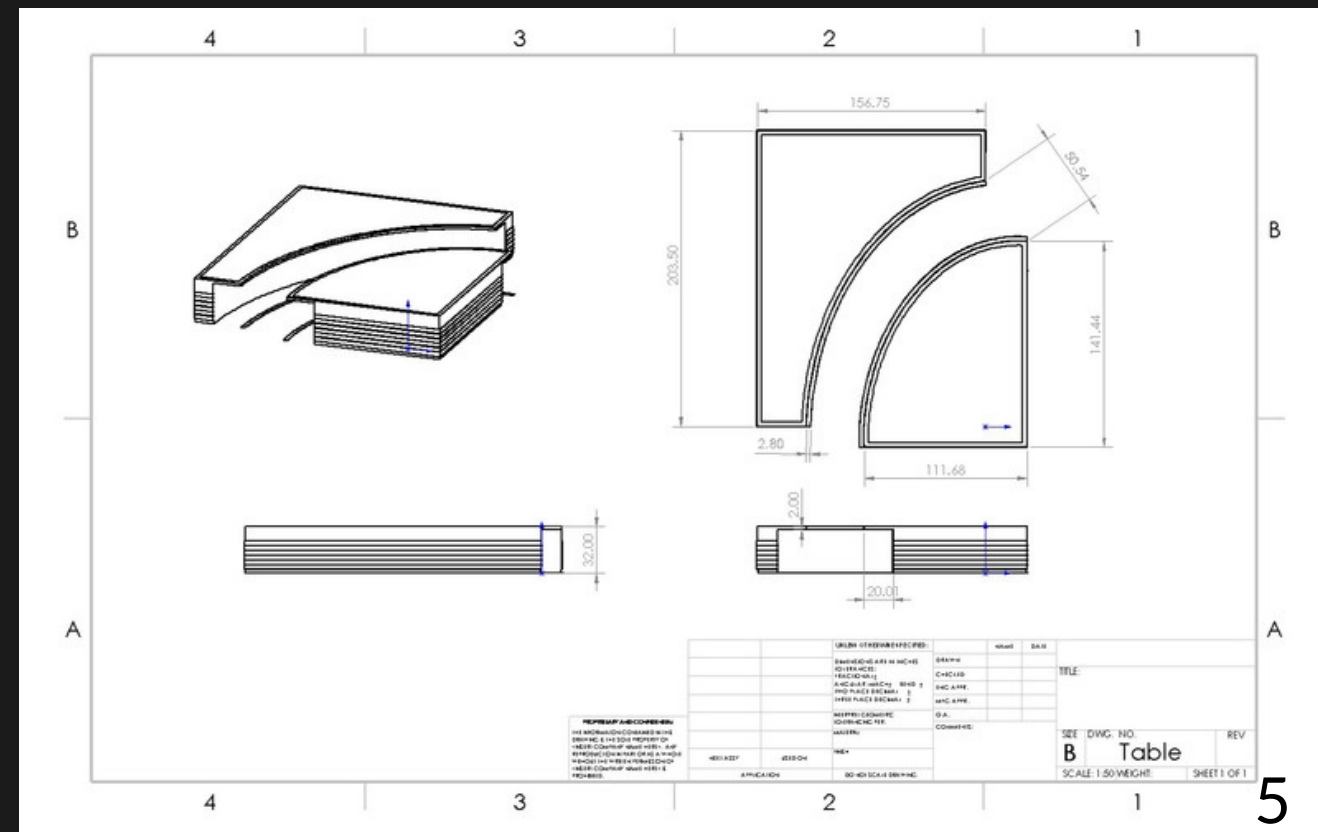
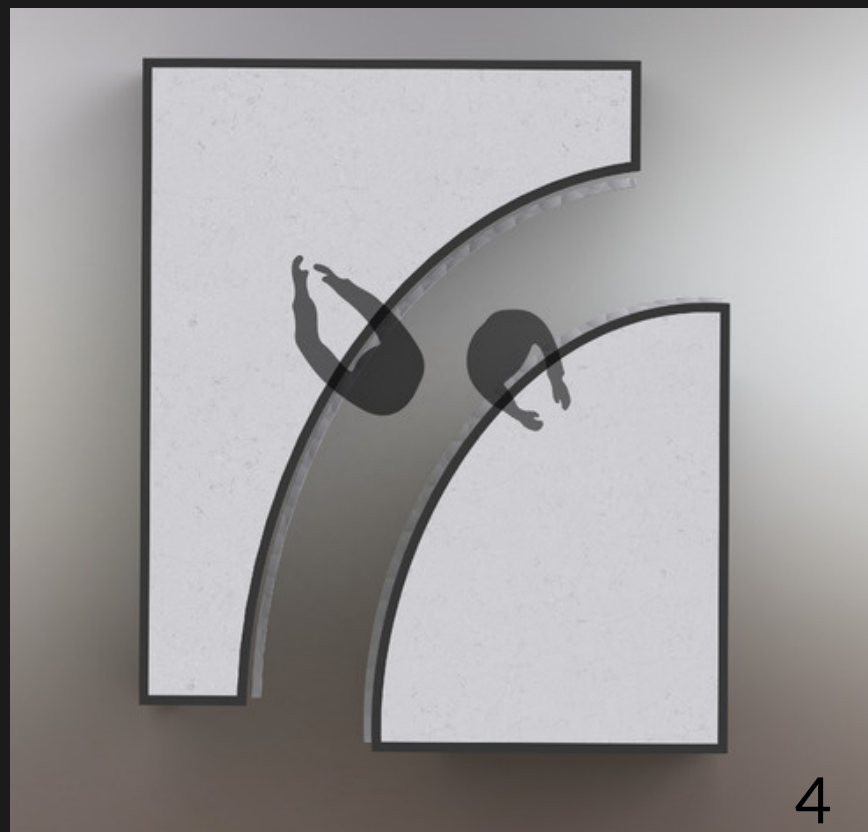
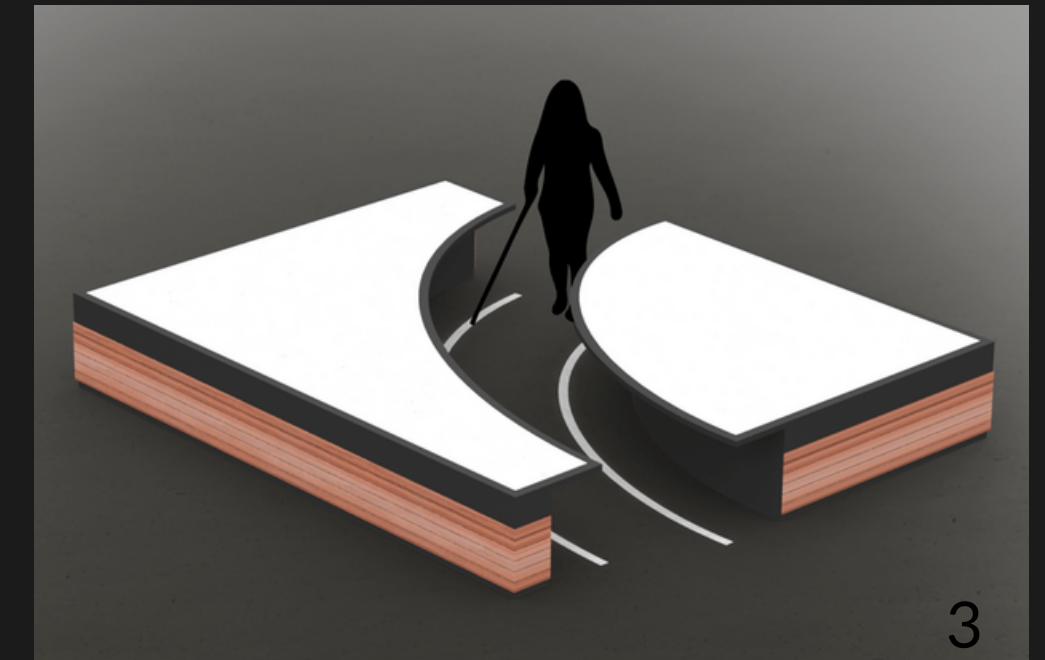
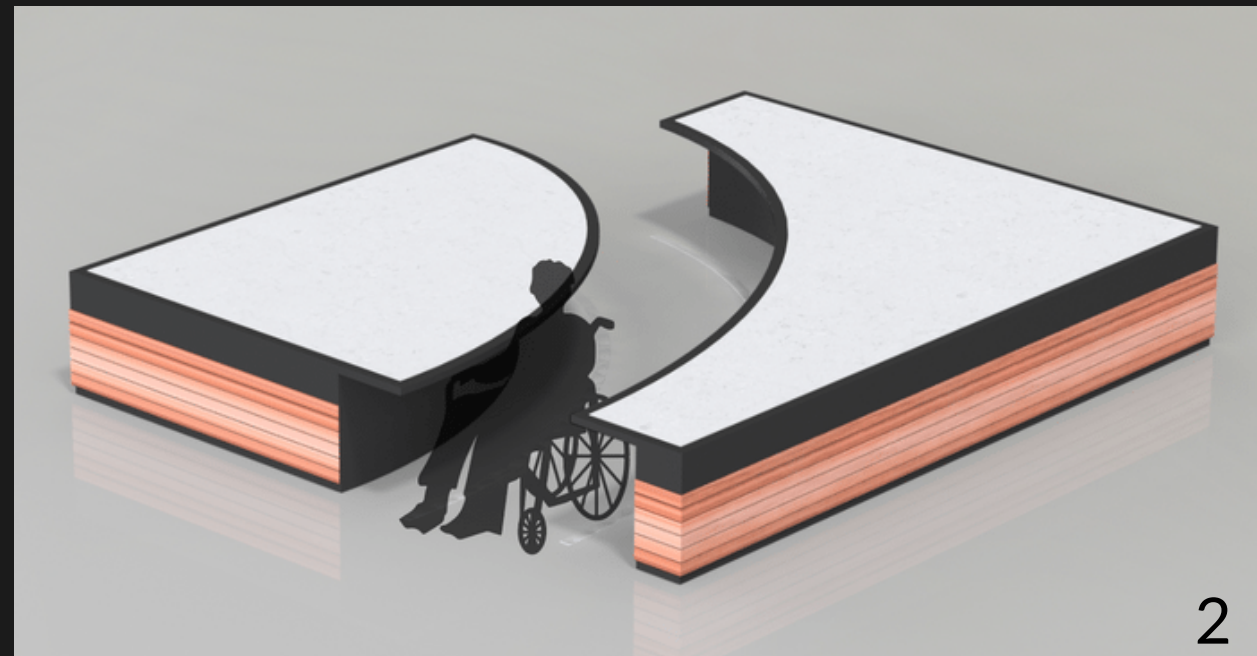
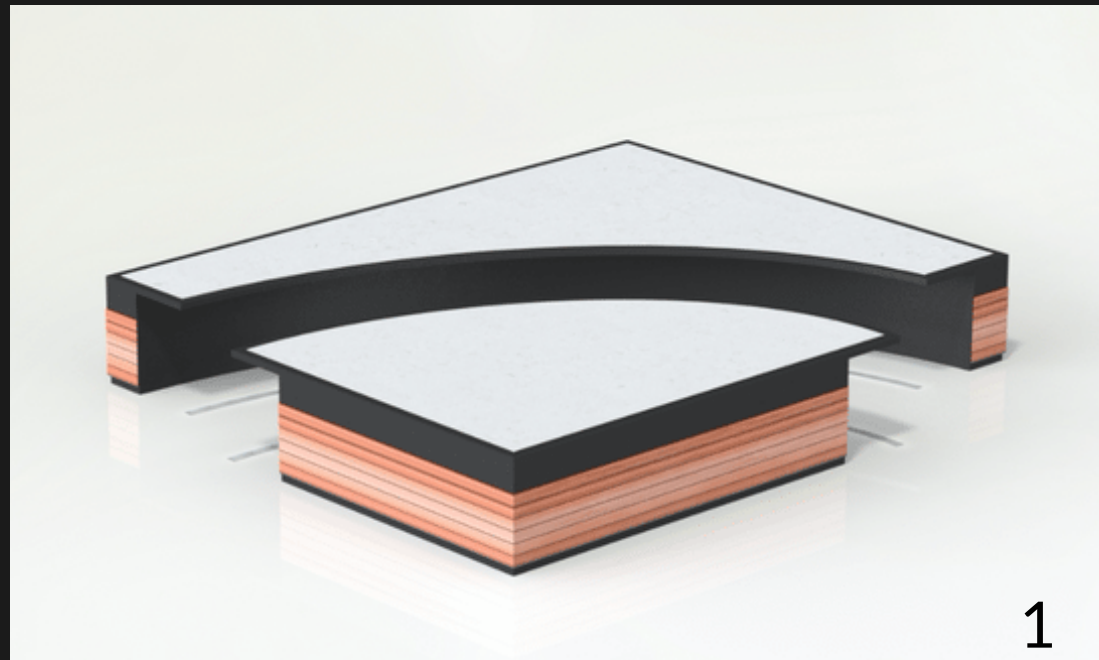
# Accessibility

