Philippe Rollin, Camila Florez, Lily Couture, Joshua Li, and Jiayi Zhang

Team 6 - DOGNADO

Benny?

The Team

*CBC/Radio Canada. (2023, July 14). *Tornado Hits Barrhaven in South Ottawa | CBC News*. CBCnews. https://www.cbc.ca/news/canada/ottawa/tornado-ottawa-barrhaven-july-13-1.6905782

EMPATHIZE

Presented by Camila Florez

Client Meeting One

1. Who are the clients?
2. Who are the users?
3. What is the project?
4. What is the goal of the project?

DEFINE

Presented by Camila Florez

Needs

1. Includes XR software
2. One to three minutes long
3. Bilingual (English and French)
4. Immersive
5. Educates the user on the effects of climate change on future life

6. Includes a survey
7. Three closed answer questions
8. Extrapolates data regarding the users change in perspective after the XR software experience
9. Able to identify individual entries that may skew the data results

Interpreted Needs

Need	Interpreted Need(s)
Immersive	1. Interactive VR 2. Auditory components 3. Visual components
One to three minutes long Educational	1. Simple
Bilingual	1. Accessible for different users

Benchmarking

Design Criteria

Need	Design Criteria	Metric
Simple	1. Scenes	1. Number of scenes
Accessible	1. Eye level setting in VR 2. Fonts for subtitles 3. Loudness	1. Meters 2. Font size and contrast 3. Decibels
Interactive	1. Interactables	1. Number of Interactables
Close ended survey	1. Option based questions	1. Number of options

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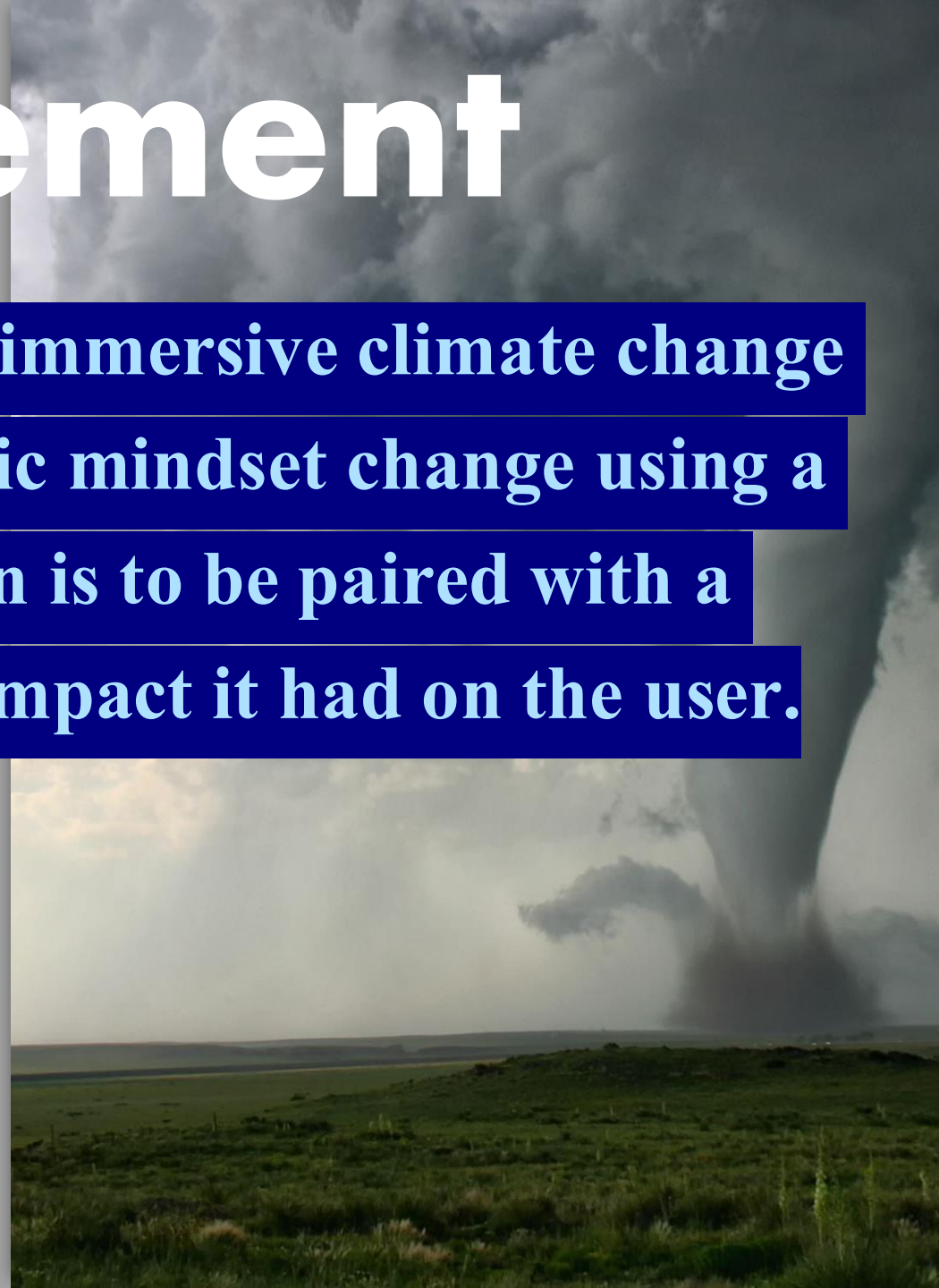
Constraints

