Virtual Reality

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Abstract

This project consists of a virtual reality application for treating the phobia of solitude.

Keywords: VR, virtual-reality, software, hardware, academic, research, phobia, solitude.

Contents

1. Introduction

2. Project Overview

2.1. Description of the problem

Phobias are not an easy thing to live with. Furthermore, phobia of solitude not only affects the person that has it, it also impacts everyone that must keep up with it. [6]

2.2. Goals

- Create a software app in Unity, with support for VR hardware. The options being:

  Oculus Rift

  Google Cardboard

2.3. Hypotheses or assumptions

2.4. Justification

3. Theoretical framework

3.1. Historical framework

3.2. Conceptual framework

3.2.1. Definitions

For many technologies that are presented, a proper definition is needed for them. With the definitions used from Bhardwaj, Sharma, Chouhan, and Sharma [1], PcMagazine [5], Katchhi and Sachdeva [3], Haas [2], Mazuryk and Gervautz [4], the required definitions are presented for some technologies and/or terms that will be used.

Android (operating system) "Android is a software platform and operating system for mobile devices, based on the Linux kernel, and developed by Google and later the Open Handset Alliance. It allows developers to write managed code in the Java language, controlling the device via Google developed Java libraries." [1]

Google Cardboard "A 3D virtual reality headset constructed of cardboard, introduced in 2015. Designed by Google and made by third parties, Cardboard holds an Android smartphone and uses the Cardboard app or a third-party app to display a stereoscopic view. The app is controlled by head movement and the smartphone's built-in accelerometer, as well as a magnet slider on the unit that interacts with the phone's magnetometer." [5]

Oculus Rift "The device is a lightweight virtual reality headset that blocks your view of your surroundings and fully immerses you in a virtual world. The Rift lets you step into a game, look around in any direction and see the game environment all around you rather than on a flat screen surrounded by your living room decor. And you see it in 3D." [3]

Unity (game engine) "Unity (commonly known as Unity3D) is a game engine and integrated development environment (IDE) for creating interactive media, typically video games. As CEO David Helgason put it, Unity "is a toolset used to build games, and it's the technology that executes the graphics, the audio, the physics, the interactions, [and] the networking."" [2]

Virtual Reality "Real-time interactive graphics with three-dimensional models, combined with a display technology that gives the user the immersion in the model world and direct manipulation." [4]

3.2.2. Legal framework

3.2.3. Objective and benefits

3.2.4. Tipology

3.2.5. Theoretical bases

3.3. Referential framework

4. Methodology

4.1. Population or universe / sample

4.2. Type of study

4.3. Description of the instrument

4.4. Collection procedure

4.5. Statistical information management procedure

5. Results obtained and discussion

6. Conclusions

7. References

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