

# Needs Identification and Problem Statement

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## **Introduction**

Mines Action Canada, is a humanitarian organization dedicated to advancing disarmament and upholding international humanitarian law. One of their prominent missions centers around advocating for the prevention of autonomous weapons "killer robots" development and deployment. These weapons can make people lose trust in helpful AI and robots. They also take money away from important projects for a better world. Additionally, these robots can have unfair biases, exacerbating existing inequalities and hindering progress towards a more equitable and sustainable world.

## **Target Audience**

The military community, civilians living in conflict zones, and those targeted by these robots face immediate and severe safety risks, being at the forefront of danger. On the other hand, ethical and human rights advocates, governments like Canada, play a critical role in shaping the outcome as they have the power to create policies and international laws. Technology developers, and the general public are also targeted as they should be informed of the risks of certain technology so they can make educated decisions on what they choose to design. Students should also be informed of these ethics so they can decide what type of future they want to be a part of.

## **Concerns:**

- Digital dehumanization is a procedure in which individuals are reduced to data resulting in choices or actions that have adverse impacts on their lives.
- Inability to abide by international humanitarian Law
  - Not being able to follow the agreed-upon rules by countries to reduce harm and suffering during times of war or conflict.
- Hacking and technological failures will lead to disruptions or breakdowns in normal functioning.
- Arms race and diversion of resources
  - Most of the money will go to manufacturing and developing killer robots instead of other aspects that a country might or really need.
- Might be biased on race, gender, language and ability or disability.
- Morality
  - Deciding life or death is a profound, ethical and moral responsibility.
- Explainability end complexity
  - How can we understand why a system made a particular decision?

## **Needs and Requirements**

- VR simulation to show an altered reality of what life would be like if autonomous weapons were in use
- It's no required to show the actual robots or people
- Focus the simulation more on how the environment will change and what types of low tech solutions citizens might come up with to protect themselves against killer robots flying or patrolling streets
  - Examples: Posters up educating people, citizens wearing things to change their appearance, such as masks to protect themselves from facial recognition
- Do not show blood, gore, or explosions
- Consider what sort of sensor data would weapon use to choose targets
  - Examples: Heat signatures, movement, weight, size
- Consider what buildings, communities, villages, towns would look like and how people would adapt that to protect themselves

- Imagine all the ways it could go wrong for people exposed to these technologies
  - Example: Mistaken targeting, falsely recognize group of people and decide they're targets
- People who experience this VR experience should have immediate and visceral reactions to what they're seeing
- The main emotions the audience needs to feel are concern and hope.
- Simplicity is key, keep design and prototype system simple
- Do not tell elaborate storylines or put robots roaming around
- Do not turn it into a video game
- Target having a 30-60 second video that captures you moving through the VR experience in a video that you can upload, in addition to code and models
- VR environment should be in the present or near future so it is recognizable and realistic to the viewers

### **Problem Statement:**

Mines Action Canada needs a short, realistic, and emotional virtual reality experience to demonstrate the dangers of autonomous weapons, in order to encourage immediate measures against their use.

### **Previous Works**

In 2016, "The Guardian," a British news company, introduced an innovative virtual experience called "6x9." This experiment placed users inside a virtual replica of a solitary confinement cell in the United States. The experience was emotionally immersive, with the cell undergoing changes and hallucinations emerging as the "prisoner" gradually descended into insanity. This intense and short 3-minute-long virtual experience is primarily centered on the user's confined environment. "6x9" was a pioneering venture in the realm of virtual reality activism, representing a new and experimental approach to raising awareness about the issue of solitary confinement.

In 2015, Gabo Arora and Chris Milk worked with Samsung and the United Nations to produce the short film "Clouds Over Sidra." This virtual reality experience would allow users to take the perspective of a Syrian girl living in a refugee camp and witness her daily life. The film made its debut at the 2015 World Economic Forum and has since been a prominent tool for raising awareness about the Syrian refugee crisis at various United Nations events. One notable success came before "The Third International Humanitarian Appeal for Syria" in Kuwait, where the VR experience was showcased and significantly raised an impressive 3.8 billion USD in support of Syrian refugees and humanitarian efforts.

### **References**

- Lu, Xifei. "clouds over Sidra': Empathy and Immersion in VR Storytelling." Medium, Medium, 12 Mar. 2019, [medium.com/@irenelu728/clouds-over-sidra-empathy-and-immersion-in-vr-storytelling-fc2c107147fe](https://medium.com/@irenelu728/clouds-over-sidra-empathy-and-immersion-in-vr-storytelling-fc2c107147fe).
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