Problem Statement

The client requires an educational and immersive climate change XR simulation to provoke an empathetic mindset change using a specific natural disaster. The simulation is to be paired with a spectrum-based survey to analyze the impact it had on the user.



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IDEATE

Presented by Joshua Li and Phil Rollin

Idea 1

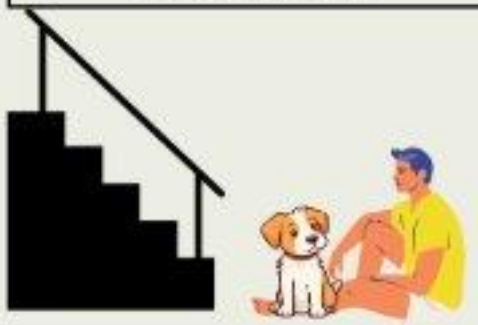
STORY 1 - “BENNY?”

This is the story of the user and their dog Benny, who must take shelter together from a vicious tornado.

You are at home and when an emergency alert flashes on your phone. This alert says that there is a big tornado coming towards your area where you live.

Panic sets as you try to recall the proper safety procedures. You quickly realize that it is just you and your dog, Benny, and you must act fast.

With debris flying outside and windows rattling, you navigate the house trying to find Benny while making critical safety decisions.



Once you find Benny upstairs, you both rush downstairs to the basement and get there just in time before the tornado strikes. The storm shakes the house and then silence falls.

When it is over, you emerge into a world transformed with trees falling on the ground, damaged homes, and neighbors in need of help.

Now you must decide how to contribute to the aftermath of a tornado. You either choose to assist with the cleanup, help your neighbours or gather supplies.

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Idea 2

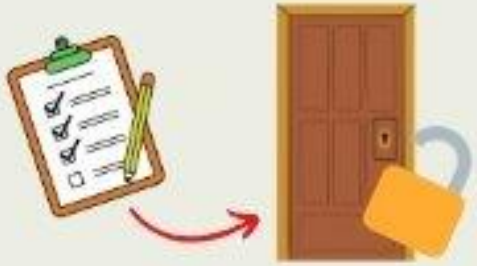
STORY 2 - “LOOK OUT!”

This is the story of the user, who must gather objects to survive the encroaching tornado.

The user wakes up to a TV alert broadcast about an approaching tornado, instructing them to gather the necessary materials.

The user will have two minutes to navigate their house to find the objects and make their way to the basement.

Each object that the user finds will provide them with information about the relationship between tornados and climate change. The number of objects that the user finds will be counted and displayed in one of the corners of the screen.



Once the user has found all the objects, the door to the basement will unlock

To enter the basement, the user must accurately respond to a quiz question about climate change.

Once the user is in the basement, or if the timer runs out before the user enters the basement, the next day will begin, prompting the user to help clean up the wreckage.

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Idea 3

STORY 3 - “AFTERMATH”

This is the story of how the user survived a tornado, and the brutal damage that came after.

The user is at home when they receive a tornado warning. Due to climate change, extreme weather events have become more frequent, and the user must decide how to respond to the storm.

The user has two major choices: immediately seeking shelter or attempting to gather emergency supplies before taking cover.

The user will eventually get to safety and the scene will be very short (around one minute out of the three minutes)

Once the tornado passes, the user emerges to see a damaged community.

They must decide whether to assist with recovery efforts or secure personal resources first.

The user interacts with others in the community, such as neighbors and rescue teams, to help rebuild and understand the long-term effects of tornadoes.

