

Deliverable D

Group 13: Reeve Schweiger, Benjamin den Otter-Versteeg, Dev
Mistry, Keval Dave

February 11, 2024

Table of Contents

1	Introduction	3
1.1	About the client	3
2	Design ideas (by each group member)	3
3.	Chosen Idea.....	6
2.1	Subsystem 1: Protection against autonomous weapons.....	6
2.2	Subsystem 2: Environmental adaptations	6
2.3	Subsystem 3: autonomous deployment of lethal forces	7
2.3.1	Advantages and Disadvantages of the Design :	8
3.	Conclusions	9
3	References: (for background music).....	10

1 Introduction

In order to address the threat of autonomous weapons to fulfill our client's needs, we have come up with three designs that meet our clients' needs. The designs listed below have been modified to obtain a design that depicts the priority of our clients' needs most accurately and have multiple subsystems within the design. The client's design criteria include functional requirements, such as a length of 1 minute which can run smoothly using the software and have an emotional impact on views. The design criteria of non-functional requirements also consist of having music/soundtrack, sound effects and the overall aesthetic of the virtual environment.

1.1 About the client

The client, Mines Action Canada, wishes to convey the threat posed by autonomous weapons on our society by using a virtual reality environment which allows users to walk through a city which has been under the control of autonomous weapons for one year. The client wishes to portray how autonomous weapons are able to autonomously target and deploy lethal force, as well as the adaptive methods human have implemented to remain unseen by the killer robots.

2 Design ideas (by each group member)

Design 1: Reeve Schweiger – Design shows adaptive methods that have been implemented in the environment using low technology solutions

Scene starts off in a first-floor apartment where the windows are blocked by pieces a plank wood ensuring that very little sunlight can enter the room. The virtual reality environment allows the character to walk to the window and peek through the narrow opening between the wood planks to see how citizens are preparing their environment to be unseen by the autonomous weapons. Looking down there towards an alleyway the character can see sheets thrown across the alley-way to allow for citizens to move outside and have somewhere to hide.

Design 2: Design shows autonomous weapons that can autonomously target and deploy lethal force also

Looking down there towards an alleyway the character can see sheets thrown across the alley-way to allow for citizens to move outside and have somewhere to hide. Down in the alleyway you see a character peek from behind the curtains and you hear a gunshot, and the screen goes blank.

Design 3: Design shows main concern regarding autonomous weapons e.g. technological failures/hacking.

On the walls of the apartment there are posters showing concerns about autonomous weapons. Including human survey polls which convey the message that humans do not feel safe. On the kitchen table there is a radio which is a government official reporting that there has been technological failure with the autonomous weapons and the target facial recognition has been compromised. Government official relays for citizens to stay indoors and unseen.

Idea 2: Benjamin den Otter-Versteeg

Subsystem 1 – Player Interaction:

Player goes through the process of getting ready to go outside (balaclava to hide face, hood and thermally insulated coat to not show up on infrared cameras, etc. Research autonomous weapons to know how player has to prepare). Along the way the player's hood slips (foreshadowing/callback) and they get shot by an unseen robot.

Subsystem 2 – Environmental Adaptations:

Indoor room has blacked out windows, warning posters, etc. Street has curtains, nets, overturned cars, etc. to protect people as they move down the street.

Subsystem 3 – Playable area:

Start in ground floor room of apartment building. Character leaves room to go down the street towards another building.

Player narrates in the video and draws attention to one aspect (hood maybe) by mentioning that their friend died when their hood fell off. Audio background is occasional gunfire, explosions, etc. Video fades to red, then text appears to add a fact or two about autonomous weapons, maybe with background music (potential inspiration/source if we get permission: instrumental intro to either *Father*

Pros:

- Explores both indoor and outdoor protection
- Indoor and outdoor areas to explore
- Player has some interaction with the world
- Doesn't need NPCs
- Portrays autonomous weapons as the hidden monster, a trope used commonly in horror movies
- Foreshadowing as literary (cinematic?) device
- Demonstrates fail case of autonomous weapons well

Cons:

- Larger world to design and build
- Maybe too harsh/"in your face", message may be disregarded as being too gratuitous
- Doesn't represent more "moderate" failures of autonomous weapons

Idea 3: Dev

The story starts in a small, crowded basement lit only by a flickering candle. The walls are covered in drawn notes and diagrams about how to survive in a world ruled by self-controlled weapons. A radio in the background warns about dangers. On a table, there's an old map showing safe paths and secret ways through the city. A bunch of scared survivors gather nearby, talking quietly about the people they've lost to the machines outside. In the distance, you can hear guns firing, a reminder of the danger just beyond the basement walls. Looking out of a small window, you see streetlights shadows on the streets of the city. Feeling a strong sense of urgency, the main character knows they can't stay

underground forever. They're ready to face whatever challenges await them outside.

Pros:

- Engaging Environment: The basement setting adds tension and excitement as players navigate through the tight spaces.
- Survival: Seeing how the survivors plan and gather resources encourages players to think creatively about their own strategies.
- Spooky Sounds: The distant sounds of gunfire and radio broadcasts make the game world feel real and dangerous.
- Emotional Connection: Through the survivors' stories, players can connect with the characters and feel invested in their journey.
- Urgent Action: The threat outside pushes players to act quickly and stay on their toes.

Cons:

- Limited Exploration: Since the game is mostly set in the basement, players might miss out on the excitement of exploring the wider world.
- Narrow Focus: While it's intense, the game might not address bigger questions about ethics or society in this apocalyptic world.

Idea 4 Keval

Idea 1: playable area:

Imagine yourself inside a cozy home, sunlight peeking through thick curtains covering the windows. The walls are filled with posters showing worries about robots taking over jobs and homes. One poster even has a big message saying, "Robots aren't friends, they're trouble." In the room, an old radio suddenly starts talking. It's a government person saying there's a big problem with robots acting strange. They tell everyone to stay inside and be careful.

Idea 2: Environmental adaptation :You walk over to the window and look out. Down on the street, people are scrambling to make things to keep themselves safe from the robots. They're building barricades and hiding behind big trash cans.

Idea 3: player interaction: Suddenly, there's loud noise outside, like shouting and banging. You see a group of kids trying to run away from a robot that's chasing them. It's a scary scene, showing how dangerous the robots can be. When the video ends, you're left with a big question about how to stay safe in a world full of robots.

Pros:

- Raising Concerns: The scenario shows how people are worried about robots taking over their lives. It helps everyone understand why these robots can be scary.
- Creative Ideas: People in the scenario use simple things like trash cans to hide from the robots. It's a reminder that even with big problems, people can come up with smart ways to stay safe.
- Emotional Connection: Seeing kids running away from a robot makes you feel scared and worried. It helps you connect with the people in the scenario and understand their fears.

Cons:

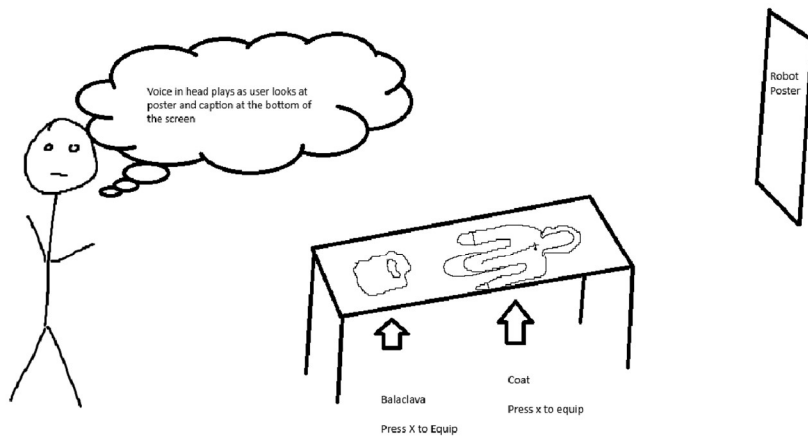
- Limited Exploration: Since the scenario is only about one home, you don't get to see much of what's happening in the rest of the world. It might leave you wondering about other places and what's going on there.
- Not Enough Explanation: The scenario talks about robots acting strange, but it doesn't explain why this is a problem or what might happen if they keep going. It could leave some people confused about why they should be worried.