Design for the Deaf and Hearing Impaired



# Table Concept

# SolidWorks Renders





# Table Render



# SolidWorks Renders





# Production

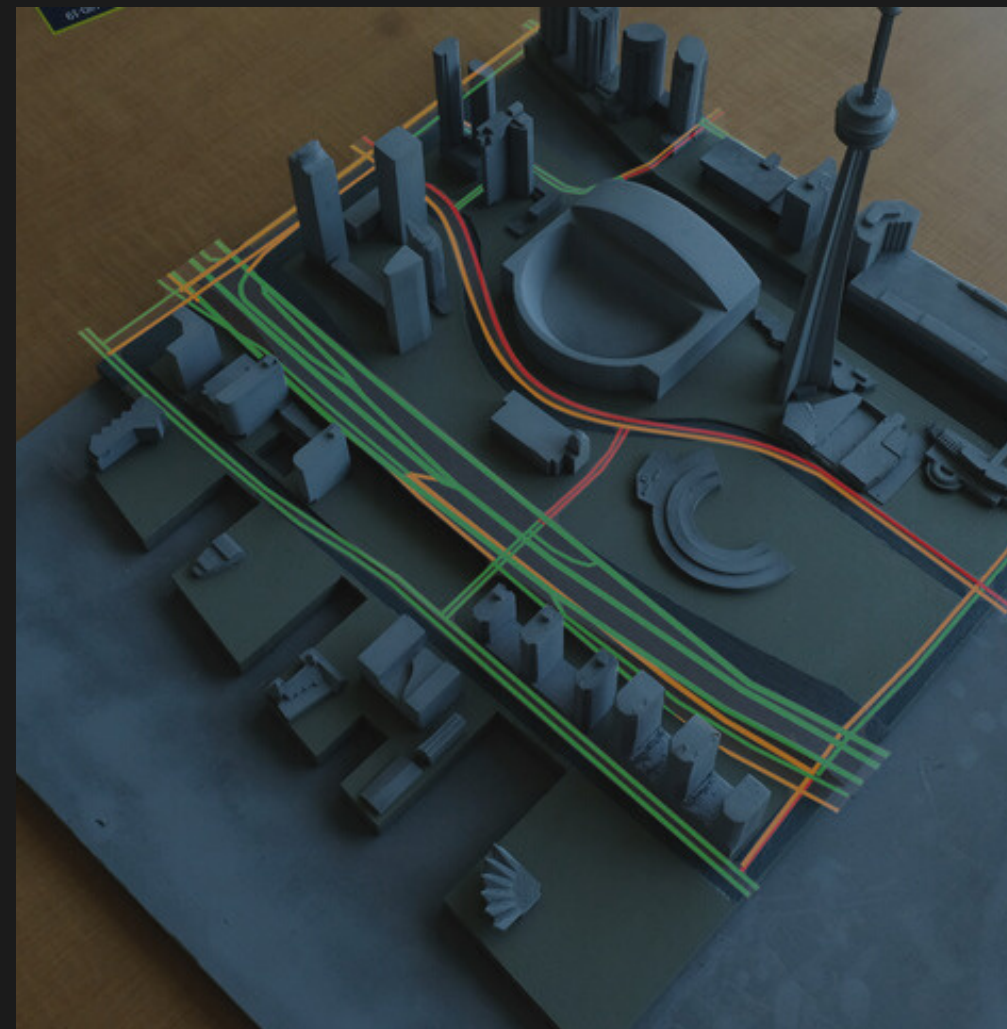
# Prototype

Ways to Interact

Tactile 3D Model



Projection Overlays



AR Experience

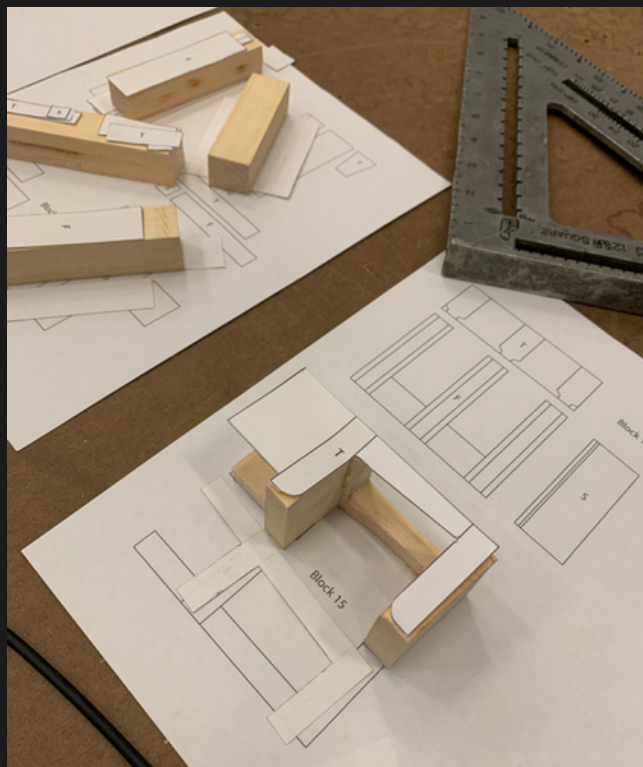
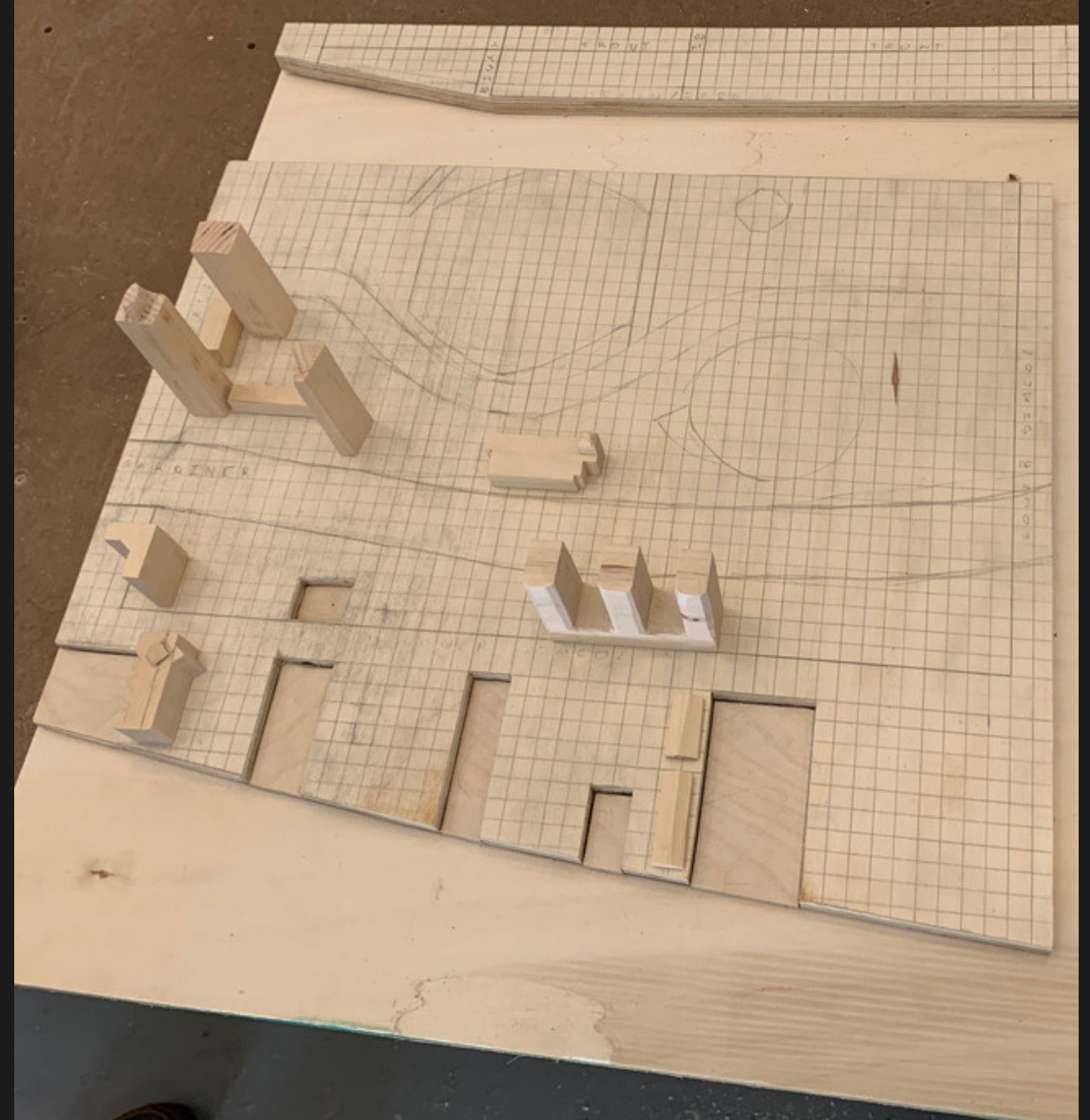
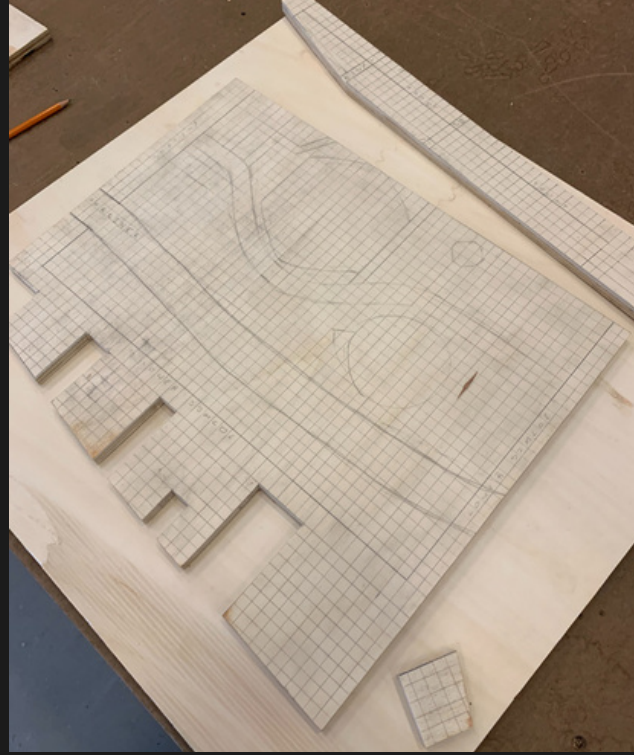
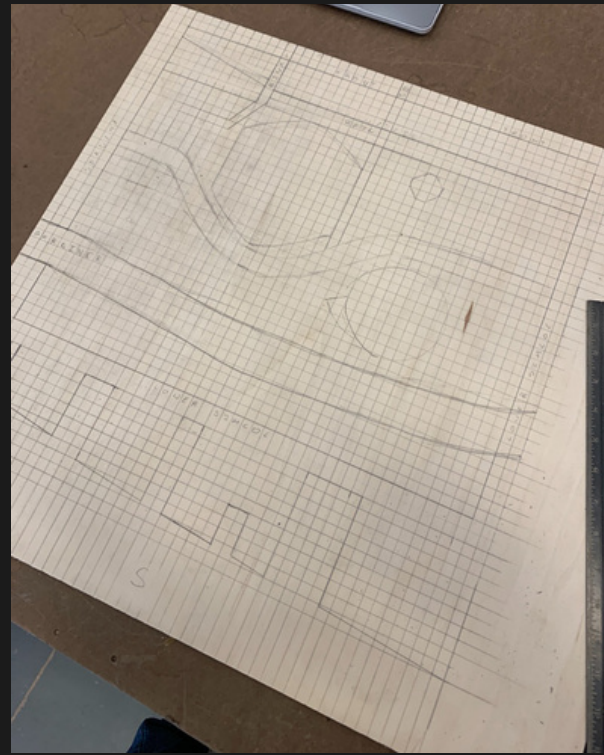


