

Conceptual Design

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1 Introduction

This technical document describes and highlights the concept designs generated by our team members. An interactive Virtual reality Derived from user and technical benchmarking, this document compiles ideas from design criteria and classifies them into 4 subsystems, namely environment/scene, user design/program, and audio. These ideas are illustrated by group members, through original hand and digital sketches, and organized in tables.

2. Main Idea

Society for years now has been influenced by “killer robots” citizens of cities affected all over the world have had to adapt to this new lifestyle. This story arrives in a teenage boy named Richard who's had to learn to live his teenage years in an isolated society. The beginning of this story starts when he wakes up and turns the television on in his room to check the news about any updates in his area. He realizes as he wakes up that a last night an area nearby got struck by autonomous weaponry. The new caster brings to light the what the impact looks like and begins to walk through a popular area that used to be a former hotspot prior to this nearly apocalyptic lifestyle. The demolition and fear from the previous night is demonstrated by the state of the ally way the news reporter walks though. The area is freshly evacuated and shows some forms of demolition as the news reporter walks through it becomes apparent how fast people were forced to flee. Small buildings and garbage are scattered across, and stores have been torn apart and the walkthrough demonstrates fearful living conditions. Eventually the story comes to an end with the main character Richard turning the Tv off with a big sigh.

3 Functional Requirements

3.1 Message

The group has recognized the critical importance of delivering a strong compelling message to create a convincing VR experience. The overall message we are trying to get across consists of highlighting the negative affects autonomous weapons would have on anyone. To get this message across, creating a relatable simple scene that touches on the overall second-hand effect of a world in which weapons have gotten out of hand and chaos has struck is the main goal.

Idea: less is more

First person POV:

This scenario focuses on highlighting the personal effects the tragedy could have on anyone. By following an individual through this simple experience hopes to cultivate a sense of empathy and reliability. The first-person point of view will give a familiar perspective that would effectively help the viewers connect to the character.

Use of societal experience:

Leveraging the emotional resonance of the various experiences lived through the global crises of Covid-19 in the past years will tap into relatable memories. The covid experience is one that affected many, the specific act of turning on the tv, or checking the news, only to be confronted with the escalating chaos and tragedy hopes to create relatable content. By drawing a parallel to existing real-world events, we strive to foster a deeper connection with the audience to underscore the urgency of our message.

Character actions adding the overall tone: Overall the goal is to show the development of the characters mood through actions and expression. When he first wakes up, we will show a slight sense of hopefulness as he checks the news followed by a gradual realisation of the severity of the situation. Though the character himself will not talk much, small hints and shots will portray his despair and overall, how he personally is affected. This will be enhanced with audios and visuals described below, such as camera lighting, sighs, music, etc. in hope to highlight Richard’s despair and sense of isolation.

The first part of the tv scene is a recording of a woman. She is speaking about her firsthand experience with a recent attack speaking with emotion and fear. This is not only a way to get informative information concerning the situation itself, but also to include a personal experience that can touch on the viewers emotions and hopefully create a sense of pity and empathy.

3.2 Audio

Throughout the experience, audio will mainly be used to advance the story line and build the tone pushing our message through. In fact, the audio will help with the narration by indirectly describing or describing what is happening and highlighting the key plot points. Sound effects will be used to underscore actions or events happening on screen. By providing auditory cues, the audience can better follow the narrative and understand the context of what they're seeing.

The audio is also essential in creating the mood. Sound, music and effects and more will be used.

Scene 1.

Breakdown of scenes	Description	Emotional aspect The visuals should be realistic and gritty, evoking a sense of fear and despair.
First scene: The first scene, when Richard wakes up a bloomy sleepy atmosphere needs to be set	-. A ringing sound will be heard in the first view seconds -Faint sound of wind whistling in the window -Ruffling of the sheets background sounds like wind from outside the room or ruffling of sheets.	The ringing sound creates a bloom atmosphere from the start. Even though not much has happened yet, the overall tone of our story has been created.

