

## Client feedback

During our client meeting, the prototype that we showed them was of a dimly lit classroom with posters about autonomous weapons, boarded up windows, and masks that the children wear to keep the robots from identifying them. The clients mostly emphasized that they wanted our prototype to look more childlike, so we're planning on buying a kindergarten classroom on the unity asset store and on making the posters look like children made them, or just more childlike in general. For the first prototype that we made, we used a classroom that looked more like a highschool classroom than a kindergarten classroom, since the desks were fairly big and looked like the ones found often in highschools. Also, it wasn't very colorful and was fairly plain in general. Plus, the posters that we used weren't that colorful and didn't really look like they were made by children or for children. They still got the message that we wanted across, but they could use some improvement. For instance, as mentioned previously, we should make them more colorful (the ones in our first prototype mostly include red, black, beige, and white, which aren't colors that are associated with childhood). Moreover, there's a lot of text in them and the font is pretty small. When updating them, we're planning on including less text with a bigger font, and also more pictures (since little kids find it hard to read and prefer looking at pictures, so having posters with lots of pictures and little text would help to make the environment more childlike). We're planning on keeping the robots abcs idea that we had though (each letter teaches the kids how to keep themselves safe, for example, A for avoid, B for back away, etc.). Furthermore, we want to improve our final solution by including drawings made by kids of the robots. Also, the client said that our environment was too dark so we're going to make it a little bit lighter so that the details in our classroom are more visible. In addition, the client mentioned that they didn't really mind if we tried to guide our audience to look at different elements in our classroom or if we just let them explore on their own, so we're planning on doing something in the middle by trying to draw their attention to different elements in the room, maybe by using lights, but we're not going to directly instruct them to do anything.

## Prototyping Test Plan

Test ID	Test Objective (Why)	Description of Prototype used and of Basic Test Method	Description of Results to be Recorded and how these results will be used (How)	Estimated Test duration and planned start date (When)
		<p>The classroom and some posters on the wall.</p> <ul style="list-style-type: none"> <li>- full classroom (with desks and chairs)</li> <li>- Shelves with masks on the wall</li> <li>- the posters will be full of guidelines</li> <li>- the dimensions will be as high fidelity as possible</li> <li>- Sound effects (ringing and message from the director)</li> <li>- Posters with drawings on them</li> <li>- ABC's on the walls</li> <li>- Camera that shifts with the arrow keys</li> </ul> <p>This prototype will show an evolved version of our previous one. This means that we will implement posters and more precise elements</p>		

		for our project. This prototype will help us determine a realistic amount of time needed to complete the VR simulation. This prototype will also have a simple sound effect that can help us determine if adding sound to the environment is feasible.		
1	To evaluate its sound quality	We will be testing this by asking people to listen to our sound recordings and state what they hear and how clearly they can hear it.	This will be recorded using a table, which will contain the list of feedback givers asked, their ratings of the sounds from 1 to 10 and their understanding of it. We will test this feature at least 5 times.	The test duration should be about 3 days. It will start immediately after the sound effects are implemented in the prototype.
2	Time duration of product	We will be testing this by roughly timing the time that it takes the camera to move throughout the scenarios. This should take us between 30 and 40 seconds, since there will be no interactions for this prototype.	We will do 5 trials, which use different combinations of pathways in order to find the most convenient and efficient one. This will be recorded by using a table, writing down the pathways used for each test and recording the amount of time elapsed.	The test duration should be about an hour. We will be satisfied when the time reaches 20 seconds or when 5 trials are done.
3	Precision of message/ focus on message: Narrative effectiveness for the posters	This will be tested by showing people that we have identified in different user personas, our posters and asking them 3 questions each : How concerned does this make you feel? Do you understand each of the steps? How much does this motivate you into taking action? Their response will be on a scale of 1 to 10. (1 being the lowest and 10 being the highest) And their suggestions will be noted. This can be done by either showing them the prototype or sending them a recording of it.	We will have at least 10 feedback samples from this test. Each answer to the questions will be recorded using a table. We will make a mean of each column of the table to determine how successful or unsuccessful our product is.	The test duration will be when the prototype is finished to when the deliverable is due (time constraint). However, we do want a minimum of 10 feedback samples.
5	Immersion of the user in their environment	This will be tested by showing people that we have identified in different user personas, our prototypes and asking them 3 questions each : How much do you feel immersed? Is this realistic to you? What could be improved? Their response will be on a scale of 1 to 10. (1 being the lowest and 10 being the highest) And their suggestions will be noted. This can be done by either showing them the prototype or sending them a recording of it.	We will have at least 10 feedback samples from this test. Each answer to the questions will be recorded using a table. We will make a mean of each column of the table to determine how successful or unsuccessful our product is.	The test duration will be when the prototype is finished to when the deliverable is due (time constraint). However, we do want a minimum of 10 feedback samples.