# Tactile 3D Model

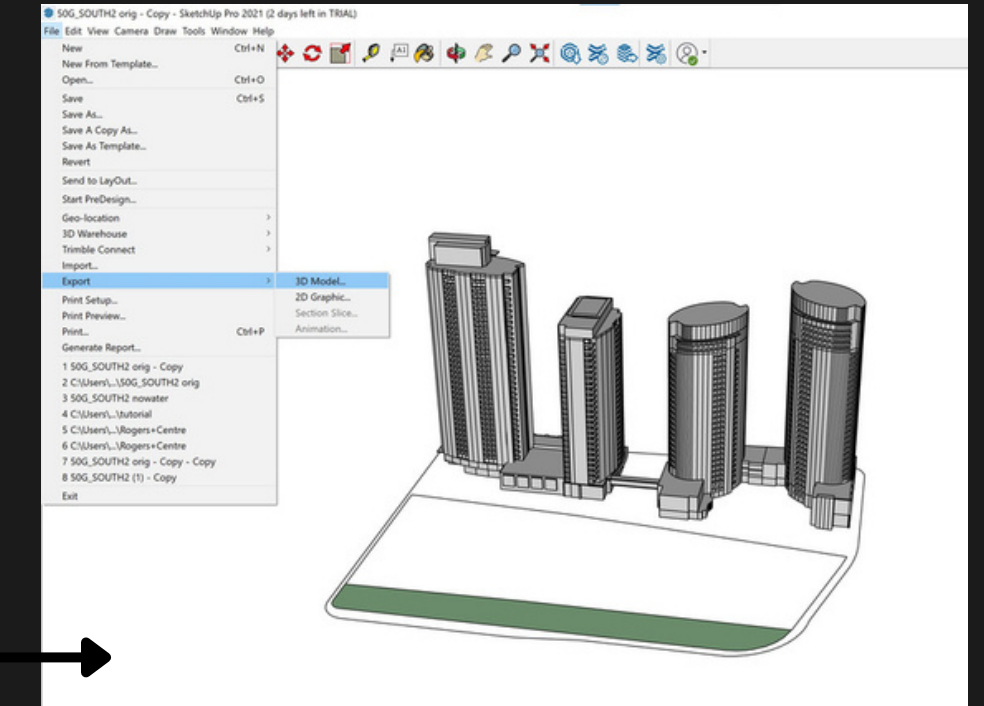
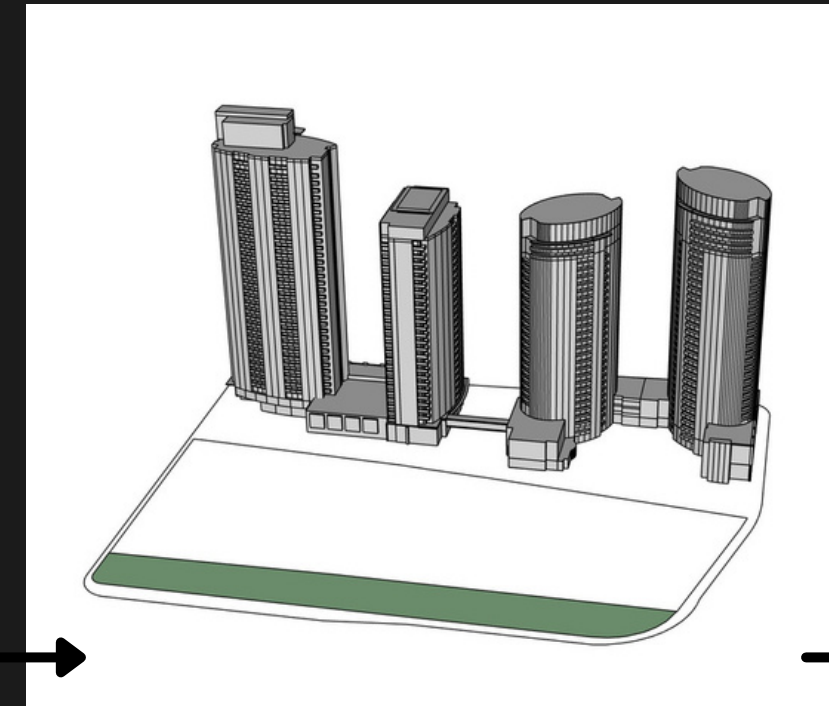
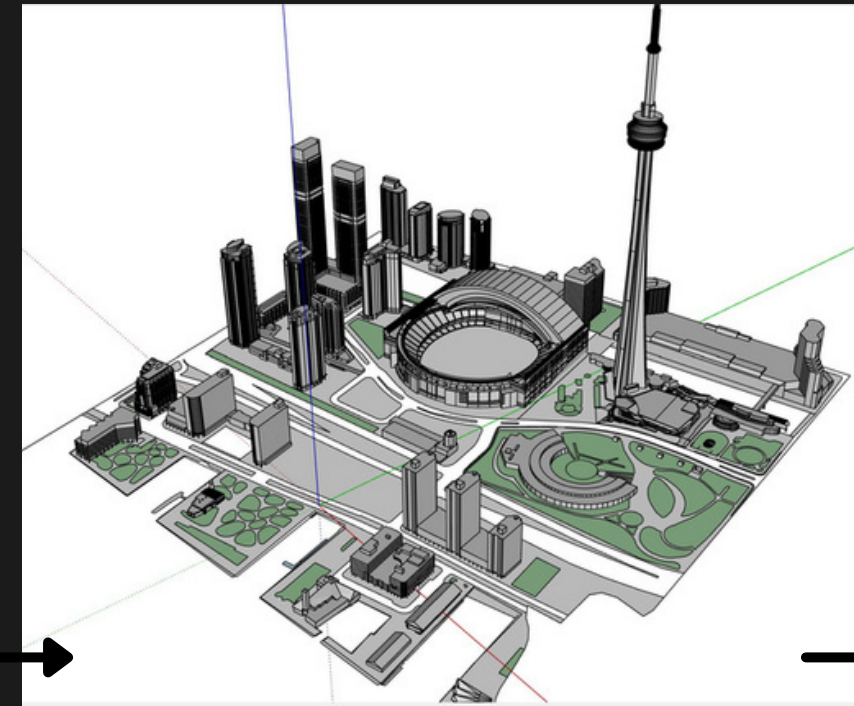
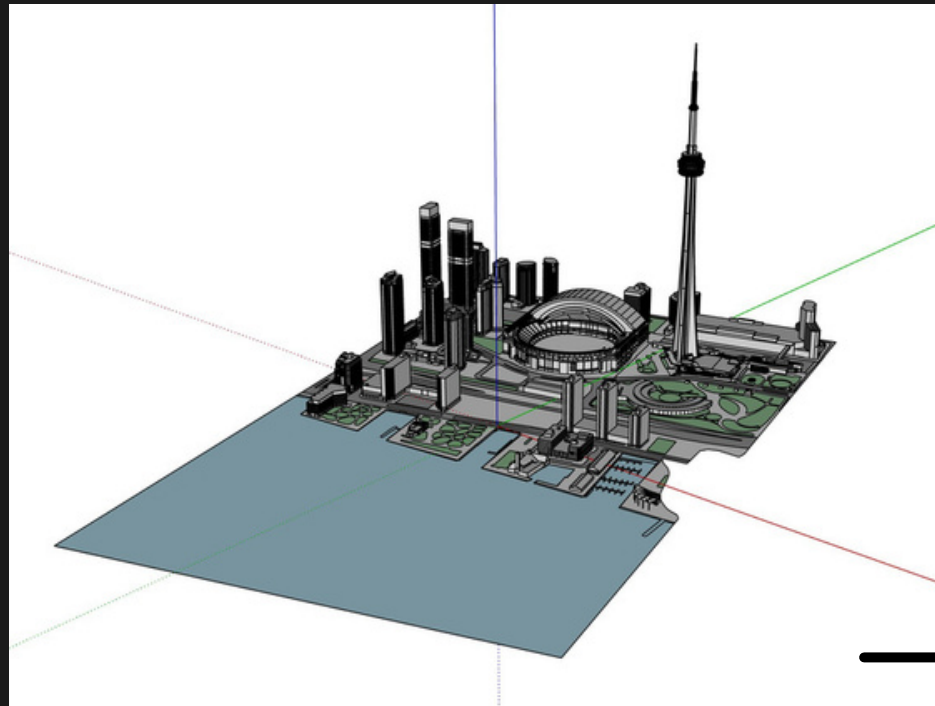
The image features a grayscale background of a city skyline, including the CN Tower, viewed from across a body of water. In the foreground, a tactile 3D model of the same city skyline is displayed on a flat surface. The model consists of various rectangular blocks of different heights and widths, representing buildings. The text 'Tactile 3D Model' is overlaid in the center in a bold, white, sans-serif font.

# The Build Process

Wood working



# 3D Massing to 3D Printing

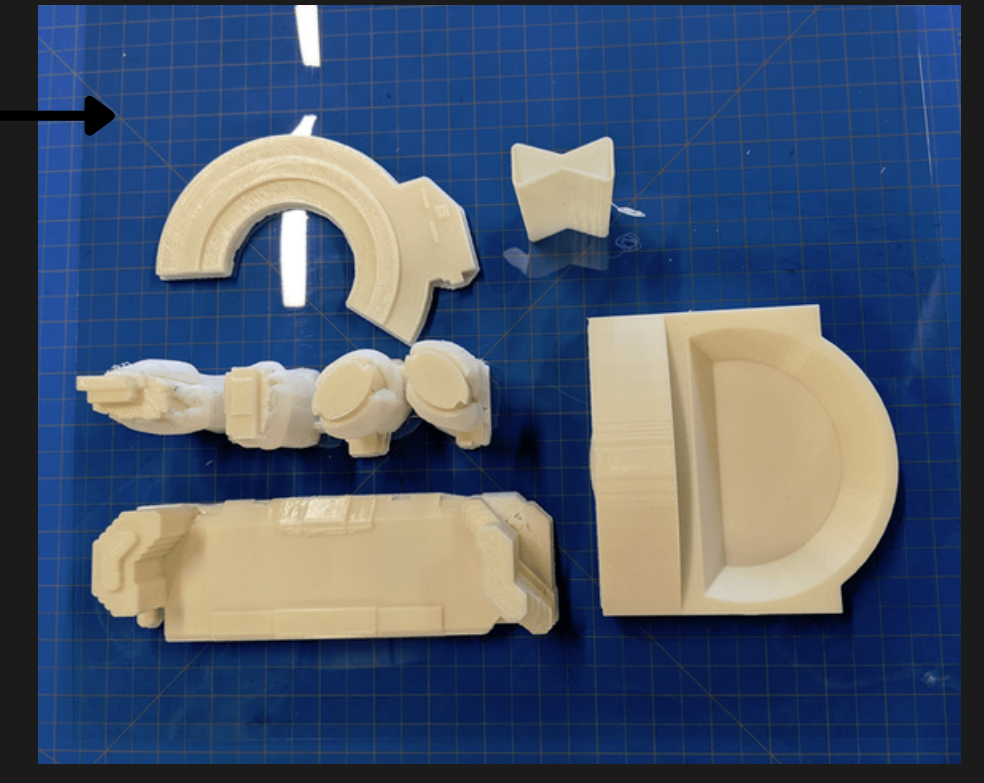
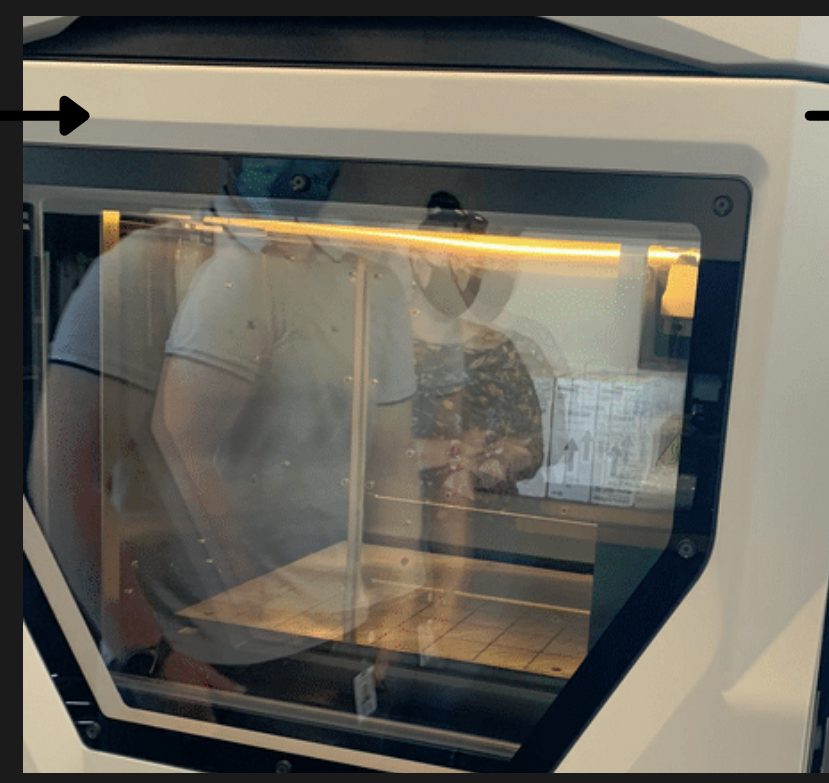
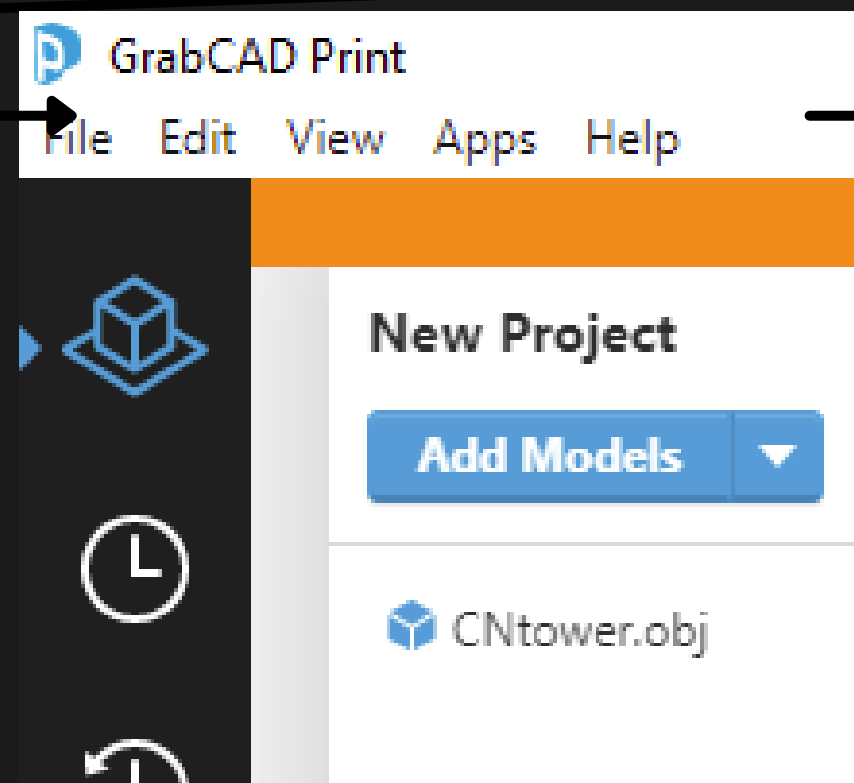
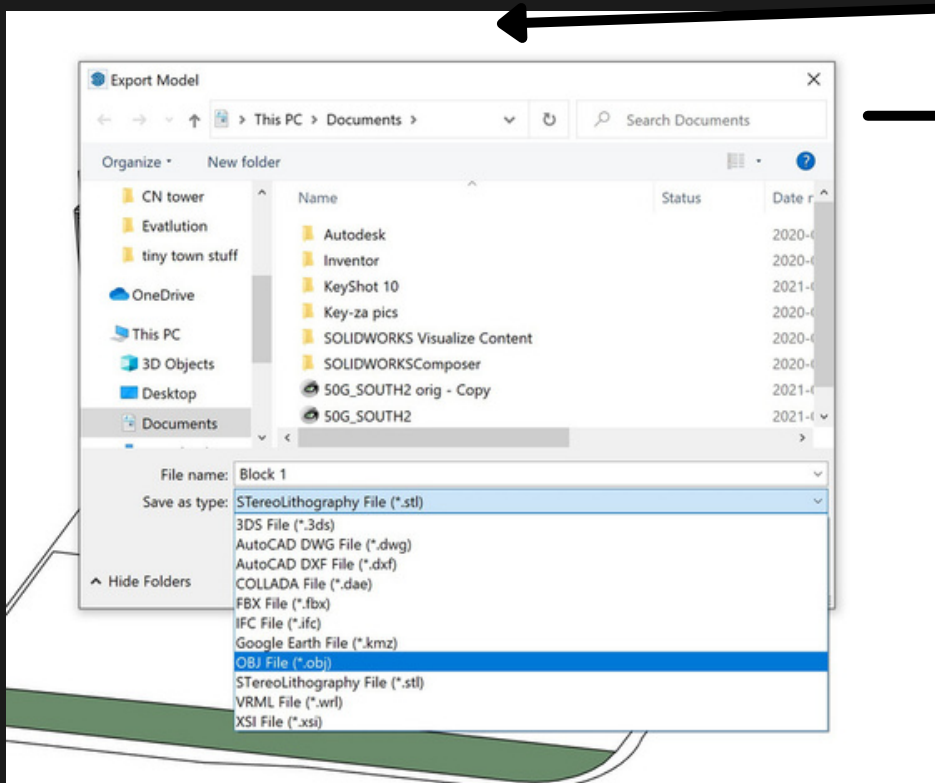


