Team Fire - Project Presentation

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01

Introduction

Project Summary

Mines Action Canada Needs:

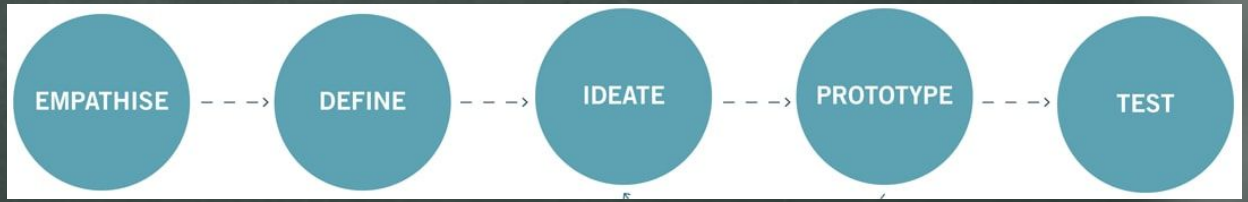
- A VR environment to show how civilians would adapt and protect themselves against autonomous weapons.

1. Design Criteria:

- Emotionally Provoking
- User experience and interaction
- Realistic and informative

2. Constraints:

- Length (max. 60s)
- No gore or violence
- Urgent sense of concern, not fear



Research:

Why Stop Autonomous Weapons?

- Digital dehumanization
- Collateral damage to entire cities
- Will cause inhumane injuries on soldiers and civilians if hacked.
- Discrimination towards race and gender

Examples of Existing Autonomous Weapons:

Landmines:
- Use sensory systems
- Uses pressure plates and motion sensors

Heat Seeking Missiles:
- Use thermal sensors to track targets

Our Main Source:

www.stopkillerrobots.org

Benchmarking

Perspective: Paradise

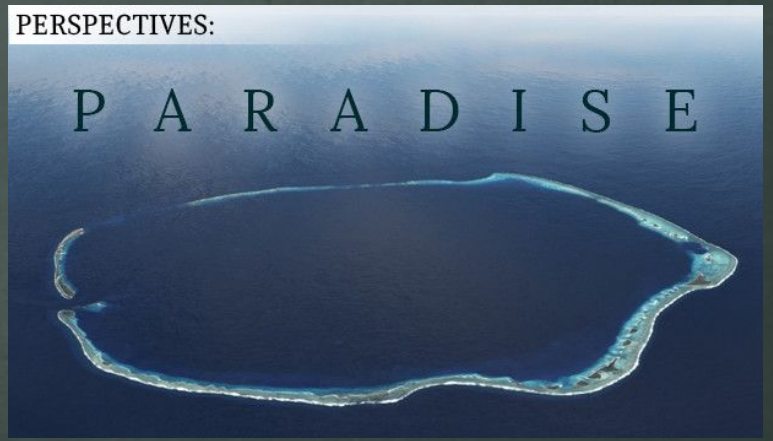
VR showing the 1952 test detonation of the first hydrogen bomb and the effect it had at Enewetak/Bikini Atoll.

Technical:

- Requires a 64-bit processor and operating system
- Interactable: The user can move the camera 360 degrees.

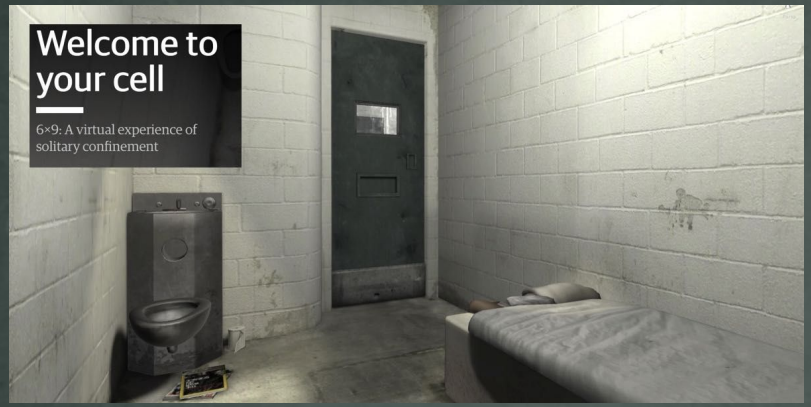
User:

