

Virtual Reality Application for Neurorehabilitation

Authors : Daniel Vargas-Herrera, Ivette Caldelas, Fernando Brambila-Paz, Rodrigo Montufar-Chaveznava

Abstract : In this paper, we present a virtual reality application for neurorehabilitation. This application was developed using the Unity SDK integrating the Oculus Rift and Leap Motion devices. Essentially, it consists of three stages according to the kind of rehabilitation to carry on: ocular rehabilitation, head/neck rehabilitation, and eye-hand coordination. We build three scenes for each task; for ocular and head/neck rehabilitation, there are different objects moving in the field of view and extended field of view of the user according to some patterns relative to the therapy. In the third stage the user must try to touch with the hand some objects guided by its view. We report the primer results of the use of the application with healthy people.

Keywords : virtual reality, interactive technologies, video games, neurorehabilitation

Conference Title : ICECECE 2016 : International Conference on Electrical, Computer, Electronics and Communication Engineering

Conference Location : Paris, France

Conference Dates : December 29-30, 2016