The Block from the 3D massing

Edit the landscape

Prepare the file

Export as a 3D model



Export as an OBJ

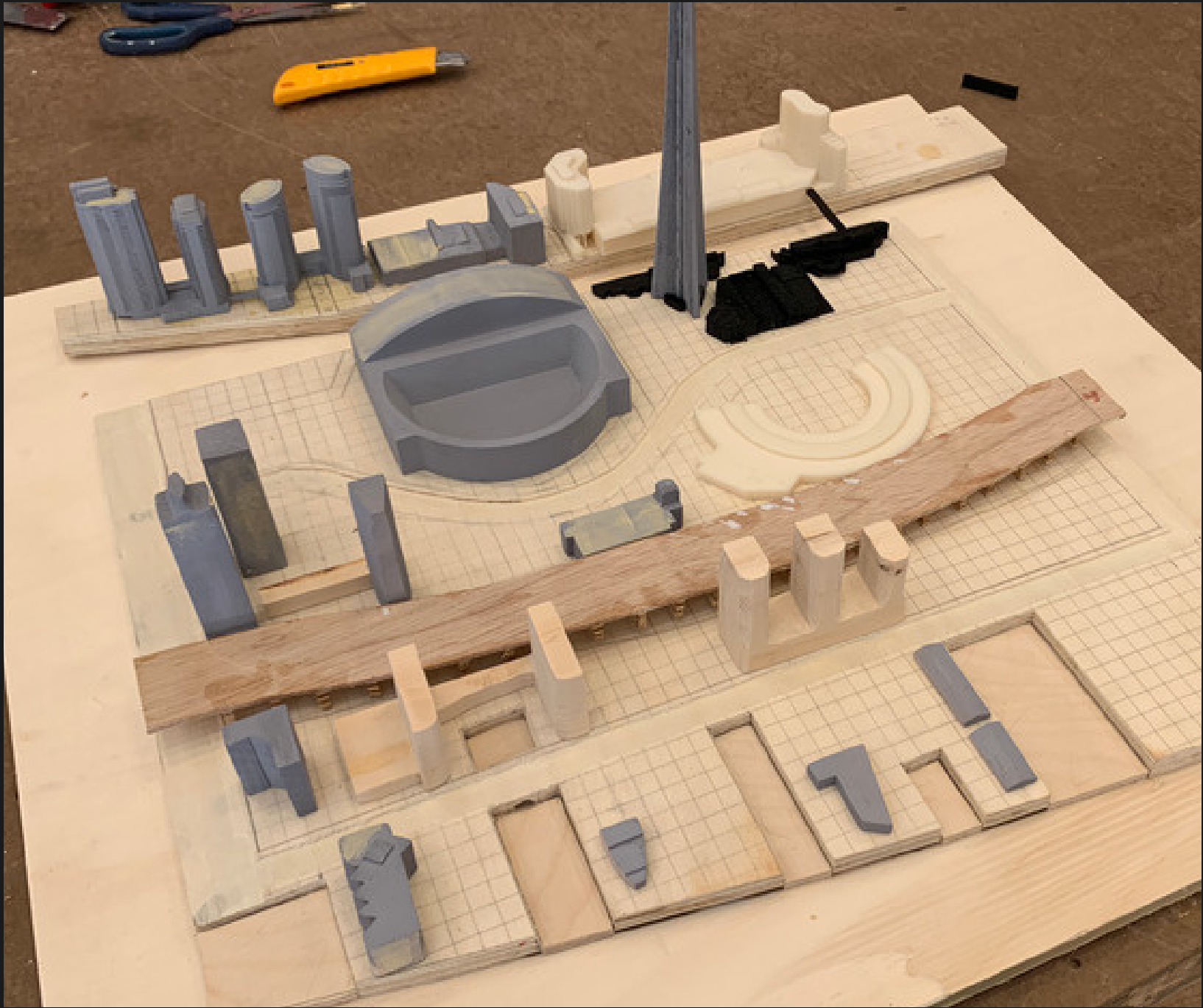
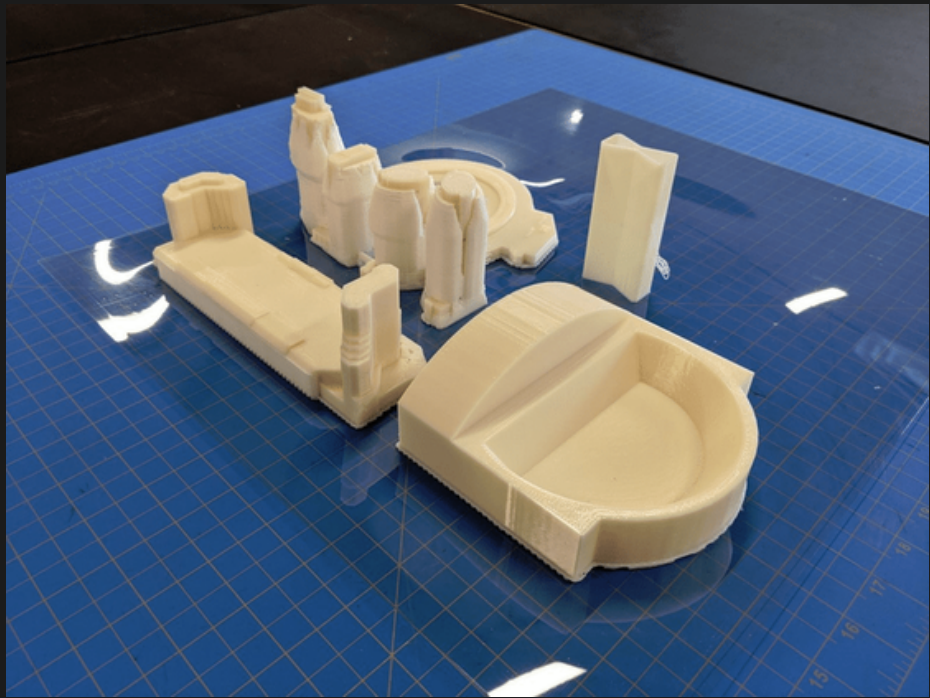
Importing to GrabCAD Print