- Made users think how insane Nuclear weapons are.
- Some of the videos can be hard on the eyes.
- Too long, 30 minutes long.



https://store.steampowered.com/app/1016390/Perspectives_Paradise/

Benchmarking



After Solitary

A VR experience showcasing the long lasting effects solitary confinement can have on an individual's psychological wellbeing.

Technical:

- Any popular OS.
- The user can move the camera around 360 degrees.

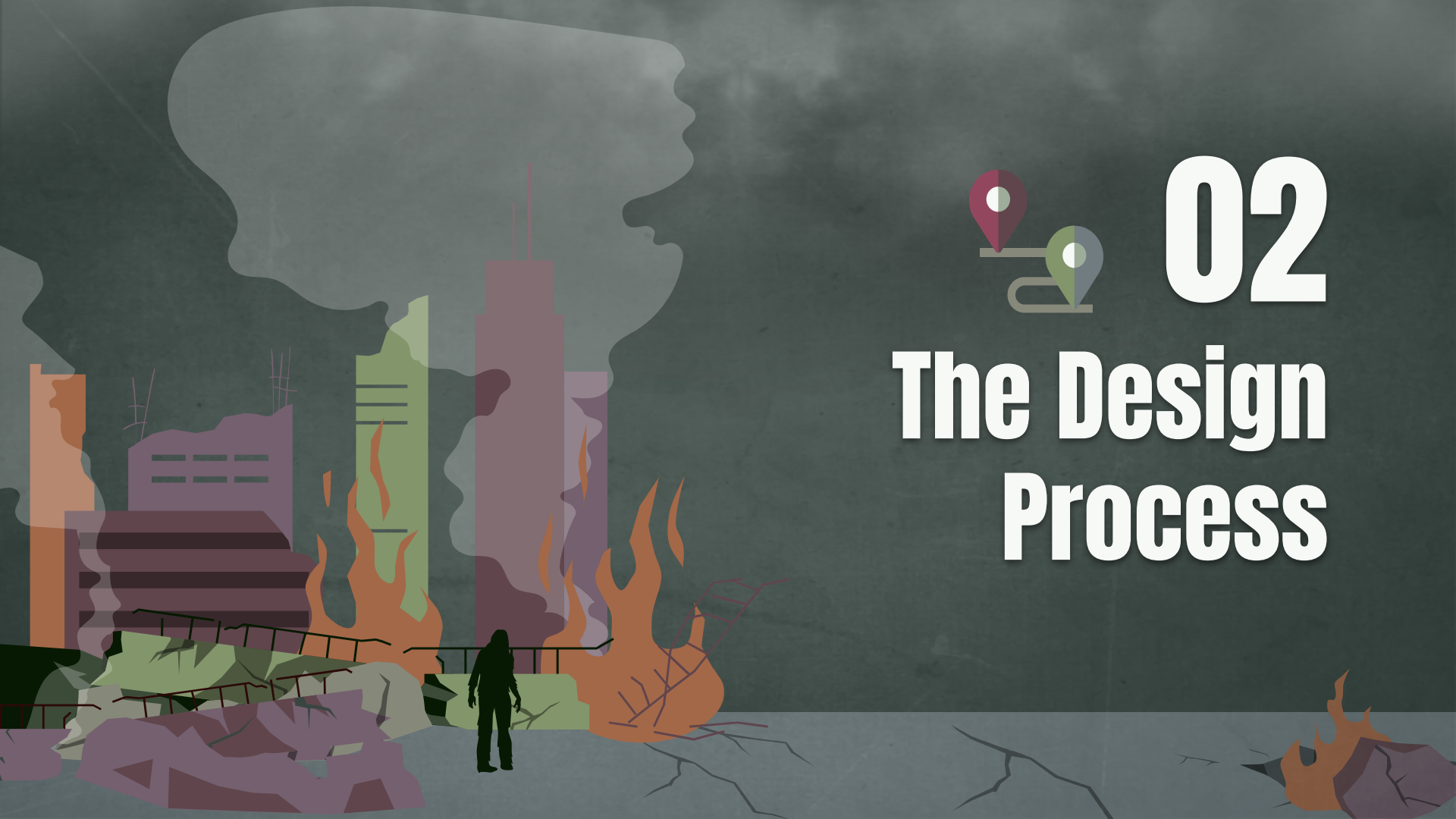
User:

