

Project Deliverable B: Needs Identification and Problem Statement

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Introduction

Empathy is defined to be the ability to share one's feelings and understand the emotional state of others. Several engineering students are working towards the goal of developing a tool using Virtual Reality (VR) to enhance empathy. In this document, we discuss the needs and criteria with which Professor Hanan provided us and we will create a problem statement that fully demonstrates the issue that Professor Hanan and the panelists presented.

Needs Identification

After meeting with Professor Hanan and the panelists as well as doing research on other initiatives on VR experiences, a list of needs was created and organized by priority and similarity (e.g., 5 being the most important and 1 being the least important). The list was tabulated as shown in Table 1:

Table 1: The list of the client's needs

Question	Client Statement / Customer Statement	Interpreted Need
Typical Uses	➤ The experience is only compatible with virtual reality consoles.	5
	➤ It is critical that the virtual experience makes a social impact on the user.	4
	➤ The simulation needs to deliver an experience to the users that is convincing and an environment that they can interact with.	4
	➤ It is important that the users experience different perspectives to train implicit bias and gain understanding of how other people live.	4
	➤ The virtual reality experiences will be based on the childhood and current incidents of the panelists. Such experiences were incited due to their differences.	4
	➤ Client 's purpose of using VR is to show how such experiences can affect and impact minority groups.	4
Likes	➤ It is necessary that the virtual experience is dynamic and keeps the users engaged.	4
	➤ To be fully immersive, it is important that the experience stimulates the users' sense of touch, hearing, vision, and even smell, if possible.	4
Dislikes	➤ The experience is preferably not cinematic (not interactive).	3
Suggested Improvements	➤ The interface needs to be user-friendly to allow the users to use it as a learning tool.	4
	➤ It is important that trigger warnings, closed captions, seizure warnings, or any accessibility aid are available if necessary.	4

Problem Statement

Given the needs, a list of key words was extracted to be used to create the problem statement:

Social impact	Experience	Interesting	Immersive
Minority	Perspective	Learning tool	

With these key words, the final problem statement was defined to be:

For years, experts in cognitive behavior and psychologist have been developing techniques to teach empathy. To teach empathy, one must put themselves in other people's shoes. Therefore, there is a need for a learning tool using virtual reality to enhance and foster empathy by allowing users to experience the lives of minority groups.

User Perception Benchmarking

There have been only few attempts to use VR to create a program that would allow users to experience other individuals' perspectives

1,000 Cut Journey is an immersive VR experience that allow users to role-play Michael Sterling, a black man, who experience racism during childhood and his current life. ^[1] A film-enthusiast organization stated that the game, "highlights the social realities of racism" which is the first step in tackling issues such as racial injustice and achieving social action. ^[4]

That Dragon Cancer is a first-person perspective game where the user goes through the experiences of being related to a cancer patient. The game is very moving, and many reviews described the big impact that the game had on its users. It also shows representation to cancer patients and their families. ^[2]

Conclusion

In conclusion, there has only been a few attempts on a virtual experience to teach empathy and we, ourselves, must learn a thing or two about other people's needs and perceptions to create this experience.

References:

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