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Comparison Table

Design Criteria	Importance	Mixed story 1	Mixed Story 2	Mixed Story 3
Selected Disaster	1	Barhaven Tornado	Barhaven Tornado	Tornado (someplace)
Storyline	2	Player has to find dog and enter basement. Then they go help community with cleanup	Player has to become a quizmaster and enter a basement	User has choice between shelter or packing up. Then they go help with cleanup
Secondary Objectives	2	Interactivity and education about tornado procedures Realistic Simulation	Interactivity with objects, people and quizzes	Realism, education and awareness
Logistics	1	Have "?" icon over decisions. 2-3 will be listed Context on slideshow for players	Have a "!" or "?"icon over special objects	Have "?" icon with interactables
Sound Design	2	Neighbours talking Proximity based noises for dog Ambient window shaking	Gradually louder tornado sound and ambient noises	Ambient tornado noises Big storm sounds Neighborly chatter
Environmental Design	3	Bungalow with basement Outside looks like summer	Small house to basement to outside lawn	Normal house with basement People outside assisting with cleanup
Insurance of Education	3	Decision making and info texts	Questioning user for info they retain	Decision making Post recovery decisions
Accessibility	3	CC, Voice over, English and French Spatial audio, Can play setting or standing	Disclaimer and exit	CC Large fonts Voice over English French and Chinese High contrast visuals
Total Score		46	26	43

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Final Choice: Benny

- Economical Design
- Easy to Empathize with
- Inexpensive Beagle Model
- Straightforward Storyline

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Client Feedback

Immersive

- Useless text
- Incorporate background noise

Connecting with the user

- Have newspaper around the house with past tornadoes
- Implement a Calendar in the basement which acts as a time travel in the future of tornadoes

A post and pre simulation survey

- End goal of the simulation is to change the user's perspective on climate change

2-4 scenes

Finalized story: Benny

PROTOTYPE

Presented by Phil Rollin and Lily Couture

Prototype I

Prototype goal: The environment that the user will be in is convincing, immersive, and accurate to something possible. That all elements are scaled in a realistic way.

- Constructed the floorplan by hand (realistic to a house)

Initial Floor plan

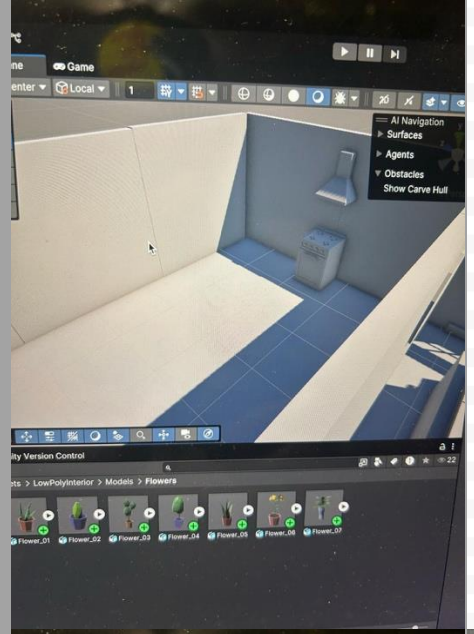
- 2 bedrooms, bathroom, kitchen, living room and hallway

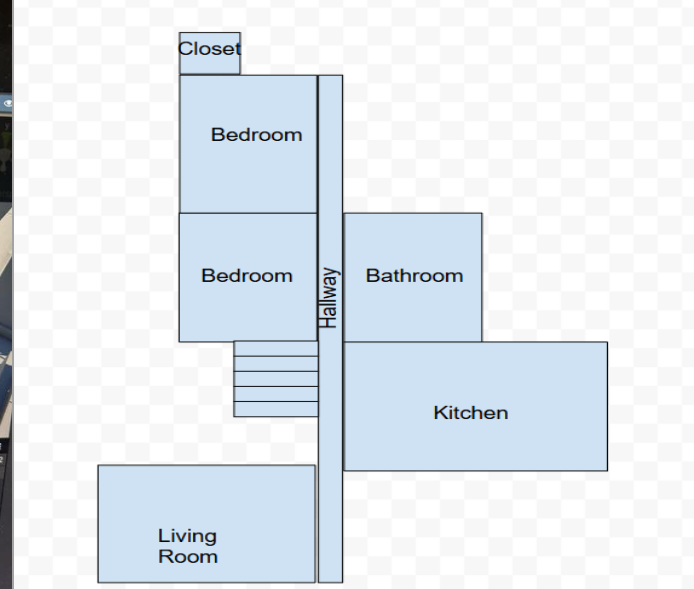
Final Floor plan (After client meeting 3)

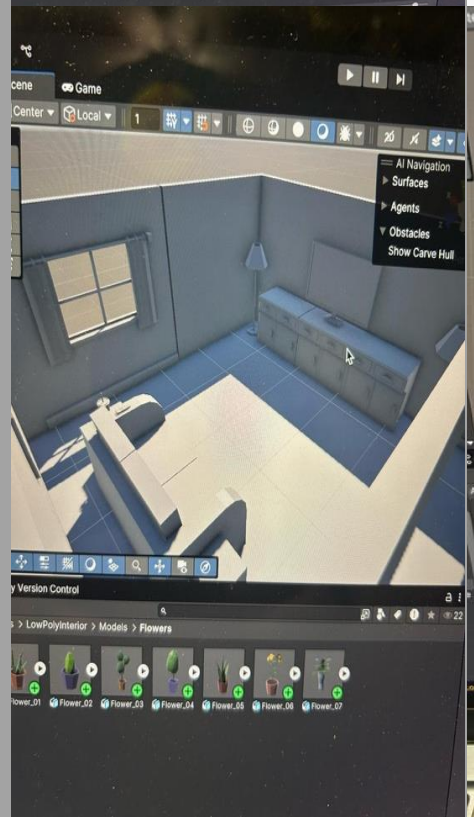
- 1 bedroom, kitchen, hallway and living room
- Reason: Want the user to spend more time in the basement because it is where the user will be educated mostly about tornadoes