- The video showcases that solitary confinement is an inhumane punishment.
- The video features disturbing imagery. (Not PG).

Problem Statement:

"Mines Action Canada needs a short, simple, and immersive VR video environment to persuade decision makers showing the ethical concerns that automated robot killers will provoke".

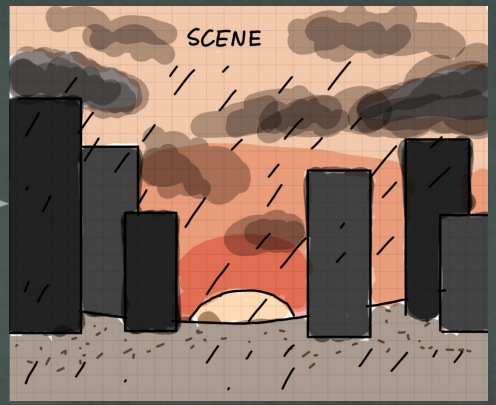
We used this problem statement, our benchmarking and research to create our solution.



02
The Design Process

Subsystems:

Environment/Scene



Objects/Evidence of Plot

Especial Edition

BREAKING NEWS

JULIET TELLS US HOW SHE PREPARED FOR THE SECOND STRIKE

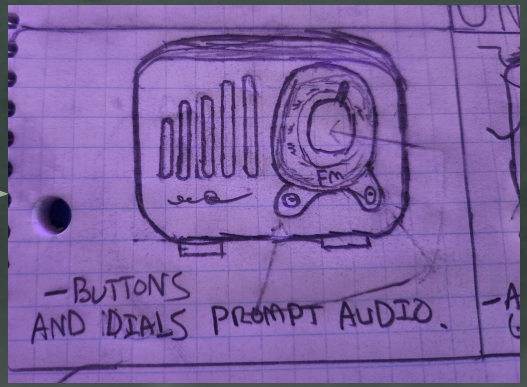
STAY INSIDE
STAY INSIDE
STAY INSIDE

KILLER ROBOTS GONE LOOSE

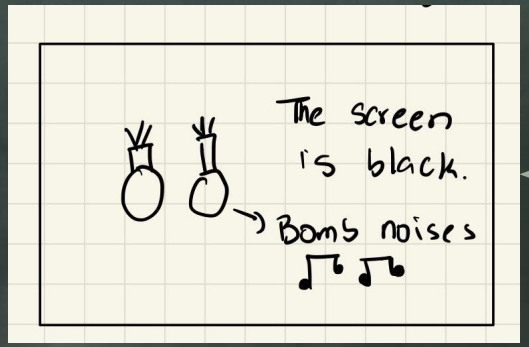
In a harrowing and unfolding reality, autonomous war robots are currently unleashing their deadly force upon a school, transforming what was once a haven of knowledge and laughter into a nightmarish scene of terror. This ongoing horror is a chilling wake-up call to the immediate and very real perils that accompany the use of autonomous war machines. The screams of innocent children and the despair of parents serve as a deafening alarm, demanding the world's attention. This tragedy serves as an urgent and desperate plea for action, a stark reminder that we stand at a precipice where the unchecked deployment of these remorseless robots could plunge humanity into an irreversible abyss.

