VR Serious Game to Treat Schizophrenia

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Abstract

Schizophrenia is a psychiatric disorder which, despite the fact of it has been researched since the 19th century and with the evolution of technology, has not yet found a cure. In the past, there was a lack of information about this mental illness, and people were considered insane and committed to psychiatric centers. With the advance of research, some types of schizophrenia have been identified, each with its own particular symptoms.

Treatment processes were done through electroconvulsive therapy, a technique that applied shocks to the patient in order to obtain an antipsychotic response, with research untill these days to analyze its effectiveness. Another alternative was the use of antipsychotic medicines, but their effect was partially functional. Schizophrenia can be hereditary or environmental, but it is known that the earlier it is discovered, the better the effectiveness of the treatment, because as time goes by the symptoms get worse.

Technology has been a great helper in the healthcare field for mental illness. Various systems are used as aids in sharing information, treatments, and therapies. Apps, websites, serious games, and various technical gadgets enable more effective and accurate results [1].

With the principle of making information about mental illnesses more accessible, people can have a better comprehension of the details of a patient with psychological problems, as well as the patients can understand better their particularly difficulties.

Since the 90's, Virtual Reality (VR) has been a great helper in the treatment process of patients with psychological problems. This is due to the great immersiveness provided, placing the patient in various scenarios so that, with medical monitoring, he or she is exposed to situations that stimulate the brain to make decisions. With training in everyday tasks, the patient is proposed to accomplish simple goals and with the tranquility of being in a controlled environment.

A possibility of using VR applications is with serious games that enable a robust, immersive and secure experience. Studies prove the effectiveness of using VR games for people with schizophrenia for their motor and cognitive stimulation. A major goal of advancing research and development in the treatment of people with mental illness is to reintroduce them back into society, interacting and contributing with others [2].

The present work aims to optimize and produce scenarios of a serious game, and improve its immersiveness, enabling the capture of feedbacks, by configuring sensors that can monitor the user of the application for changes in the game in real time, making it possible to have better control over the player's experience. With this, progressing research into the improvements of virtual reality when applied to the treatment of people with schizophrenia.

Keywords: Virtual reality · Schizophrenia · Mental illness · Health care · Serious game.

References

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