<p>Second: Tv turned on, a news channel starts playing.</p>	<p>-Tv remote click "Yesterday around 9 pm another one our neighbourhood felt the heavy consequences following the spike... -Victim interview: Script to be determined.</p>	<p>The audio from the Tv is used to move the story along, bringing, inciting the story. The Tv is the cue for us to start along with the second scene. Research will be done on many personal experiences using blogs and online articles to try and get the most accurate and factual story possible.</p>
<p>In the alley way: The scene is zoomed in to the tv</p>	<p>News reporter describing the scene</p>	<p>The alleyway is the main highlight of the story. To add effects to our visuals, the news reporter voice can be drowned out a little bit. This hopes to enhance the experience and the viewers When the alley way is shown.</p> <ul style="list-style-type: none"> - Music, intense suspenseful tone
<p>Back to the room This will make it easier, as the first scene can be reused with slight changes.</p>	<ul style="list-style-type: none"> - Tv static - Voice of tv reporter will slowly drown out. (highlighting the emotional impact the report had on the character) - Sigh - Change in lighting and color palette - Idea: heartbeat pounding 	<p>The sigh has for hope to be able to translate the frustration and dread regarding the news report the character is experiencing in this moment. This will also hint that this experience is not his first, and that the character is slowly losing hope.</p> <p>The contrast in lighting from the first scene symbolizes the overwhelming influx of negative emotions, leading the news Richard has seen,</p>

3.3 Visuals

Scene 1.

Picture	Descriptions
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3.3.1 Scene 1



- Since its morning, light can slightly come out the window through the small opening.
- The room will slowly look more and more clear indicating our character has just woken up
- Eyes opening
- Window with wooden planks in front of it (a measure that has been taken because of the crisis)
- Tv is the distance.
- Reach for Tv remote, which will be used to turn the tv on

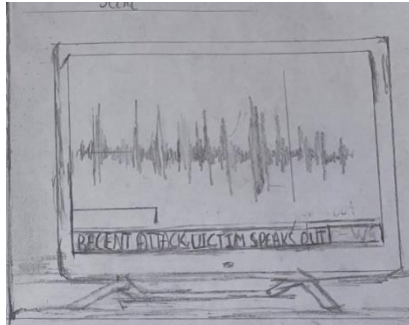
Camera angle and perspective use:

For this view, we want the focus to be on the character. In order to do this, we will use a focus point in the distance to make the rest of the room seem smaller in the background, and everything in the foreground bigger like shown in the drawing.

Technical Criteria:

Length	10s
Field of view	120°
POV	First person
Lighting	Warm and foggy

3.3.2



Scene 2

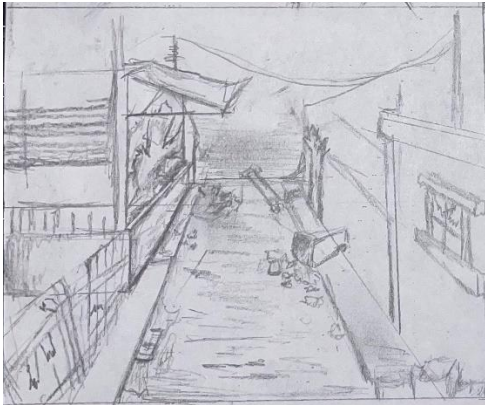
- i. Slow zoom into the Tv.
 - a. Background is now out of focus to bring attention to the screen itself.
 - b. The slow zoom will eventually bring the entire experience through the tv, this is the start of this transition.
- ii. On the screen, we will use descriptive text to make the scene make more sense in the form of a news report. Description:
 - a. A small banner at the bottom of the tv, in the overall idea of “victim speaks out” in order to help the readers understand what is happening.
 - b. News, written on the screen.
- iii. A short segment will be only but a recording from a woman. The screen in this recording will not show the woman speaking. But instead, a sound spectrogram
 - a. Idea: maybe because safety concerns regarding online appearances could be an issue in this situation?

Technical Criteria:

Length	12+-2s
Field of view	Narrow and focused
POV	First person
Lighting	Brighter and more intense
Specifics	-Slow zoom on the TV -Blurred out background of the room. -Light coming from tv

Need: Specific names, cities and news channels will not be mentioned or shown.

3.3.3 Scene 3



The alley way is the main event, the climax of the video. This segment will need to be intense and realistic. The alley way shows the aftermath of an attack and the resulting damages it had suffered as well as demonstrating the changes that had been made to the adapting society in order to protect individuals.

The alley way is the main event, the climax of the video. This segment will need to be intense and realistic.