MR AND MRS GREEN TELL US THE STORY OF THEIR CHILDREN

User Design/Program

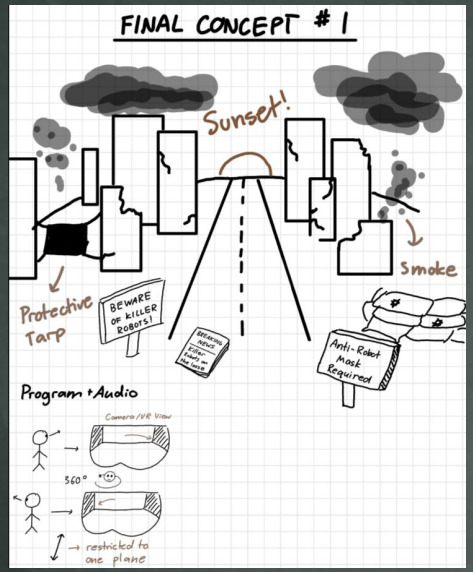


Audio



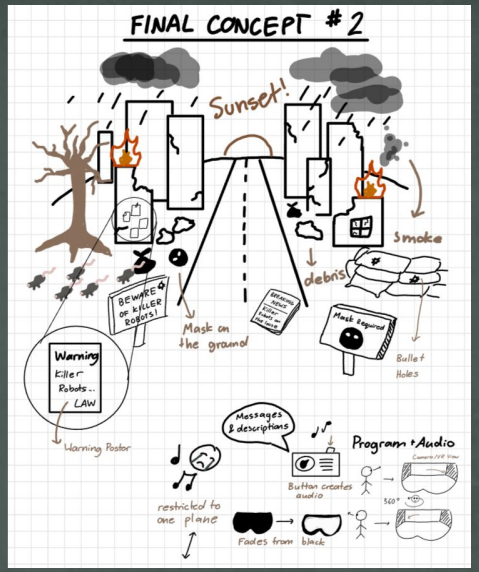
Our Final 3 Concept Designs

The Winner!



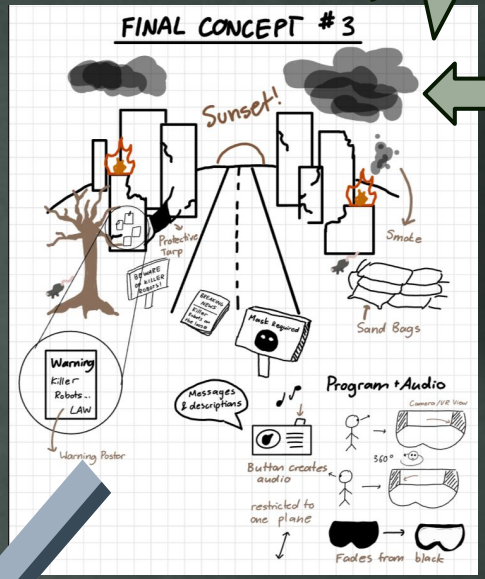
Concept 1

The simplest design with the most amount of restrictions.



Concept 2

The most amount of detail for realism and for emotional value. too much detail, but is not feasible to complete



Concept 3

A balance between each subsystem. The environment is immersive and detailed while possible to complete.

Client Interview Feedback

- Positive feedback on how each design concept is based on varying levels of feasibility
  - Suggested concept 3 (satisfies the design criteria while possible to complete)

- Feedback on audio:
  - “The users can be sensitive to violent sounds (bombs, gunshots), so we should be able to remove sound on command if needed.”

