

Deliverable C Design Criteria

Group 1

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Introduction

Before we get started with scheming subsystems, we need to do some research and create a criteria list to get an understanding of what others have done in the past and their effectiveness. For our research we will be using Technical a user benchmarking to understand other effective designs, and media, and their parameters, along with what viewers though of the subject. With the help of notes and Deliverable B document, we will then form a criteria list to depict exactly what we need produce within the project.

Referenced Problem Statement

Mine's Action Canada needs a VR experience that demonstrates the dangers of using killer robots in warfare, and the potential consequences that come with it. The experience needs to provide an emotional connection that displays fear, concern, and hope.

Technical Benchmarking

Stopkillerrobots.com

Similar sentiment: attempting to pre-emptively stop the development and use of autonomous robots on the battlefield to mitigate collateral damage.

Qualities of the Video: [Landmine PSA - Bing video](#)

- Virtually undetectable mines are scattered across past warzones.
- Demonstrates exactly what would happen if these plastic mines were in America thoroughly.
- Actors portray the devastation of effects of the mines.
- Short and 'sweet' text at the end, that properly dictates what exactly the PSA is about and where to support.
- Comparable to plastic mines
- Bombing of civilian locations
- Short but effective
- The environment and the people are recognizable to North America, making the PSA hit harder for everyone living in Canada and USA, who has a population potentially capable of enforcing change.

Qualities of the Video: [Slaughterbots](#)

- Modern society against killer drones.
- A speech after describing what you just watched and where to go for support.
- They highlighted the fact that anyone could target only person based on their features.
- They effectively showed the idea that drones and killer AI can be easily mass-produced, in this case they said that they could takeout entire cities.

User Benchmarking

[opinion in Defense of Killer Robots](#)

- [opinion in Defense of Killer Robots](#) This journalist believes that killer robots are a moral objective for society, to allow the robots to take over what we as the people should not morally have to do, and taking over jobs that are too far in the past believing in the idea that new tech has always forced certain jobs to decline, but as always created a brand-new industry.
 - The problem with this thought is that it is based off someone who does not understand the flaws of technology, or AI, and because this is an opinion piece, little to no research was put into this, so the information that stuck with him is on the page, not on research.
- [Google Software Engineer Against Killer Robots](#) Laura Nolan quiz google in protest of the military AI she was assigned to work on with the US. She talks about understanding the conflict derived from the addition of AI powered machines designed for killing. One of the big problems she talks about is the conflict between a weather situation that the robots do not have the software to handle. Another problem she implies is the potential problems when a killer robot is malfunctioning due to being in combat or being fired upon.
 - The Engineer clearly understands the problem with the robots, having worked in the AI environment and not only understands the ethical problems with killer robots, but understand how AI works.
 - The article talks about how Laura has spoken to UN diplomats, and one of the responses to that is that they have no idea what exactly Russia is doing, and that Russia is opposed to the idea of banning killer robots.
- Netflix's Unknown: Killer Robots is a "challenging watch" as it strikes fear into the viewer because it is a documentary on military applications and the realisation that the tech for killer robots exists and, in some cases, could be deployed in days. The documentary shows a US lieutenant with 20 year of combat experience lose in a fight with a research robot which learned combat in less than 10 months, but now that the software exists mass production could start very quickly. This movie used fear, and a sense of realisation to show the viewers the reality of military-based AI systems.
 - Most Reviewers talk about being scared about watching this movie, and all of them talk about the US, and China Arms race.
 - They also talk about "Ekins", an AI used to tweak molecules to create drug to fight diseases, which was discussed in the film, and an experiment in which simply changed an integer value from a 0 to a 1. And the AI created 40,000 molecules that were completely toxic to humans, on an out-of-date computer, in a single night.

Requirements

Functional

- Need to be able to move around the created VR environment.
- Buildings with some amount of physical properties
- An overall emotional display.
- Roads, buildings, highways, and sky should have wear to them.

Non-Functional

- Roads, buildings, highways, and sky must be present.
- Should be a city in the USA, Russia, or China, since they are the big forces that need to be convinced, these are the countries with active projects going on. Or a city in Canada.
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Constraints

- Simple is key.
- At most 4 NPCs.
- \$50.00 max
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Metrics

- It should not be a whole city, but a section, max size is 200 squared kilometers (adjustments will be made when we understand Unity).
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Criteria List with Priority

Task	Priority 1-5
Benchmarking (researching similar PSAs, organizations such as stop killer robots, and Amnesty International amnesty. Past banning of inhumane warfare tactics such as plastic mines)	4
Ideating specific story boards to get the core message of the VR experience across	5
Learning unity	3
Importing asset and developing a scene involving daily life around robots	2

Creating an emotional beat in the experience to increase realism and ethos	2
Defining the specifics of the video the client wants and curating the traits of the video to match what would match what the user and customer want from the product	4
Researching ways an autonomous robot would function and what context it would be used in within the context of a civilian environment (defence? Facial scan? Barcode? Enemy detection through pattern recognition?)	3

Conclusion

Using the information provided above, the project will continue, and we can start the process of formulating ideas and subsystems as well as creating cost and proper scheduling for prototyping. This information is the cornerstone of what comes next.

The next Deliverable is the conceptual design, where we will work together to produce as many ideas as possible and write them down and sketch them out.