1) Scene visuals:

- a. Broken store windows + glass shards
- b. Road will be completely deserted highlighting that people had to hide and rush out of there quick during the attack
- c. Small details like: Glass shards, knocked over garbage can, broken fencing.
- d. Over the city, mesh and tarps had been put up to protect people from targeting weapons.
- e. Other ideas to show how society had adapted?

2) Camera work:

- a. Camera will slowly advance through the alley way, looking from side to side occasionally to show specific details.
- b. Slow movement will build a tense atmosphere.
- c. Effects with lighting, Smoke, distortion will add to the overall mood.

Length	30s
Field of view	210°
POV	Camera perspective
Lighting	Gloomy and foggy

3.3.4

After the intense view of the damaged city, the character is back in the room.

Idea 1.

Character will close the tv and look up to his ceiling. Highlighting the feeling of isolation and the camera slowly and slowly fades out.

Idea 2.

Closes the tv. Sits on the edge of the bed string ahead. Reaching for a photograph of happier times before the chaos has hit.

4. Secondary and Tertiary Ideas

Killer robots have been in place in society for quite some time now. Humankind has begun to adapt as necessary. The story line follows a person entering the two-story home they live in and showing what changes have been made to adapt and survive. The house that once looked normal and like what you would see today, now looks overrun and abandoned from the outside. Windows have been blacked out and curtains are drawn. The upstairs is now left untouched to reduce heat signals. The basement has become the prominent space of living. On the main floor you can see that typically in the spaces you would sit you now sit on the floor to make yourself seem smaller than you are and seem less recognizable to thermal scanning.

Society has had killer robots in place for a while and things aren't getting better. People are adapting and moving on as best as they can. The story follows how schooling would adapt for young children that still need to learn. A scene would show a small portion of a lesson a teacher would go over every day to instill safety in their mind. Things like recess would be reduced to school gyms. Class sizes would be much smaller due to parents worried for their child's safety, and not sending them to school. Special alarms would be in place in case of a killer robot strike. A typical school with many entrances would be reduced to one or two in the most hidden spots

5. Functional Requirements

5.1 Message

The overall message of the secondary and tertiary ideas is to put viewers into a recognizable position and allow them to sympathize with the possible effects of autonomous weapons. The solutions put in place to adapt the everyday scenery to the dangerous environment should be attainable to the average person in order create recognition that this is something they have the possibility of doing. The concept of putting a viewer into a typical house can create a strong correlation to their own life. This correlation could either evoke a strong emotion of sympathy or even fear for what their future could be. This can create a sense of urgency due to not wanting their life to relate to the simulation. For the tertiary idea, putting the perspective on how children could be affected can create a sense of sympathy within the viewer. With a suspected older audience due the clients possible use of this project, it is not unreasonable to assume a portion of the audience has children. Due to this possible assumption, putting children as the focus of the VR experience could cause the viewer to feel sympathetic and possibly even sad. Throughout both ideas the overall focus of the VR experience is to show how everyday occurrences would adapt using accessible solutions the viewer can relate to and imagine implementing into their own life.

5.2 Audio

The use of audio is key within both ideas for the viewer to obtain as much understanding as possible and allow them to fully immerse themselves in the VR experience.

5.2.1 Secondary Idea

Throughout the secondary Idea narration is key within the VR experience. The use of audio allows for the viewer to fully immerse themselves and get an understanding of what is happening. While visuals in a 3D setting is very useful, narration throughout creates understanding. While walking through the VR the viewer will hear a narration of what modifications have been made throughout house as well as background music. Music is a useful tool to help guide the viewer towards the emotion that we hope for them to feel.

