

## GNG1103 Project Deliverable B: NEEDS IDENTIFICATION

Following the first meeting with our client *Mines Action Canada*, our team have identified many needs based on the information shared with us. The needs have been organized in a table and ranked based on their importance and have been summarized in a brief problem statement. User benchmarking of similar products are included to identify other requirements for the product.

### Client Needs

We have identified the needs of the client determined by their statements during the meeting and have categorized them according to their related categories.

Categories	Customer Statement	Interpreted Need
Typical Uses	The experience will be used in hallways or at booths	The experience is capable of fitting in a small area.
		The experience is mobile.
	It is best if there is one user at a time.	The experience is individual.
	I don't want it to take too much time.	The experience is brief.
Experience Type – Active Demonstration or Video	I am open to either. The most important thing is that it is convincing.	The experience is convincing to the user.
Contents of Experience	I don't want it to have horror movie level violence.	The experience is rated for 'Teen' use.
	The bad guy is fictional.	The experience portrays fictional characters.
	I don't want it to be bloody or gory.	The experience is rated for 'Teen' use.
	The user being able to move inside the experience isn't important to me.	The user can move during the experience.
	I don't want it to show anything graphic.	The experience is rated for 'Teen' use.
	I want it to be personalized to the user.	The experience is personalized.
	I want to be mindful of people with epilepsy, motion sickness or other.	The visuals of the experience are cautious of the possible health concerns of the user.
	I would like some interactivity.	The experience is interactive.
	It would be best if the user would laugh or cry.	The experience is emotional.

The needs above have been ranked based on their importance relative to the problem they need to fix. They are ranked from 1 to 5, with 1 being non-important needs and 5 being critical needs.

Number	Need	Importance
1	The experience is capable of fitting in a small area.	4
2	The experience is mobile.	5
3	The experience is individual.	3
4	The experience is brief.	3
5	The experience is convincing to the user.	5
6	The experience is rated for 'Teen' use.	4
7	The experience portrays fictional characters.	4
8	The user can move during the experience.	1
9	The experience is personalized.	3
10	The visuals of the experience are cautious of the possible health concerns of the user.	5
11	The experience is interactive.	4
12	The experience is emotional.	5

## Problem Statement

A need exists for a compelling, interactive, and emotional mobile virtual reality experience to safely and effectively convey the ethical concerns that lethal autonomous weapons raise to decision makers.

## User Benchmarking

The following product is an augmented reality (AR) experience developed by the International Committee of the Red Cross to convey the realities of war and the trauma it causes to young children who are caught in the aftermath.

- ICRC: Enter the Room
  - o Free Mobile App
  - o Uses phone camera
  - o How is it interactive:
    - User must have a large open space and movement in the experience is controlled by the user moving around in real-life
    - User must “enter the room” where they will then experience what it is like to live in a warzone from the perspective of a child
    - The room being entered is a child’s room and the user witnesses the gradual worsening of the living conditions, and this is also supported by the sounds; a bustling city and the sound of children’s laughter, to silence broken up by the sound of planes and bombs
  - o User perceptions:
    - Based on user reviews, many were able to empathize with the situation and felt the lack of dialogue added to the user's immersion into the experience
    - However, some also added that it would be even more compelling if it was a VR experience instead of an AR experience

- Many users also found trouble calibrating their phone camera or simply determining how to control the experience
- Our perceptions:
  - Required too much space to move around and to allow the camera to calibrate
  - Had to be used outdoors which made it hard to become immersed in the experience as we had to be careful not to disturb the people around us
  - Felt risky to use outdoors as we had to use headphones to get the full experience and made it hard to know what was happening around us

## **Conclusion**

Mines Action Canada needs a virtual reality experience that demonstrates the ethical problems relating to the use of autonomous killer robots. Decision makers need to be aware of these ethical implications to make decisions for the good of humanity. The virtual reality experience will be used in hallways and booths at the needs to fully convey the outcome that allowing killer robots will have on the world.

## **Further Information Required**

Research into the technical capabilities and available resources at the University of Ottawa needs to be conducted to more accurately determine a schedule for designing the experience and design possibilities. Further information regarding the type and amount of interactivity of the experience will also need to be obtained from the client, this will most likely become apparent when the initial conceptual designs are created.