3. Chosen Idea

Start in ground floor room of apartment building. Player goes through the process of getting ready to go outside (balaclava to hide face, hood and thermally insulated coat to not show up on infrared cameras, etc. Research autonomous weapons to know how player has to prepare). Player narrates in the video and draws attention to one aspect (hood maybe) by mentioning that their friend died when their hood fell off. Audio background is occasional gunfire, explosions, etc. Character leaves room to go down the street to another building. Street has curtains, nets, overturned cars, etc. to protect people as they move down the street. Along the way the player's hood slips (foreshadowing/callback) and they get shot by an unseen robot. Video fades to red, then text appears to add a fact or two about autonomous weapons, maybe with background music (potential inspiration/source if we get permission: instrumental intro to either *Father*

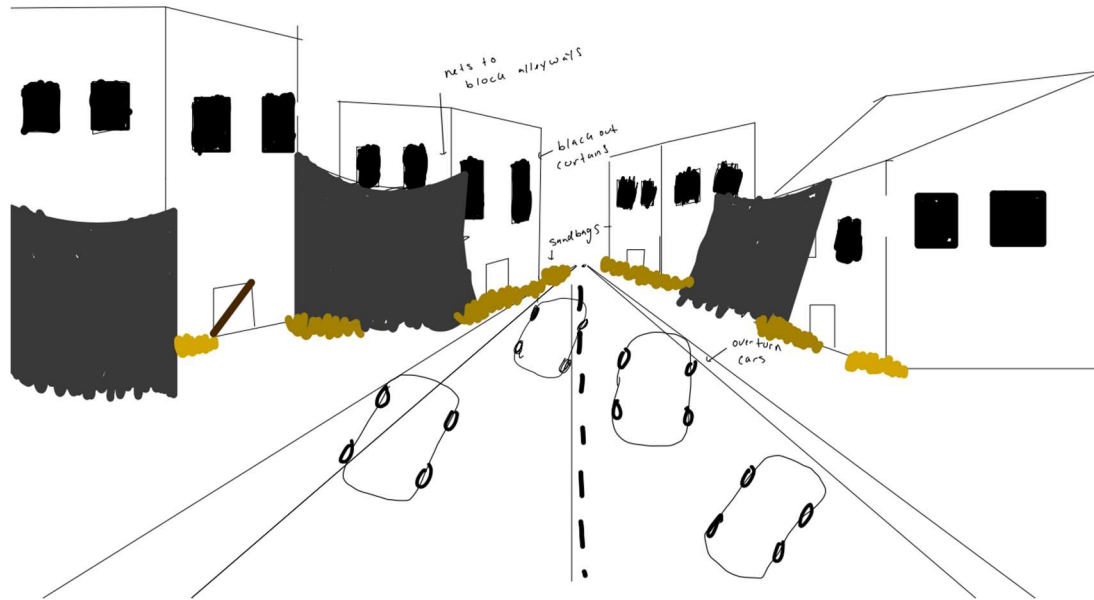
2.1 Subsystem 1: Player interaction

When the player encounters interactable objects, a voice in the back of his head will be played of his thoughts as he interacts with the objects. As the player sees a poster a voice in the back of his head also thoughts also play. As the player approaches objects such as his balaclava and his insulated coat it will allow the user to press a button to pick the items up or touch the item to equip.