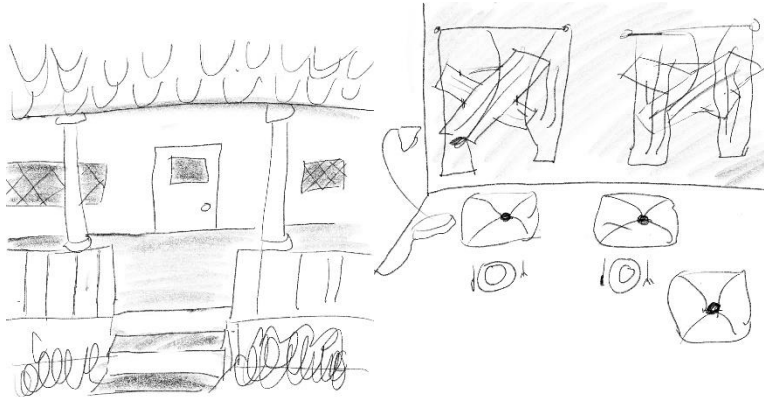
5.2.2 Tertiary Idea

Throughout the third Idea the viewer will again hear a narration of events, this time featuring a snippet of a teacher talking about the safety rules within the school. This will help show the impact autonomous weapons have had within everyday life. With protocols being told to a child it will help create a feeling of a very structured and strict world. Again, music will be used to guide viewers to the desired emotion of the VR experience.

5.3 Visuals

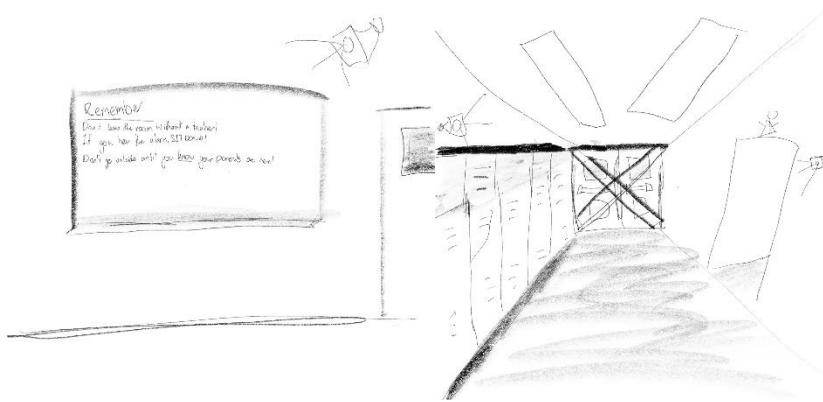
Visuals are a key experience in the VR experience. The animation should be realistic enough for scenery to be recognizable. However, while scenery should be recognizable, it needs to be recognizable for everyone, not just those living in Canada. To achieve this no location specific landmarks should be used for everyone across the world to be able to relate.

5.3.1 Secondary Scene



The visuals feature a home with many modifications made to it. From the outside it looks almost overgrown and abandoned, maybe with even the front yard fenced in. The inside of the house features all the changes made to adapt to the current lifestyle. Lighting would be kept minimal to highlight that it needs to be quick to turn off in case of an attack. The 360 view will show all windows blocked off and boarded up. The VR experience will feature key rooms of a house such as the entrance, living room, and basement. The basement can include more details such as supplies in case of a long term need to stay underground.

5.3.2 Tertiary Scene



The visuals for the tertiary idea would feature a classroom, a hallway, and a school gym. The hallway would show how certain entrances have been closed to limit access. Alarms different to fire alarms have been put into place in case of a drone attack. Classrooms feature constant reminders of safety protocols to engrave it into the viewer's brain. Things like posters and chalkboard writing have a strong message while still being light. Visuals should take inspiration from child-like interests, with colour and even safety characters (like a cereal box). Safety procedures would be put into place like limiting natural light through windows as well as how long children spend outside. While the audio would feature a teacher talking visually, they would not appear. While the setting should be modified to show the environment is dangerous, a school is a place for children and therefore visuals would be kept light with an undertone of darkness. This can draw a parallel of how parents attempt to keep children unaware of danger, however there are always tell-tale signs.

5 Conclusions and Recommendations

In this technical document, we have outlined the concept designs for a Virtual Reality experience focused on the societal impact of autonomous weapons. The narrative follows the story of Richard, a teenager navigating a world plagued by killer robots, and aims to convey the message of the negative effects of such technology on society.

The document details the functional requirements, including the message delivery and the use of audio and visuals to enhance the immersive experience. Through first-person POV, relatable societal experiences, and character actions, the aim is to evoke empathy and understanding in the audience.

Furthermore, secondary and tertiary ideas explore additional aspects of society adapting to the presence of killer robots, such as home life and schooling. These ideas serve to further immerse the viewer and underscore the urgency of the message.

Overall, the VR experience aims to create a compelling narrative that resonates with viewers, urging them to consider the potential consequences of autonomous weapons and the importance of

addressing such issues. Through careful attention to audio, visuals, and storytelling, the experience seeks to provoke thought and inspire action.