Setup 3D Printer

Extract prototype for paint and installation

# The Build Process

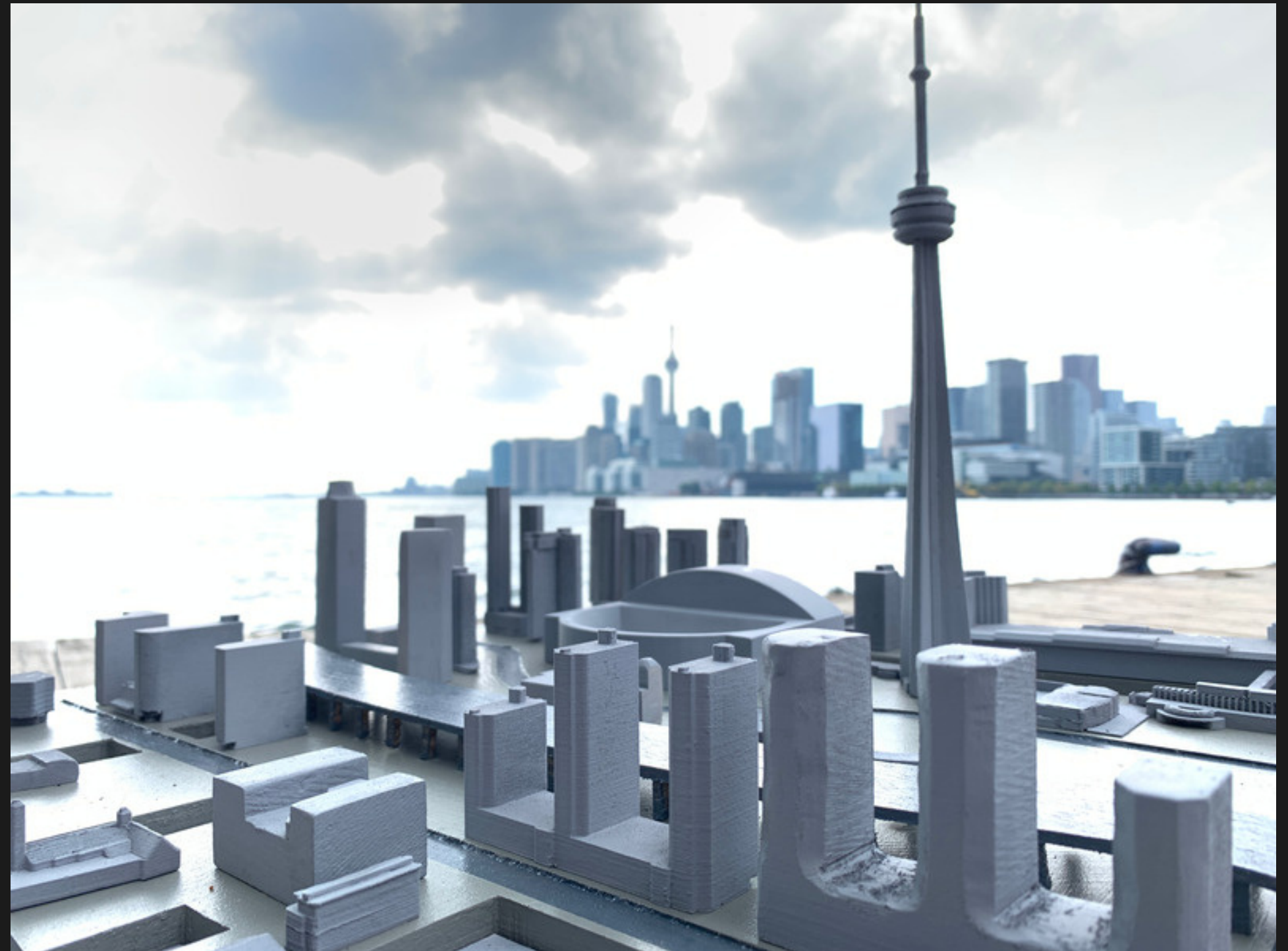
3D Printing



# Prototype



# Tactile 3D Model





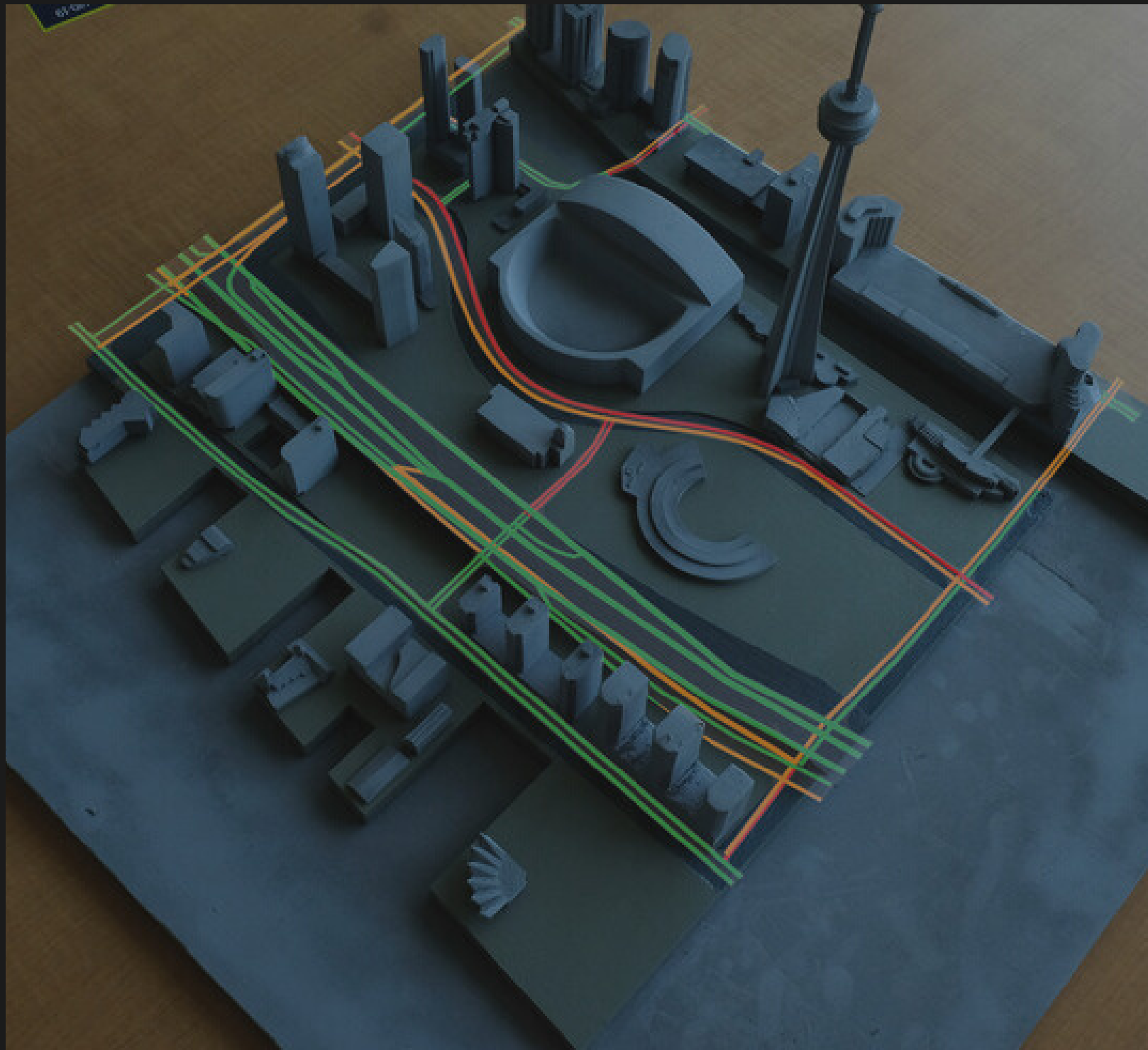
The background features a dark blue field with a grid of thin, light-colored lines. Overlaid on this are several thick, hand-drawn lines in orange, red, and green. These lines form a series of overlapping, wavy shapes that resemble a stylized landscape or a complex network. The orange lines form a large, central, bowl-like shape. The red line follows a similar path but is slightly higher and more irregular. The green lines are more horizontal and layered, some appearing as a base or as additional paths. The overall effect is that of a technical drawing or a conceptual diagram with a focus on projection and overlay.

# Projection Overlays

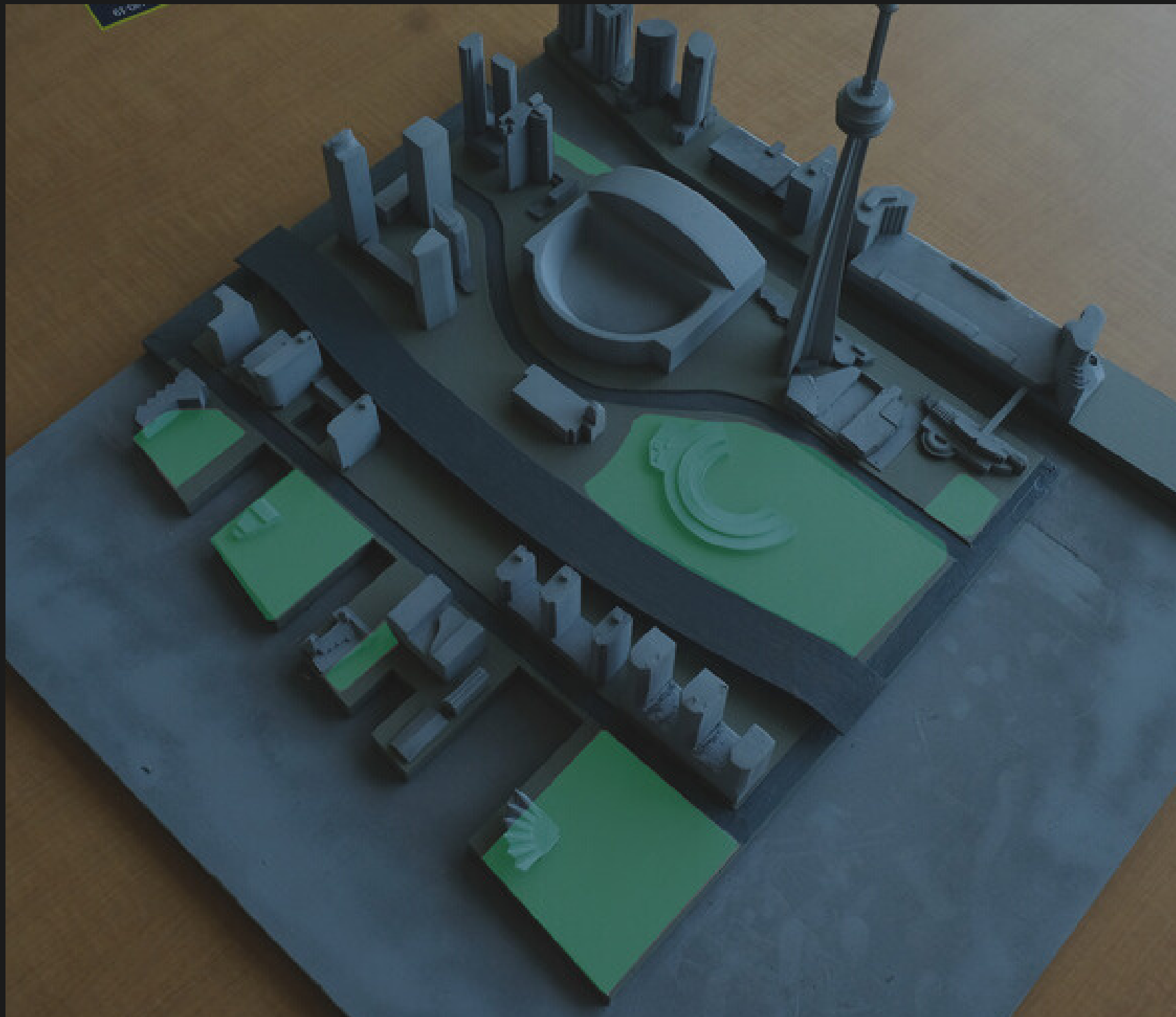
# What is Projection Overlay

- Display information directly onto the model.
- Request information such as traffic, transit and bike routes.
- Create highlights such as green areas, emergency buildings, heritage buildings, etc.





Traffic overlay on prototype



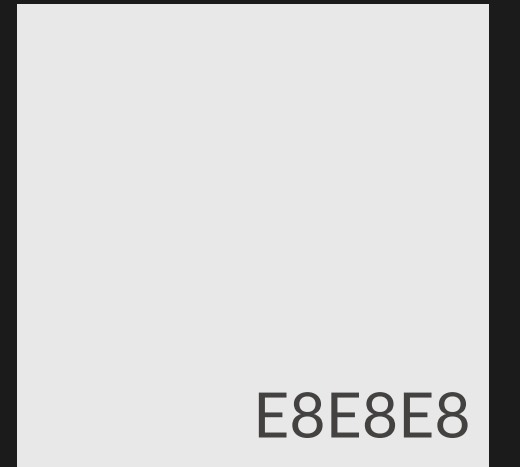
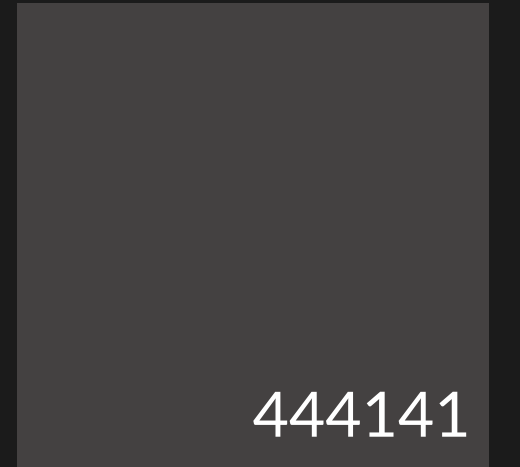
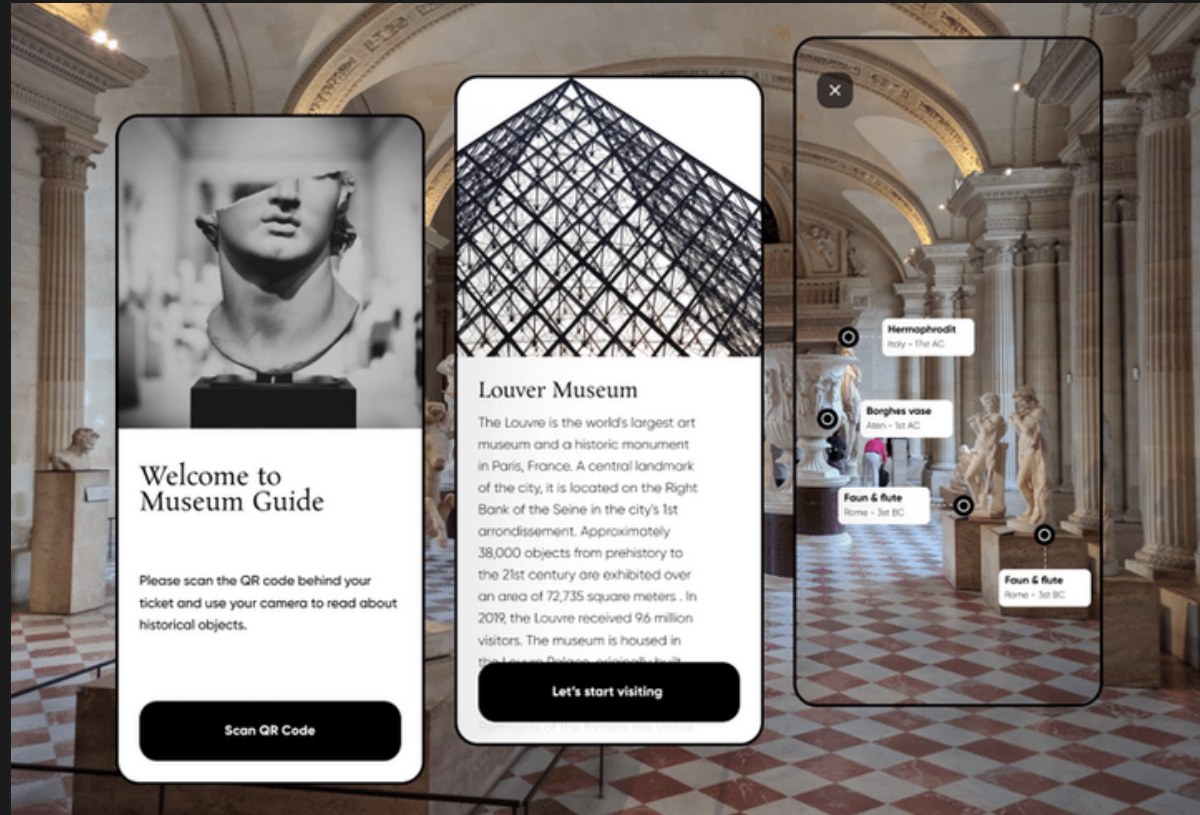
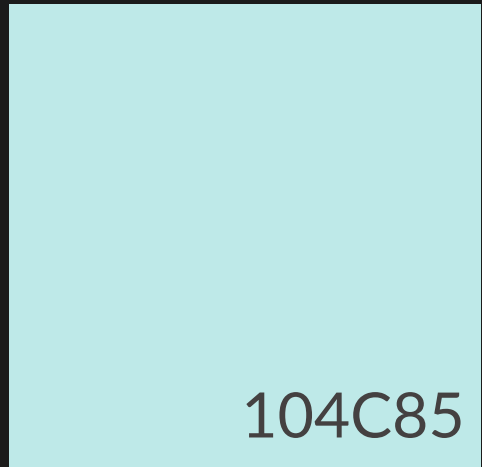
Green area overlay on prototype