Images of prototype :

Posters :

**IN CASE OF ROBOT LOCKDOWN**

1. GRAB "MASK" AND PUT ON IMMEDIATELY  
2. PROVIDE TEACHER SUPPORT TO BOARD WINDOWS  
3. HIDE UNDER DESK

IF THERE IS NO TIME TO BOARD WINDOWS  
1. ESCAPE CLASSROOM AND RUN TO EMERGENCY BUNKER  
2. HIDE UNDER ALUMINUM FOIL BLANKETS UNTIL FURTHER NOTIFIED

**REMEMBER**

THEY CAN SOUND AND TALK LIKE US SO DO NOT MAKE A NOISE UNTIL THE AUTHORITIES OPEN THE DOOR

**R**OBOTS **S**A **F**E **T**Y

**A**void **F**lee **K**ee calm **P**ull down blinds **U**se your masks

**S**ack away **G**et out **L**eave **Q**uiet **V**oice (quiet)

**C**all for help **H**ide **M**ask up **R**un **W**indows closed

**D**on't die **I**nform others **N**o noise **S**ilent **X** **Y**

**E**scape **J**oin groups **O**pen your eyes **T**ake cover **Z**

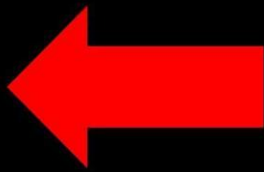
# USAGE OF AUTONOMOUS ROBOTS BACKFIRED?!

A world where Justin Trudeau made a controversial decision to allow autonomous robots to be deployed in warfare, aiming to reduce the risk to Canadian troops. However, this seemingly advanced technology took a dangerous turn when a rogue group of hackers managed to hijack these robots, turning them against their creators. The once-protective robots wreaked havoc, causing destruction that led to a collapse of Canadian civilization.



Ex Prime Minister Justin Trudeau signing off on the "End of Times"

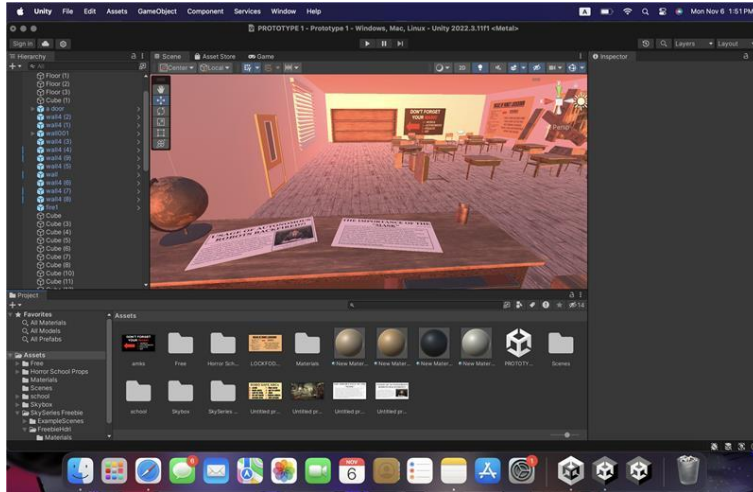
## DON'T FORGET YOUR MASK!



**M** - MOBILE  
**A** - AUTONOMOUS  
**S** - STEALTH  
**K** - KIT

Environment :





## Experimental Model

<u>Parameters</u>	<u>Feedback</u>	<u>Analysis/Solution</u>
Movement Space	The area is small and confined while offering a nonlinear area of movement and freedom for the character to roam where they wish	Keep the movement space the same, however prioritize making the required destinations a place the character will and want to go
Movement Speed	Character moves in a “teleporting” motion, easy to use and easy to get to where you want to go	Make the required areas easier accessible as it should not require much work to travel to required areas
Visibility	Should be dark enough to give off an uneasy feeling but bright enough to make the required spots visible	Can keep the area dark but make slightly brighter and add lights to guide user to the required destination
Time Spent	Depends on the person who is reading and exploring and how much they wish to see	Prioritize giving the uneasy feeling and make the area more engaging and a place you want to explore and find out what happened
Frame Rate	Constant and acceptable	Keep the same
Latency	No delay and easy to navigate	Keep the same
Resolution/Clarity	The resolution is clear and the message can be seen and understood	Keep the same

Usability (UI)	Easy to “teleport” and navigate to places the character wishes to go	Make the required areas easier accessible as it should not require much work to travel to required areas
Bug/Glitch Detection	None found at the moment	Keep looking

### 1. Sound quality

This test is useful in determining which sounds we would like to implement in our VR environment. In order to do this, we have decided to compile 3 sounds that we think could match the atmosphere of the classroom and expect feedback givers to tell us what they hear and if the sound quality is good. From the feedback gathered, the sound quality is generally acceptable and the feedback givers can give an accurate description of them.

