# Introduction

Mines Action Canada is a humanitarian disarmament organization that does work related to advocacy, research, capacity building and engagement in efforts to prevent and lower the risks posed by various weapons, namely –autonomous weapons. Mines Action is partnered with The Canadian Artificial Intelligence Ethical Design Lab (CRAiEDL), a research hub that supports the responsible design, development and deployment of robotics and artificial intelligence (AI) to the general public. These two groups have created the *Robomaster, a physical* installation of robotics used to show the risks of autonomous weapons. The primary goal of this project is to create an immersive experience that makes a clear, concise statement about the problems associated with training students to program autonomous weapons systems, and provide an alternate use case. The experience should be engaging, free from any political affiliations, and meet the joint concerns outlined by CRAiEDL and Mines Action Canada.

# Identification of Needs

Mines Action Canada alongside CRAiEDL have a plethora of concerns about the nature of autonomous weapons and their effect on society. These include, but are not limited to: digital dehumanization, algorithmic biases, loss of meaningful human control, lack of human judgement, understanding and accountability, inability to explain the causes of use, lowering the threshold to war, an arms race, and the way we interact with technology.

Concerning the product itself, the groups would like to create a demonstration with the robot that is immersive, pushes the boundaries of what the device could be used for, and may be able to solve problems in the community. They would like the message to be anti-war, and would also like it to not have bias to a particularly ideological concept, group, or actor. Namely, they would like the robot to deliver on at least three of the ethical concerns (as identified in the previous paragraph).

# Table of Identified Needs

| **Grouping** | **Customer Input** | **Statement** | **Ranking (1 low, 5 high)** |
| --- | --- | --- | --- |
| Technical Specifications | The experience must be 90 seconds. | The final experience must be brief and concise. | 4 |
| The experience must be immersive. | The experience must be engaging for the user. | 5 |
| The experience pushes boundaries. | The experience must be creative and not boring. | 3 |
| Vision Specifications | The experience may show the device solving problems in the community. | The experience should show an alternative use case for the robot. | 5 |
| The experience should be anti-war. | The experience must not promote war. | 5 |
| The experience should not have bias towards any concept / person. | The final installation should be neutral as a comment. | 5 |

*Table 1: Customer Input interpreted as a need statement, grouped by category and ranked against each other.*

# Justifications

We separate the statements into technical and vision based specifications, since they are distinct. The experience being 90 seconds is rated a 4 since in *Client Meeting #1* the customer said a deviance of 5 seconds is not a big deal. Immersion is rated a 5, while boundary pushing is 4, since an immersive experience is deemed to be creative and not boring by definition. All the vision specifications are of equal importance, since the customer had mentioned the use case of this product - with policy makers - hence, it is important for it to have purposeful, impartial messaging.

# Table of Benchmarking

| **Specifications** | **A 90-second short “film”.** | **A POV style film of the robot.** | **An interview style film with demos.** |
| --- | --- | --- | --- |
| Immersive / Boundaries | Somewhat. | Yes. | Not as much. |
| Could be under 90 seconds | Yes. | Yes. | Could be hard. |
| Clear Message Capability | Yes. | Yes. | Yes. |

*Table 2: Benchmarking and identification of matches in specifications for different types of experiences.*

# Problem Statement

CRAiEDL and Mines Action Canada have a need for a short experience that speaks to the harms of training students to program autonomous weapons, while also providing an alternate use case -delivered in an immersive manner that is impartial and purposeful in messaging.

# Conclusion

The experience designed for these two groups should be purposeful, since they have a multitude of concerns to be touched on. As well, it should be concise, immersive, and free from bias to cater to the audience -policy makers- that this product is for.