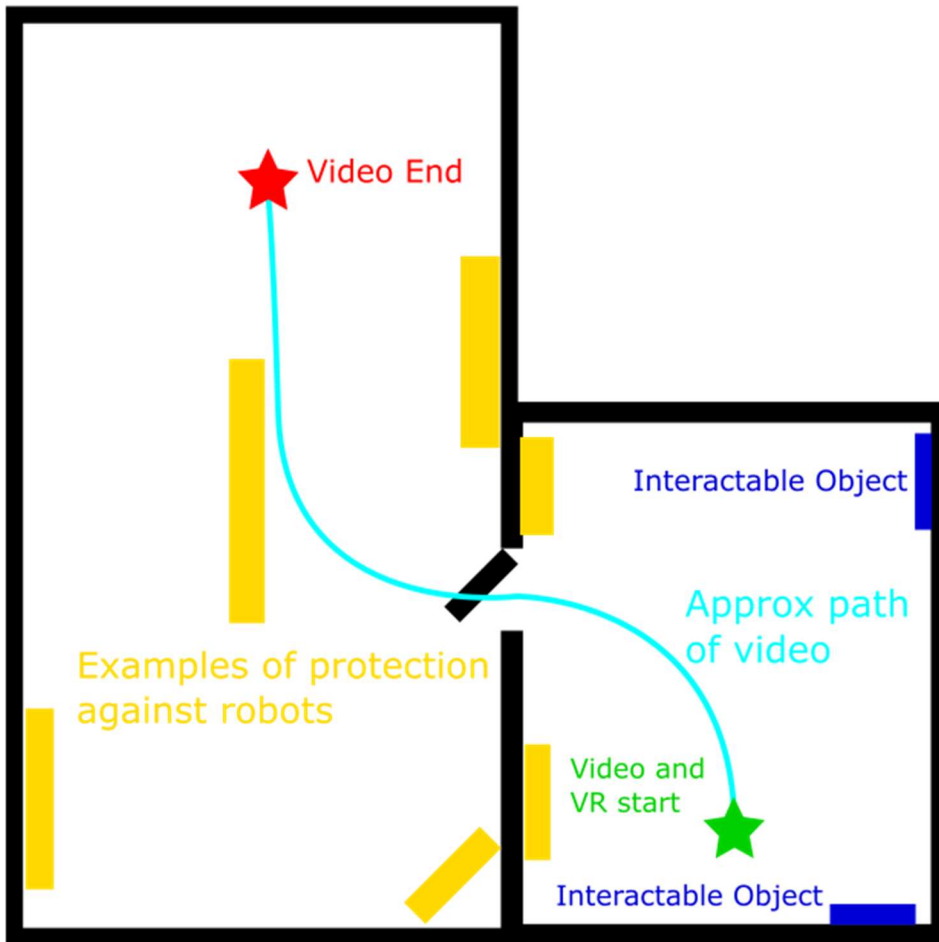
2.2 Subsystem 2: Environmental adaptations

The street is depicted as having curtains, nets, and overturned cars to provide cover and protection against hostile elements. This feature emphasizes the need for adaptive strategies in the autonomous weapons-controlled environment.



2.3 Subsystem 3: Playable area

The playable area consists of an indoor section and an outdoor section. The indoor section is the first floor of an apartment building that contains items for the player to interact with. The outdoor section is a street that the player will walk down and explore, with consequences if the player is inadequately prepared for going outside.



(picture is transparent, place on a white background in slideshow)

2.3.1 Advantages and Disadvantages of the Design:

The design advantages of this scenario include the ability for the character to explore both indoor and outdoor environment offering the player various scenes to explore and navigates. With the use of interactive elements players are able to interact with the world without the need for NPC characters. Also, by portraying autonomous weapons as a hidden monster, and employing the use of foreshadowing this build tensions and anticipation demonstrative the threat of autonomous weapons well. However, the designs drawbacks include the need to develop and construct a larger environment which may take supplementary time. Also, the harsh portrayal of autonomous weapon failures may risk alienating the players and detracting from the messages impact. Additionally, the scenario may lack representation of more moderate failures of autonomous weapons.

3. Conclusions

Our chosen design wells represent the clients needs when addressing the threat of autonomous weapons. Through our design we are able to give the players a virtual reality which shows how citizens have implemented adaptive methods to remain unseen by the autonomous weapons. We have also demonstrated how autonomous weapons are able to autonomously target and deploy lethal force against citizens. To conclude the main priority of the clients' needs have been carefully considered when creating our design.

3 References: (for background music)

(<https://www.youtube.com/watch?v=DxkeOkaVRL0>) or *The Final Solution*
(https://www.youtube.com/watch?v=_O3awC4mv4Q), both by Sabaton)