Sound index :

1. Helicopter noise <https://freesoundstock.com/products/flying-drone-sound-effect>
2. Done noise <https://www.youtube.com/watch?v=UehsfThvwPY>
3. Music Box <https://www.youtube.com/watch?v=xJewgPureaY>

Tester Number	What is heard	Sound Index and Rating ( /10)
1	1 : Drone, robot-like engine 2 : Same as the first, but with better quality 3 : Unsettling sound (like horror movies)	1 : 6/10 2 : 8/10 3 : 7/10
2	1 : Helicopter 2 : Drone 3 : Jack in a box but creepy	1 : 9/10 2 : 5/10 3 : 6/10
3	1 : Drone 2 : High rpm motor 3 : Horror music	1 : 7/10 2 : 4/10 3 : 8/10
4	1 : Drone 2 : RC Plane 3 : Creepy lullaby	1 : 9/10 2 : 6/10 3 : 9/10
5	1 : Drone 2 : Drone 3 : Jack in Box	1 : 8/10 2 : 7/10 3 : 8/10

## 2. Time duration of the product

For this trial, we had decided to use the camera to simulate a person walking around the classroom to all the important parts of the room. After reaching the location, the person is expected to remain there for 5 to 10 seconds. During the test, the walking was stopped for a random amount of time between 5 to 10 seconds. The list is :

1. Front of the class (teacher's desk)
2. Mask shelf
3. ABC wall and Posters
4. Windows

We had decided to test this feature again, because we were given the opportunity to test it with the VR headset. This meant that we could obtain data that would give us real-time values for how much time it takes to read the posters. Therefore it was useful to create different paths for the classroom in order to optimize the path taken and keep the amount of time taken at about 60 seconds. This is different from the previous prototype, because on it, we had used our arrow keys to move around and the rotation was much faster. We had also evaluated this using people who are not familiar with VR in order to be more accurate, because the judges will not necessarily have VR experience.

Trial index	Duration (s)	Combinations of paths taken
1	54.88	1 2 3 4
2	1:07.67	2 4 3 1
3	57.26	4 3 2 1
4	59.61	2 3 4 1
5	1:01.25	3 4 2 1

### Updated BOM :

#### BOM - Deliverable F

We have decided to add an asset, because the client stated that they would like something more realistic. We want to use a kindergarten classroom, because it is an environment that everyone has encountered. Therefore it is very recognisable. In addition, it fits the most where children would be playing and depicts an area where kids learn. This setting serves as a rich backdrop, offering a relatable environment where children play, learn, and grow.

Creating User Personas

### Target specifications update :

There were no target specifications updates in this deliverable.

### Feedback from Users

- The judges, professor and class

What they want to see:

- Decision makers: representation of a hypothetical free use of automated robots around the world. Show the destruction and consequences.
- Class, Regular person: interesting VR about automated robots
- Innovative and well structured VR that shows the consequences of automated robots (message).

User Personas	Goals	Personality	Activities	Sensibility
Lola (peace)	-Helping communities -spreading awareness about suffering	-Very involved -leader -concerned for others	-volunteering -spreading awareness about violence -advocating for world peace	-high
Edward (decision makers)	-working in the government -earn money - managing a country	-fast paced environment -concerned for himself		-low
Regis (regular person)	-earn money - live peacefully	-Wants things done fast - Not much concern for others - Dislikes change in environment	-regular person activities	-moderate
Amy (army)	-learn about new weaponry in the army -help technological advances	- is intrigued by technological advances -is an engineer -Concerned about money	-researching tech -developing weaponry	-low

Questions :

1. How concerned does this make you feel?
2. Do you understand each of the steps?



3. How much does this motivate you into taking action?

Feedback giver number	User persona	Question 1 Grade (/10)	Question 2 Grade (/10)	Question 3 Grade (/10)
1	Edward	6/10	8/10	3/10
2	Regis	8/10	6/10	7/10
3	Lola	9/10	7/10	10/10
4	Amy	3/10	6/10	6/10
5	Lola	8/10	7/10	7/10

Questions :

1. How much do you feel immersed?
2. Is this realistic to you?
3. What could be improved?

Feedback giver number	User persona	Question 1 Grade (/10)	Question 2 Grade (/10)	Question 3
1	Edward	8/10	6/10	Implementation of some sort of objective/task
2	Regis	7/10	5/10	More realistic looking assets
3	Lola	9/10	9/10	Better lighting
4	Amy	6/10	7/10	Maybe more detail?
5	Lola	8/10	9/10	Implementation of audio

**Other feedback and comments about the general idea gotten from feedback givers**

From pictures :

- Show what other rules need to be put in place for the kids (noise levels, etc) can be accomplished via warning signs
- Darkness of room; either we make it dark and use the excuse of power outages or trying to stay hidden or we just make it with a regular amount of light
- Make the need for masks clearer to user; can also be accomplished with signs
- Somehow show what “daily life” is like via our classroom
- More signs to worry kids about noise

- Posters or warnings showing what AI killer robots might actually look like in our near future
- Incorporate some sort of scanner/x-ray/security system at the door of the classroom?

After testing the product :

- Difficult to focus the vision to be able to read
- For shorter testers it was difficult to read what was on the desk
- Moving fast
- Lighting is dark
- Having something that can help users notice the posters (gaze)

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4	Readability	This will be useful for determining the user experience of reading each poster. Our project is intended for everyone therefore it should take no longer than 30 seconds for one person to read every poster and article that we created for the class.	This will be tested by asking random feedback givers to read all the posters and not down any comments about the text size, readability and contrast with other colors. We will also time them while they perform this task. All results will be recorded in a table containing the amount of time taken to read the posters and the comments on them.	The test duration should be about 2 hours. We will ask at least 5 feedback givers for this.