Project Deliverable B: **Need Identification and Problem Statement**

GNG 1103 – Engineering Design

Faculty of Engineering – University of Ottawa

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Client Needs:

Experience Details:

Question	Customer Response	Interpreted Need	Importance of Needs
Presentation format or immersive format?	Prefer immersion to harness full potential of VR; more impactful as experience rather than slideshow	The experience must be immersive and focus on delivering an impactful experience.	4
Are there any sensitive topics to avoid?	Do not call out any specific country or company. If there is a bad guy, it should be fictional.	Keep the experience unbiased. If there is a "villian", do not reference any real-life sources or events.	5
	Minimize gore.	Gore cannot be excessive.	4
How many people should be able to share the experience?	The experience should be single-person.	The experience should be playable without relying on the expectation of needing a group to start the experience.	5
What types of content can be included?	If it cannot go on the front page of a newspaper, it cannot go in the VR experience.	All aspects of the experience must be socially acceptable.	5
How long should the experience be?	5 minutes maximum - the experience must fit inside a short break taken by a busy parliamentarian or be feasible for a quick insert into a busy desk job worker's schedule.	The experience should last no longer than 5 minutes (or else, be divided into 5-minute segments) for the convenience of the users.	3
What should the setting be?	Urban warfare, crowd control, or an open battlefield; with modern warfare, urban settings are much more likely.	The experience, if possible, should take place in an urban setting.	3

How many pathways should there be?	A single pathway is enough (they said this with respect to our time, so if we have time to spare for some reason, the limit doesn't apply as strictly)	The experience should have a single pathway; anything to be added afterwards is all time-dependent.	3
Can the user character "die" in the experience?	No. The user cannot die in the experience.	The experience should not show the death of the player character.	5
1st-person or 3rd-person?	Both layouts are acceptable and neither is more preferred.	The experience can be either first-person or third-person.	3
How much should the user have to move?	There should not be a lot of movement required - this should be something you can do from a desk at work.	The experience should not require the user to move much.	4
Relationship to laws of warfare?	Show the issues that autonomous weapons will have with international laws regarding proportionality and distinction.	The experience should show that autonomous weapons would raise all sorts of legal problems and possibly violate international warfare laws.	4

User Details:

Question	Customer Response	Interpreted Need	Importance of Needs
Should a user's potential health effects be considered when viewing?	DEFINITELY.	The experience must come with measures to protect people with epilepsy or other sensation-induced health problems.	5
How accessible should this program be?	The more people who can see this experience, the better.	The experience should be publicly accessible and try to maximize the number of people who experience it.	3
Who is the target audience?	Parliamentarians, generalists, diplomats, government officials, and people who have the potential to change their	The experience will be shown to people who have the basic understanding of the issue, but only the policy or security	5

	stance on this problem.	perspective.	
What do veterans think of autonomous weapons?	Overall disapproval of autonomous weapons: do not want to die fighting machines.	Show that sending robots to fight human soldiers (or humans in general) is immoral.	3
	Join the military with understandings of honor, valor, and patriotism that robots cannot embody.	Show that robots are emotionless and cannot embody the virtues of true soldiers.	3
	Humans understand the battlefield and fog of war; robots cannot comprehend those as reliably as humans.	Show that robots are incapable of the complex decision-making that soldiers use on the battlefield.	3

Problem Statement:

Autonomous weapons are moving forward in the development process and many are considering their usefulness in war. Design a VR experience that raises the ethical concerns of these weapons in an attempt to convince those in support of them.

Unknown Information:
- The technology needed for the immersive VR experience.
- What software will we be using to code?
- How much will this entire device cost?
- Would it be cruel to show humans fighting these autonomous weapons?
- Will it cause some sort of mental issues in humans? (IE Trauma, Brain injury)
- What will the budget of $50 be spent on?
- Where will this product be placed?