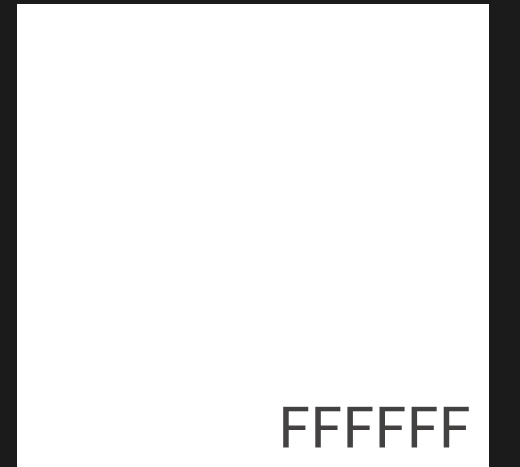
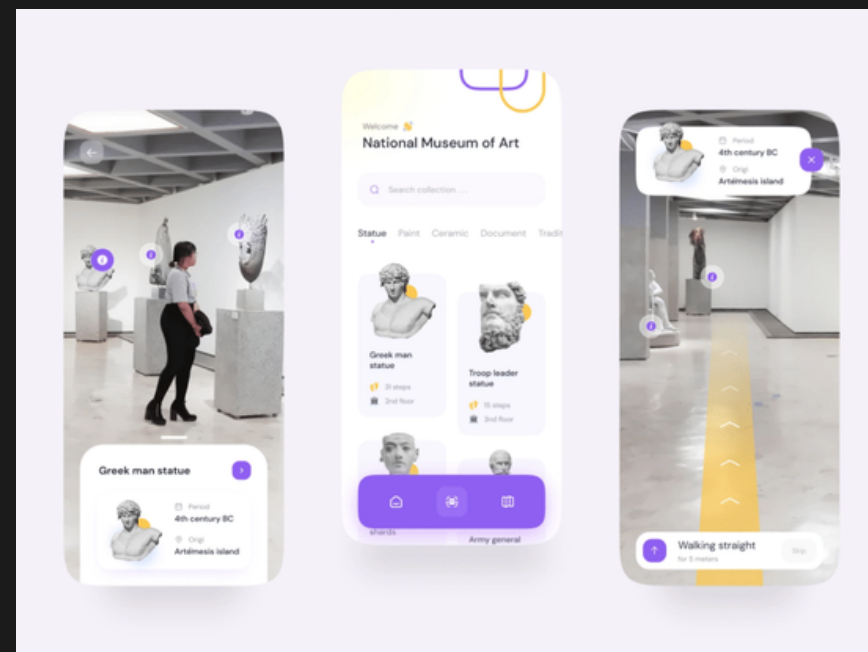
AR

Experience

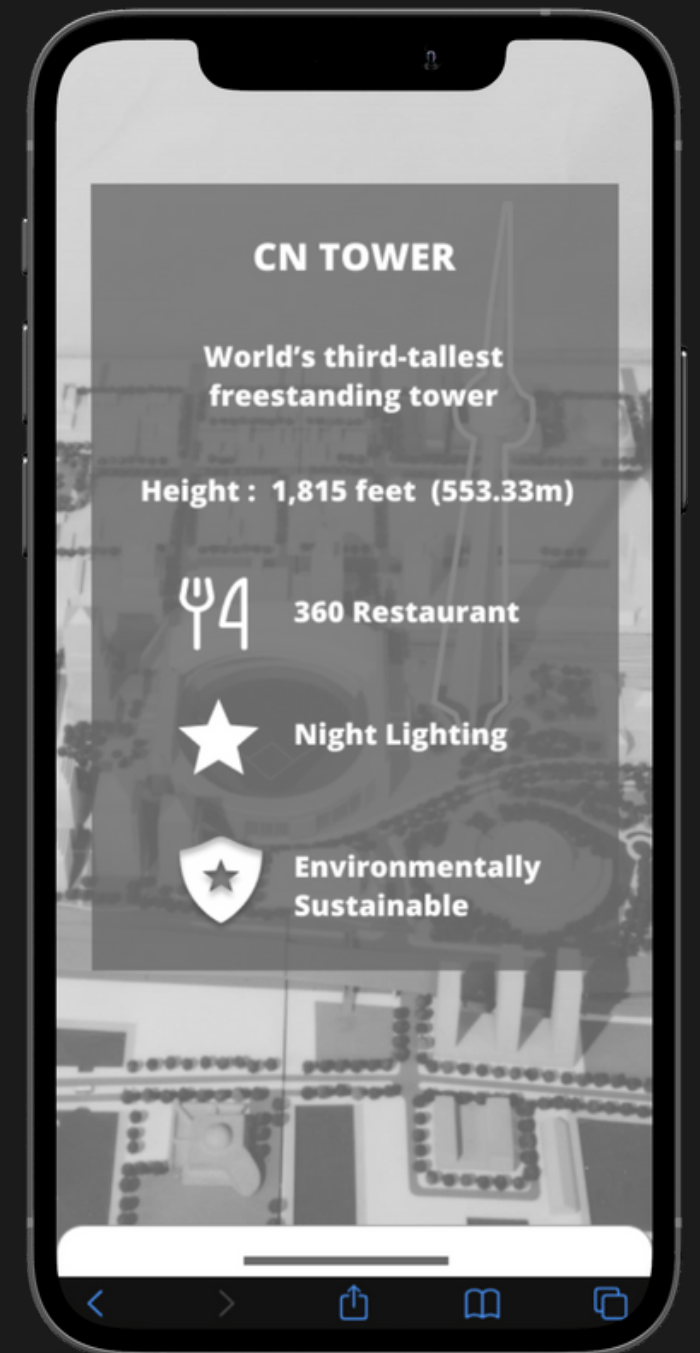
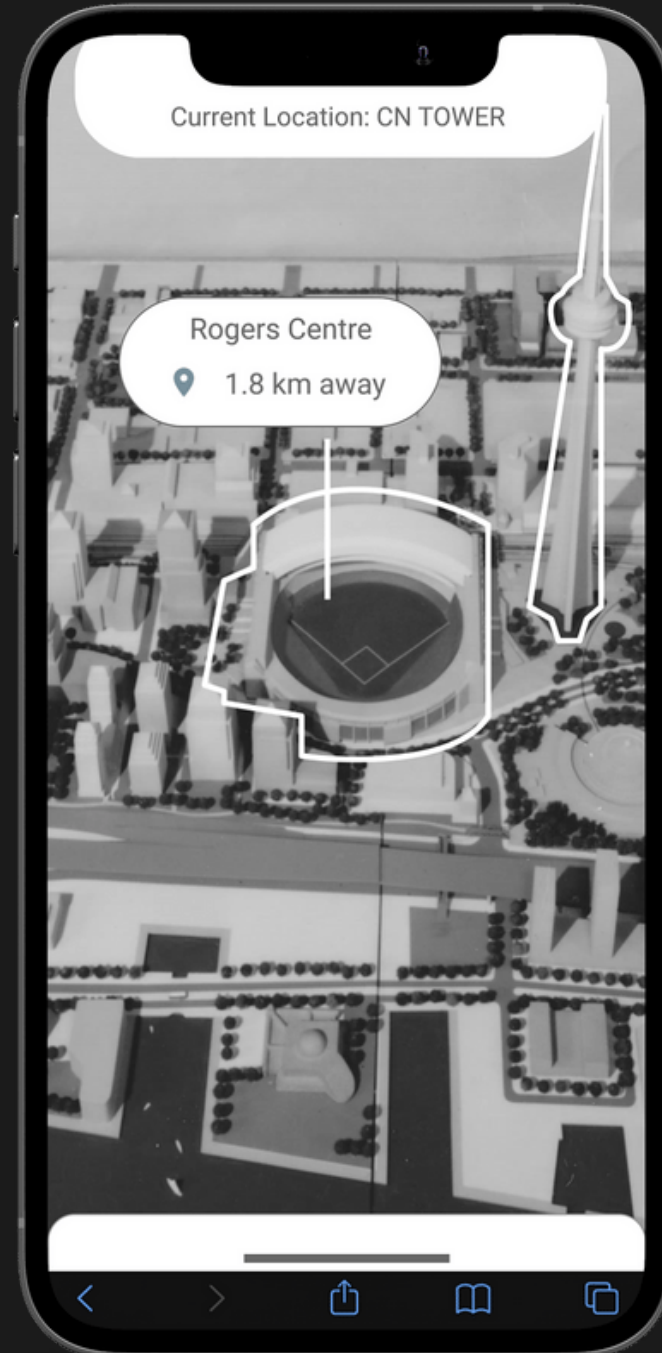
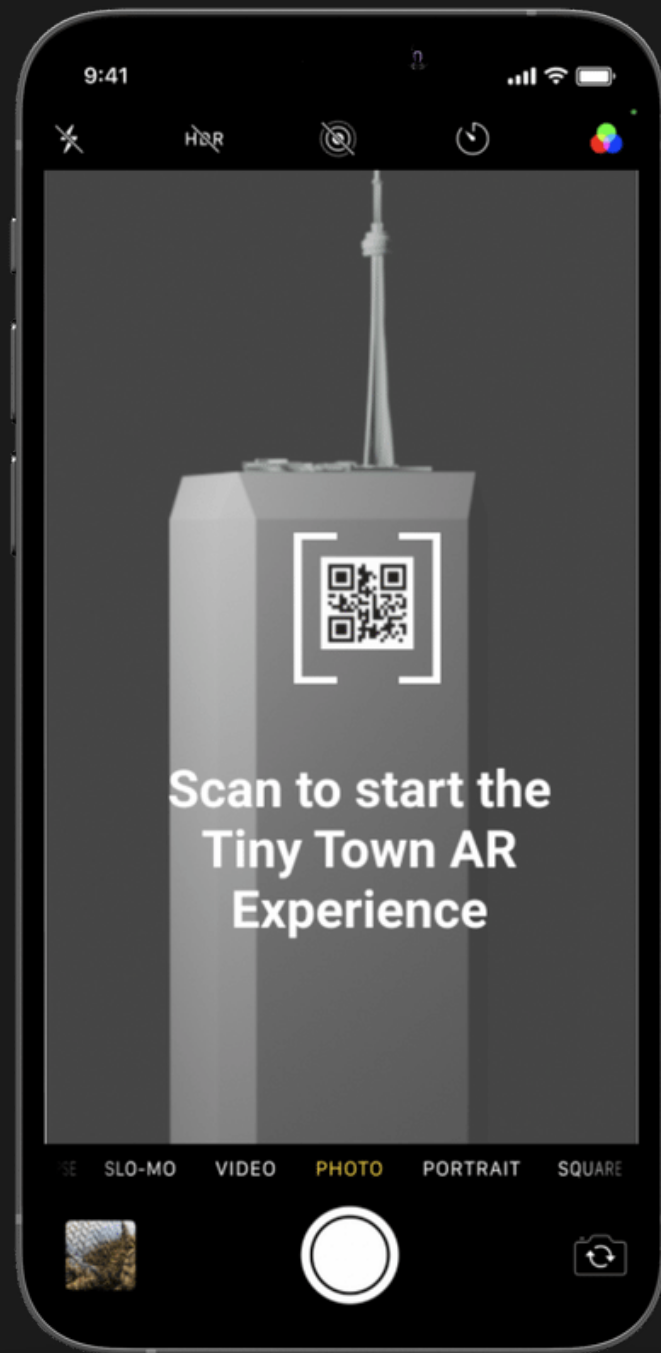
# Moodboard