Detailed Concept Design

Project Plan:

1. **List of Components**
2. **Create a Budget**
3. **List of Equipment**

Budget:

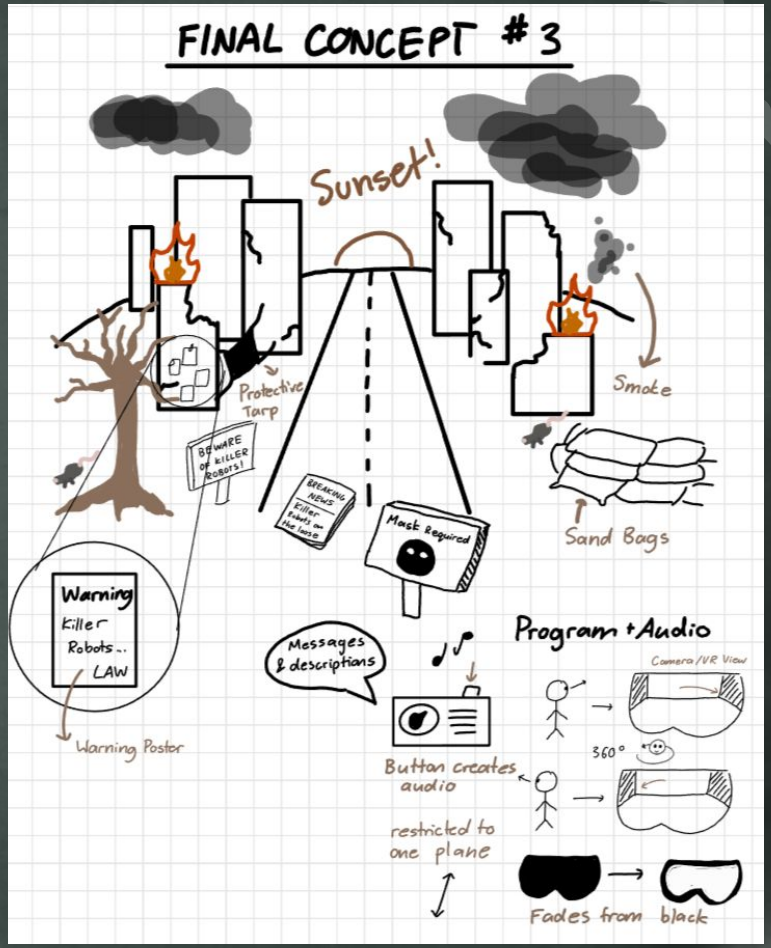
- $39.98
- Spent: $0

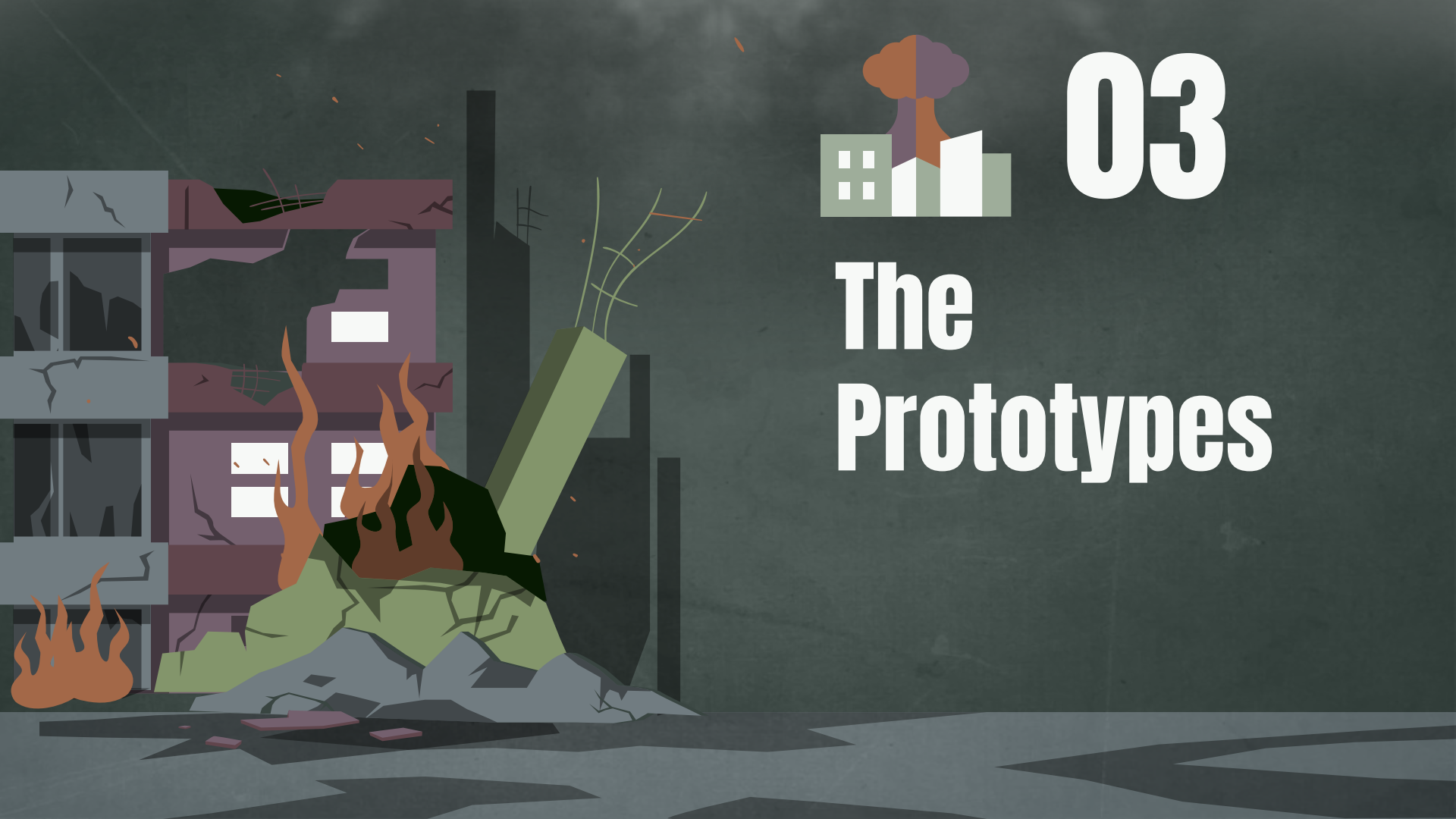
Components:

- 17 Assets

Equipment:

- Unity
- Headphones
- VR headset
- Controllers





03

The Prototypes

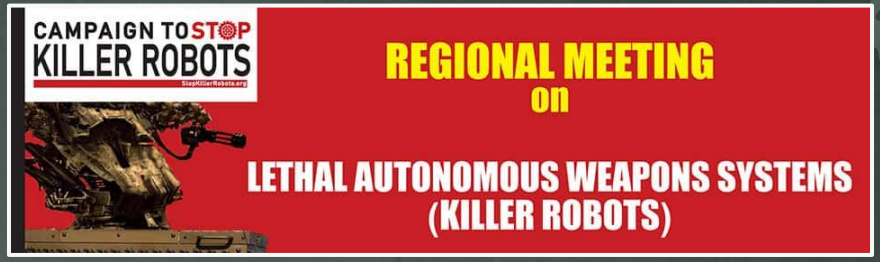
Prototype I :

Added:

- Our most important assets
  - Sandbags, posters, boarded windows, buildings, sky, roads, newspapers, and fire
- Tested that all assets work together