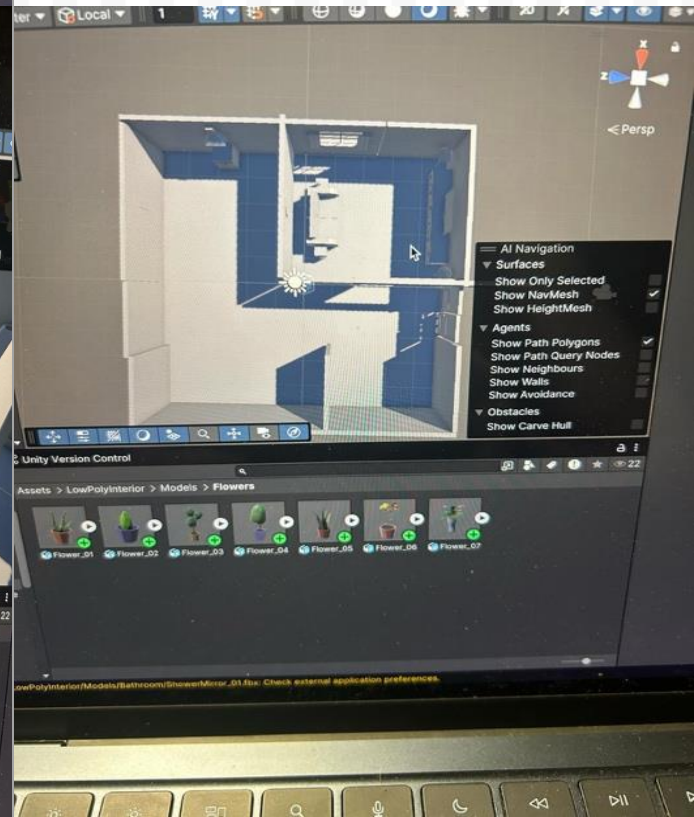
Constraints:

- Figuring out how to work on the project as a team
- Unity software





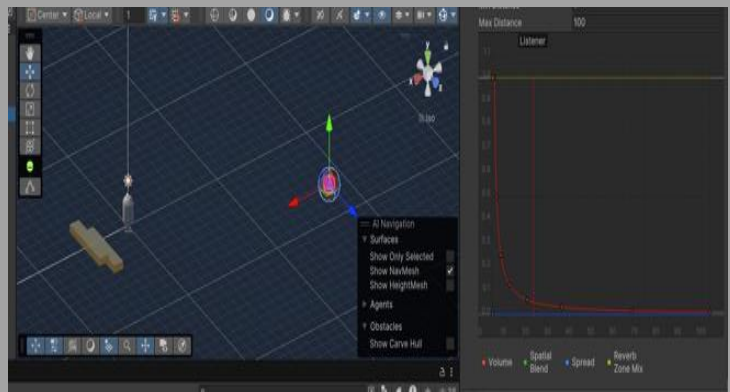




Prototype II

Prototyping Goal: Focus testing all essential aspects of play

- Interactable buttons
- Button loading time
- Improved floorplan of house
- Incorporation of basements
- Benny's proximity barking (simplicity of scene 1)



All images screen captured by DOGNADO and created using the Unity Software

Prototype III

Prototyping Goal: Putting everything together, and preforming comprehensive tests on all working components (should time permit)

- All buttons working in sequence
- Locomotion
- Voiceovers and Audio
- Cutscenes and Menus
- Survey

CONCLUSION

Presented by Jiayi Zhang and Lily Couture

Lessons Learned

1. Communication
2. Time Management
3. Prepare before project work
4. Regular project review and feedback

Things to do differently:

1. Work with the lessons learned above
2. Use the design thinking process throughout the entire project
3. Work on things sooner to have time to test and work out issues

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Problem Statement
Solution

Problem Statement:

The client requires an educational and immersive climate change XR simulation to provoke an empathetic mindset change using a specific natural disaster. The simulation is to be paired with a spectrum-based survey to analyze the impact it had on the user.

Achieved by:

- Oculus (XR)
- Educational (Storytelling)
- Immersive (Buttons, interactable, spatial audio, etc.)
- Specific Natural Disaster (Climate change/empathy)

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