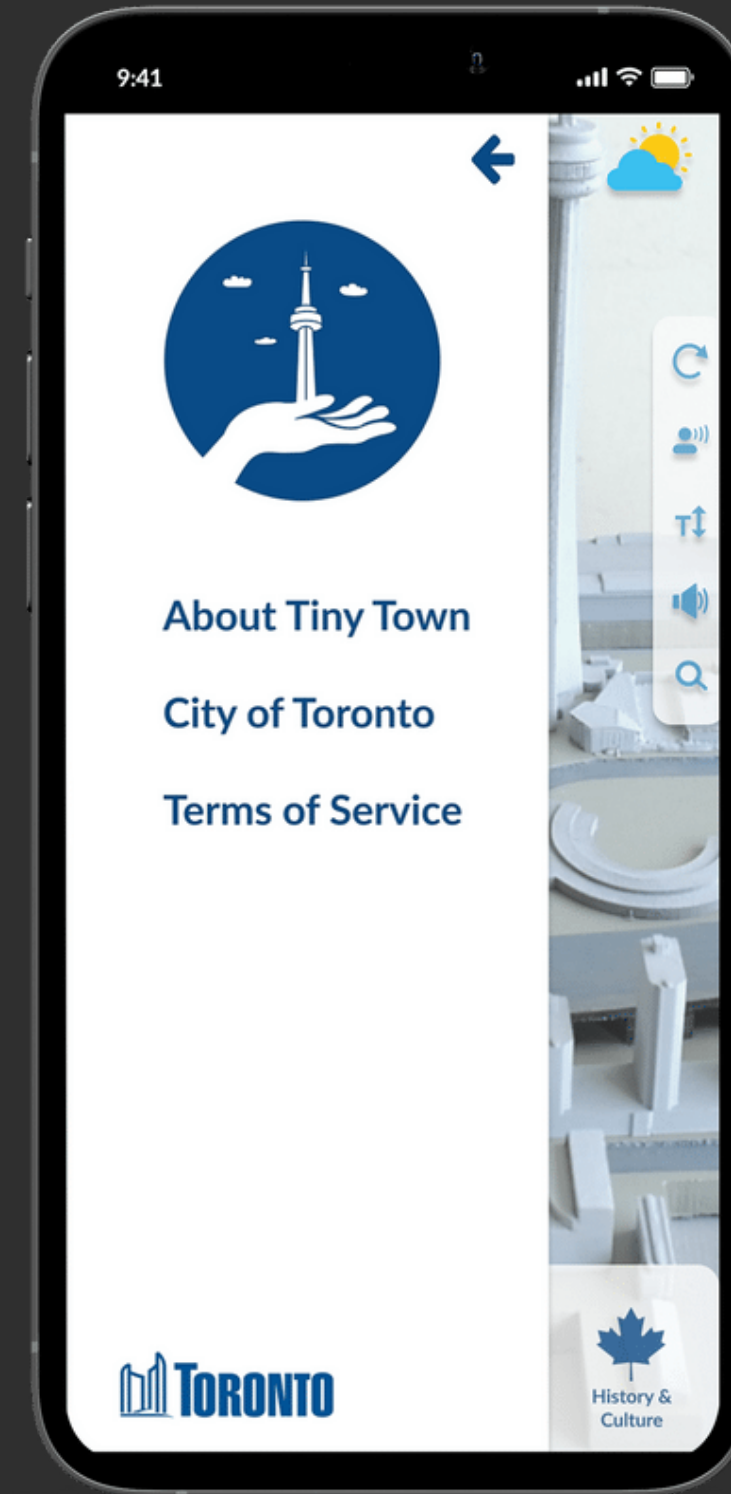
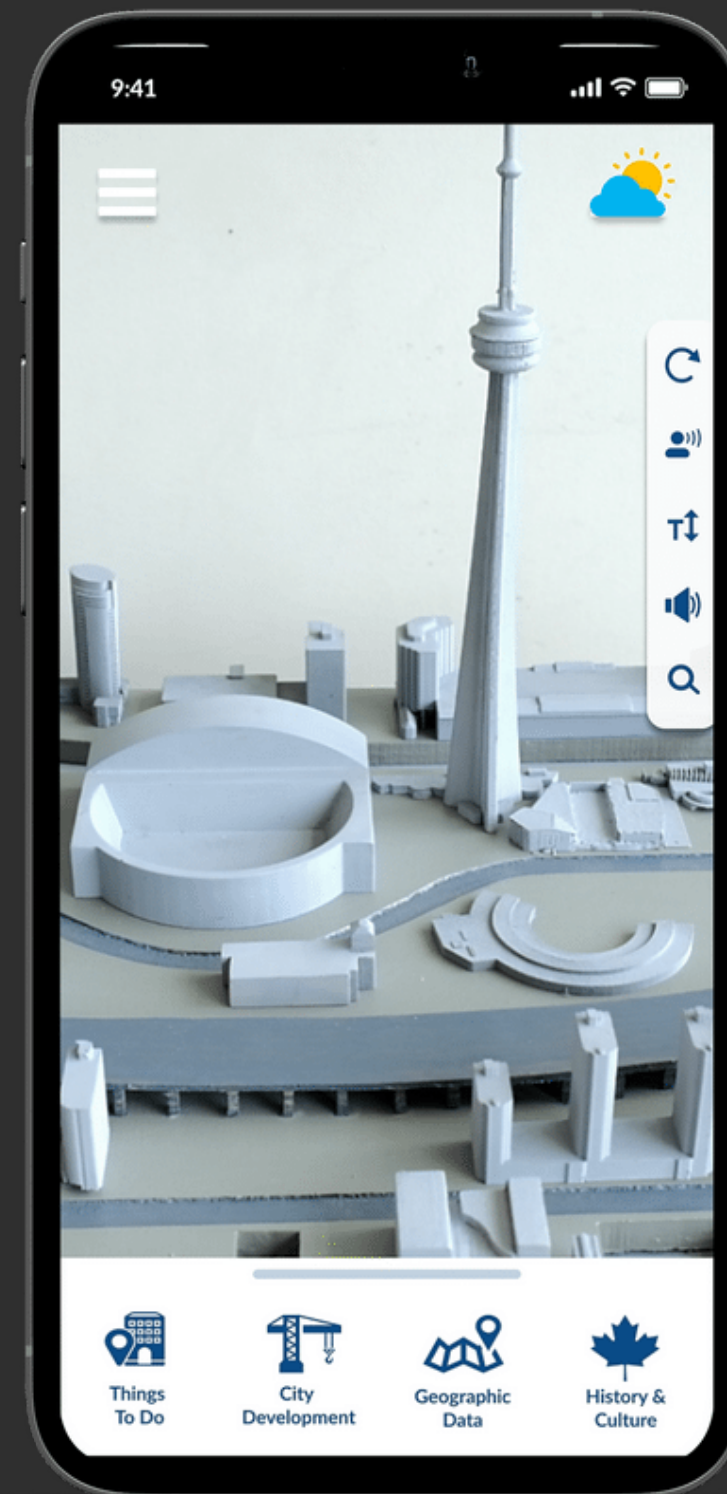
**Lato**  
Bold 30 pt  
Regular 18 pt