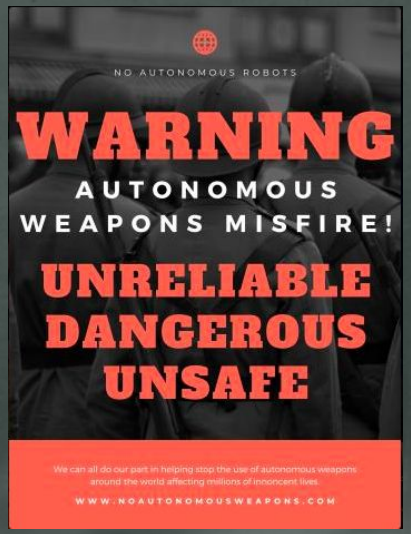
Pitch Presentation Client Feedback:

- **What is L.A.W.S?**
  - Changed posters to accommodate for those who do not know the L.A.W.S acronym



Before:

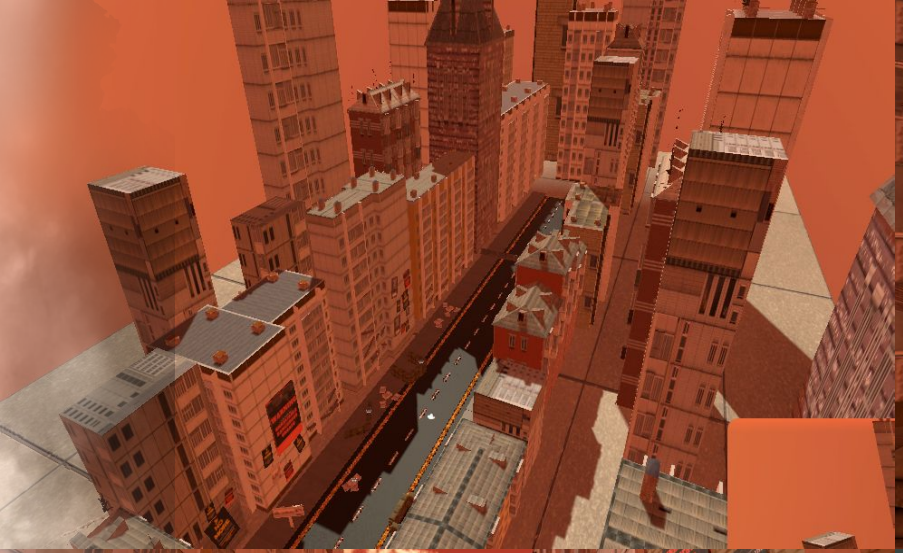
After:



Prototype 2 :

Added:

- New streets and sidewalks
- Masks



Prototype 2 :

Added:

- Background Buildings (realistic scenery)
- Barricades
- More newspapers and boarded windows
- Edited posters based on client feedback
- Tarps/Tents

Audio: Siren and Announcement
SOS

User Feedback

Prototype I:

- “Confused because they do not know how they got to the situation they are in” **(Need more context)**
- “The posters and newspapers caused fear and concern”
- “Makes me feel uneasy”

Prototype II:

- “It's very red, the tones of the background give a very chaotic vibe and it shows a state of alarm.”
- “The message being conveyed is very easy to understand. It is a very interactive environment as well” **(the functional newspaper)**.
- “The audio makes the environment more realistic, because you aren’t just seeing the chaos but also hearing it.”

04

Conclusion

What we've Learned!

- ★ Rotate tasks between members
- ★ Have a project plan (and update it every week)
- ★ We did not need to spend money (requires more time, but free assets are available)
- ★ Giving/receiving constructive feedback is a GOOD thing

Future Plans:

1. Prototype III:

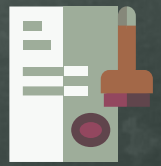
1. Complete the audio: adding bomb sounds in distance
2. The code: Steam VR
3. Testing: Test with VR headset during lab
4. Making sure some items are interactable (newspapers, masks, etc.)
5. More user feedback