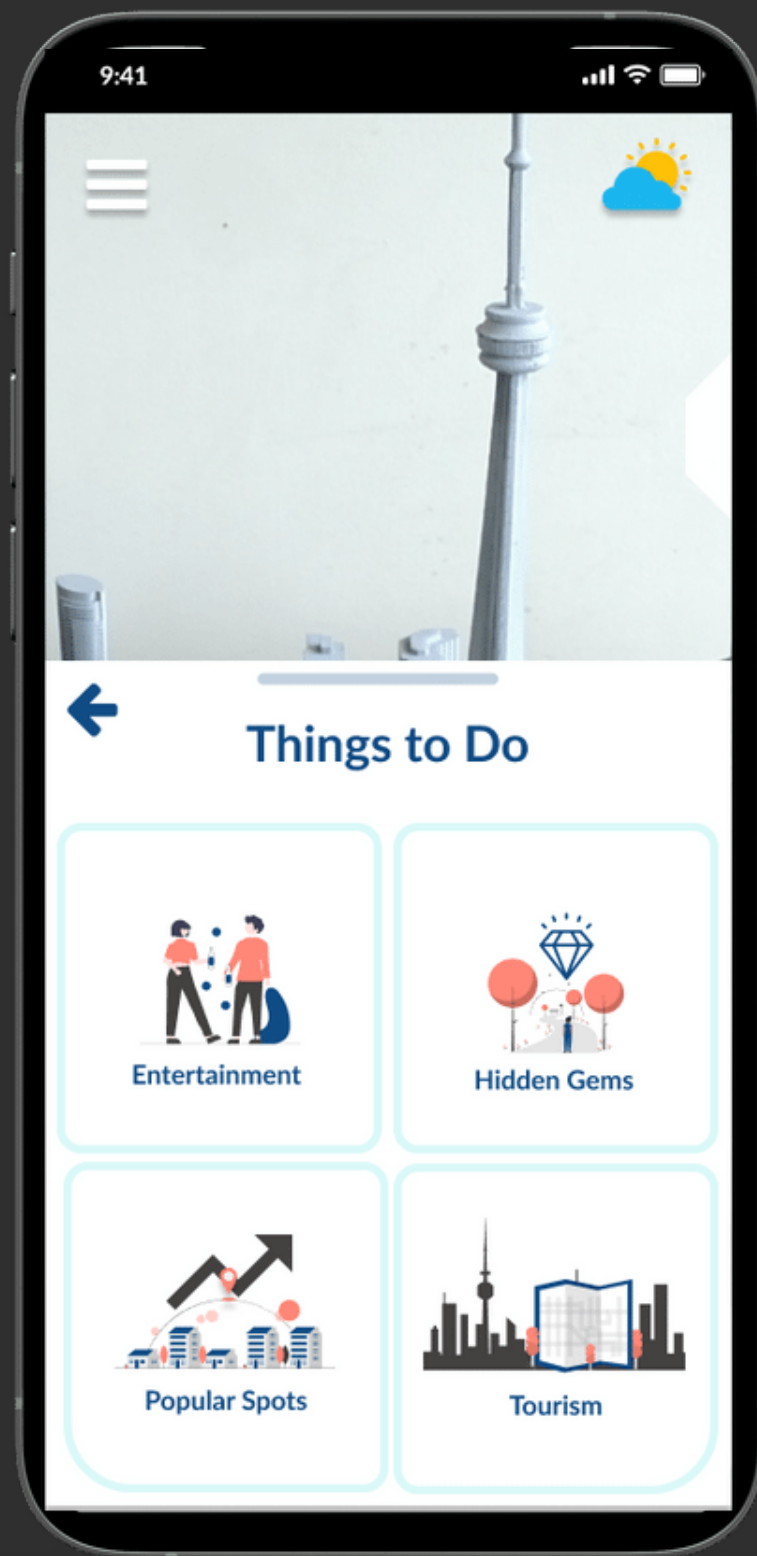
# Low Fidelity Wireframes



# High Fidelity Wireframes



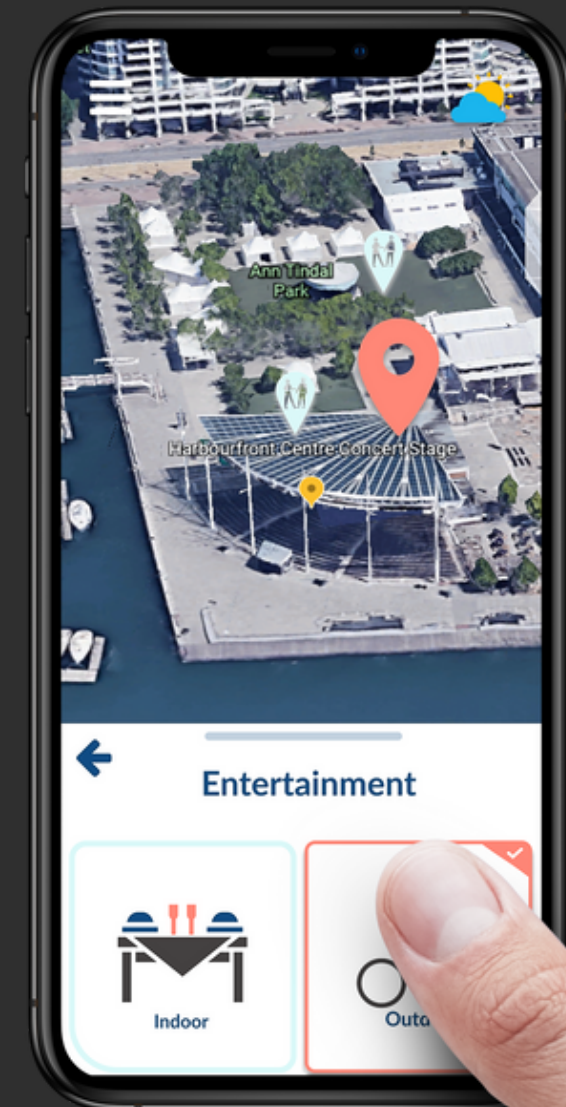
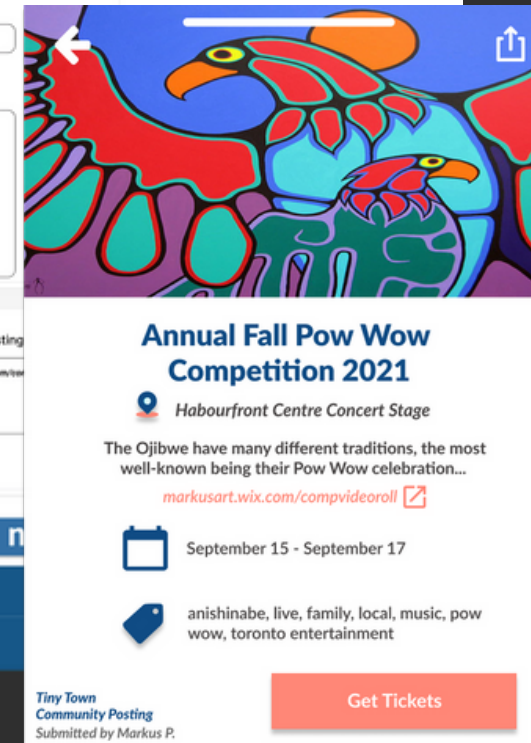
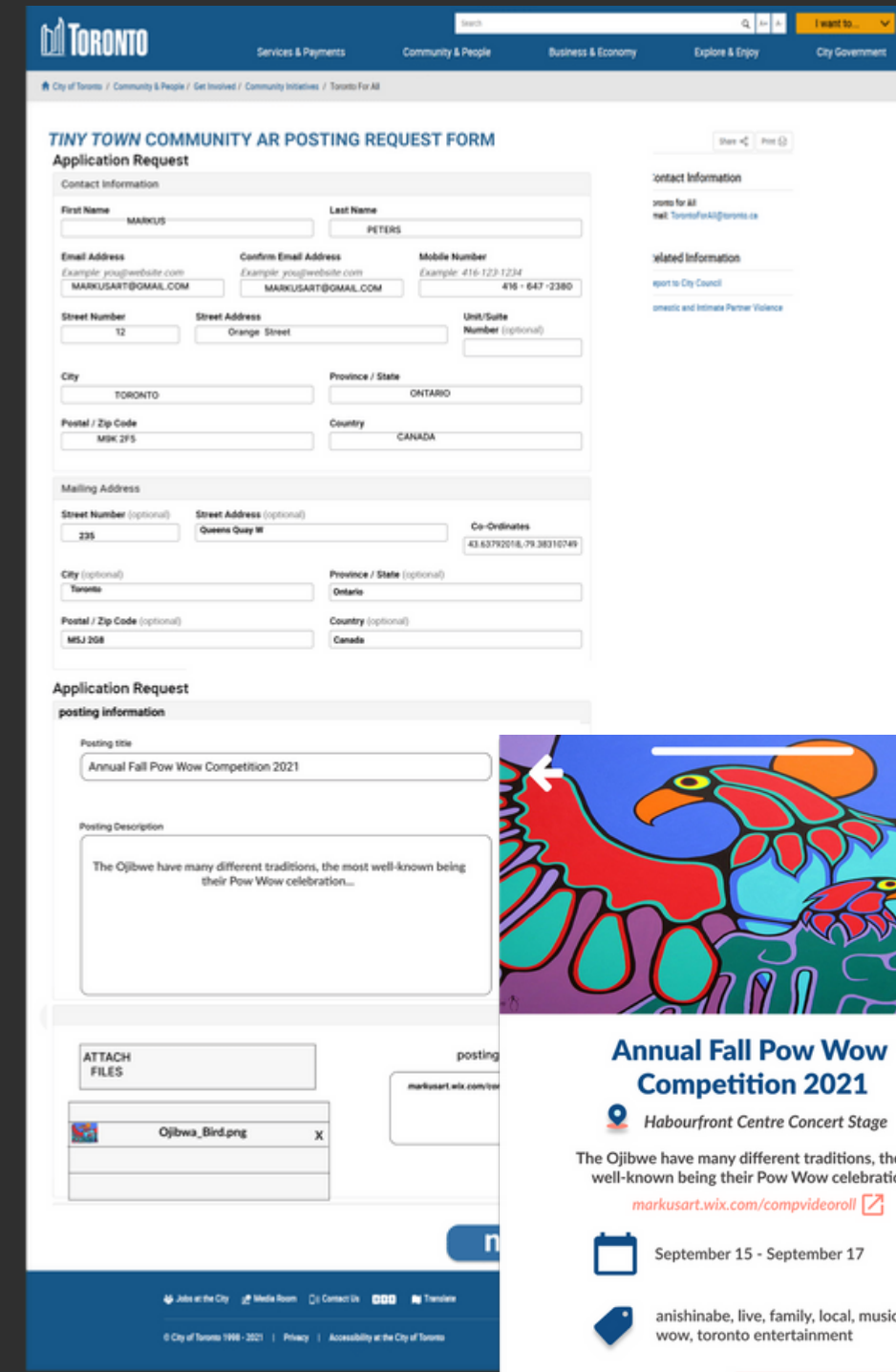
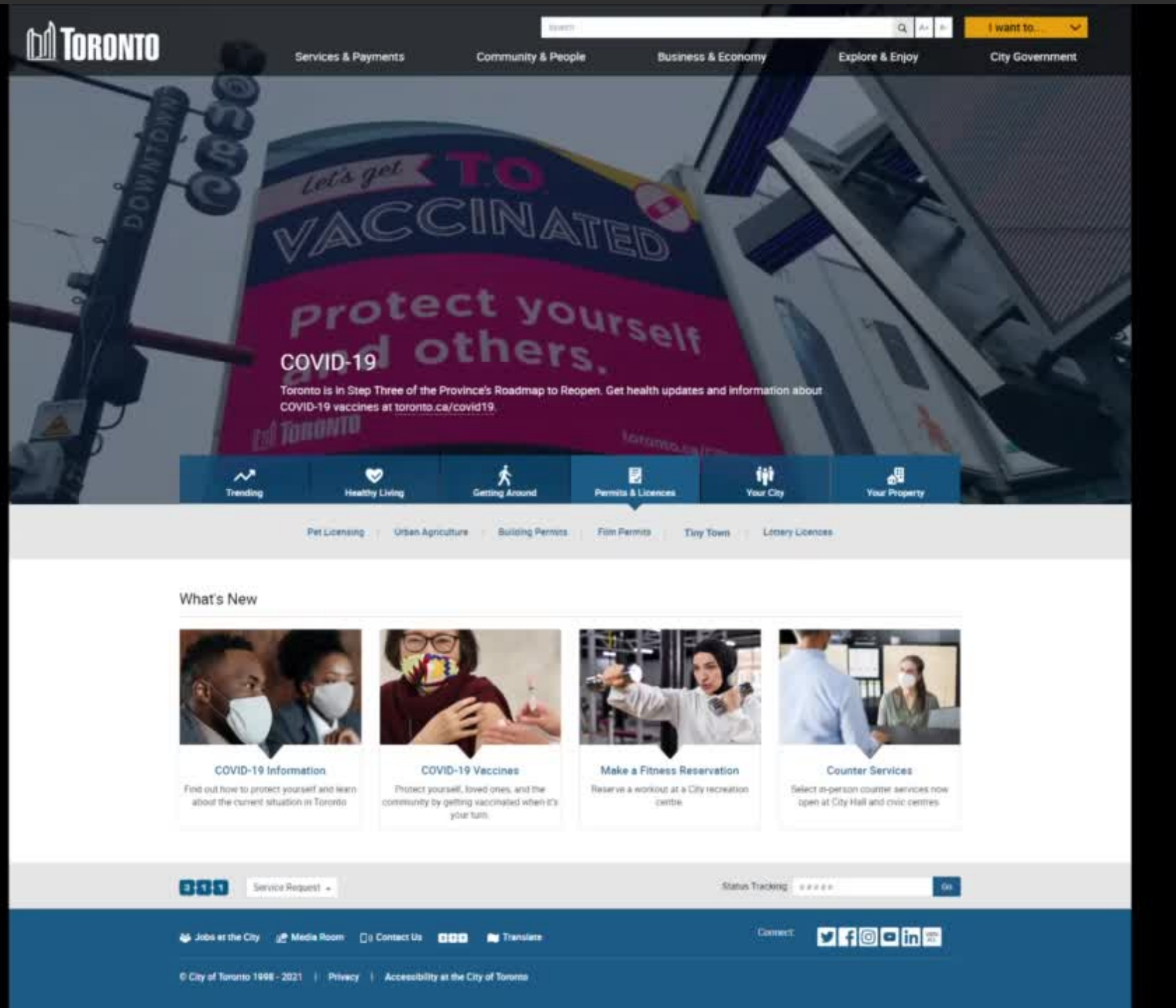
# High Fidelity Wireframes






# Prototype

# Community Posting





# Interactive Demonstration

Watch on  YouTube

<https://youtu.be/5Xh2WvHXWnc>

# Summary



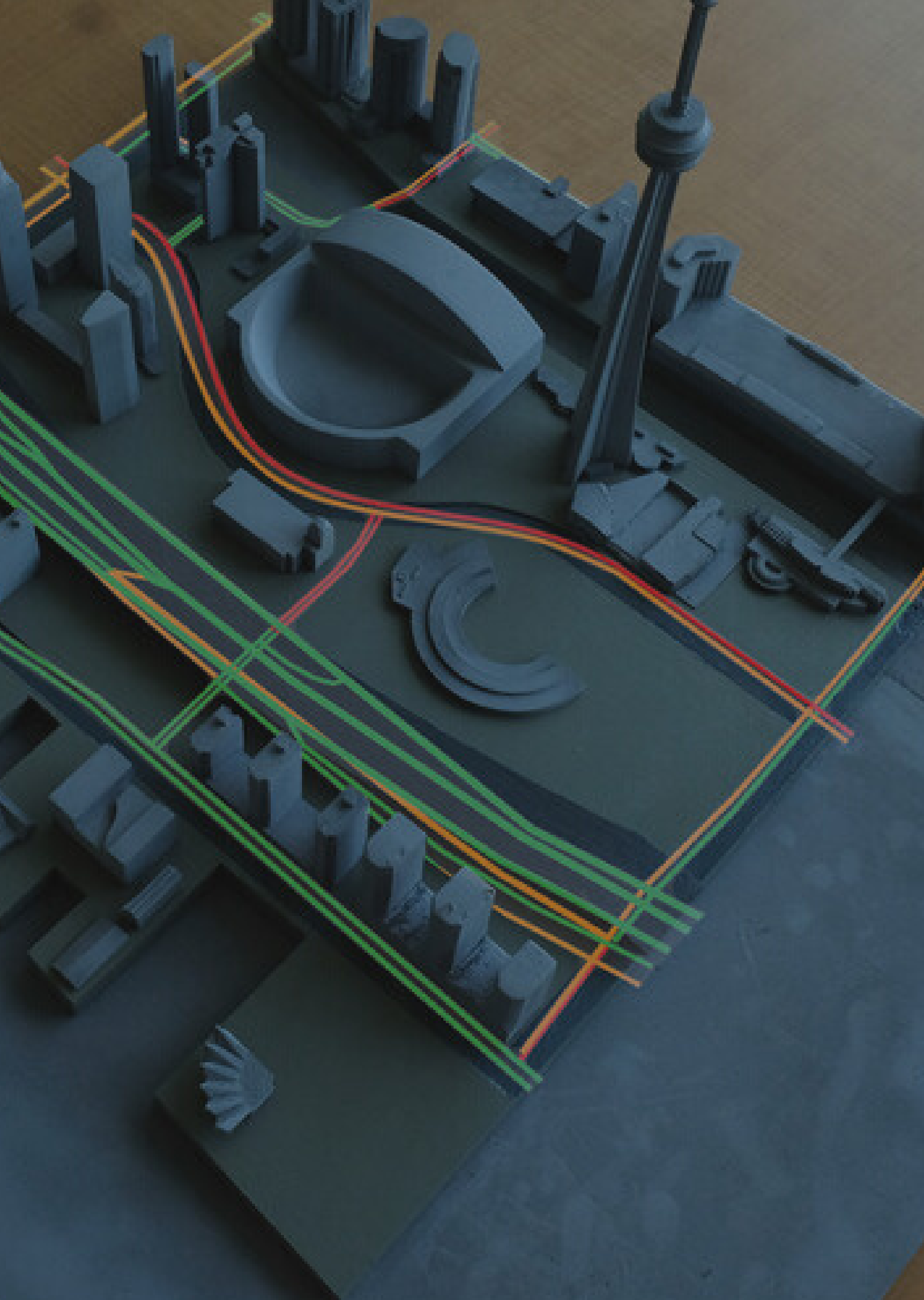
HELPFUL TO  
EVERYONE



CUSTOMIZEABLE  
BY EVERYONE



INTERACTIVE  
FOR EVERYONE



# Projection Demo



**Questions?**