2. Design Day

1. Create small project pitch presentation for Mines Action Canada
2. Show off our project

3. Final Deliverables

1. Completing our last deliverables which sums up the design process!



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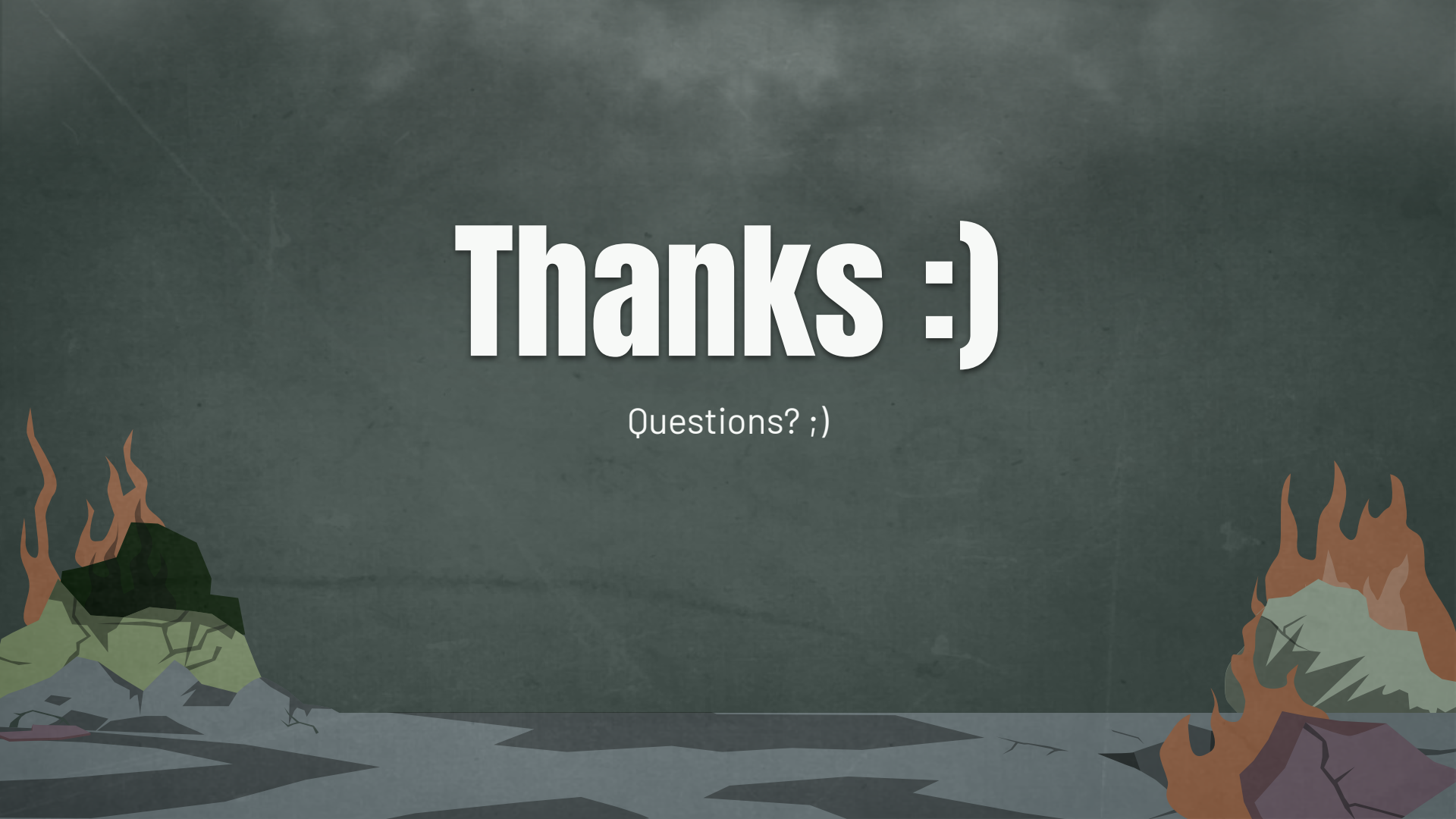
Questions? ;)