Tutorial 1: Advances in the Application of Virtual Environments for Mental Healthcare

Albert A. Rizzo
University of Southern California

Abstract

Virtual environment (VE) technology has undergone a transition in the past few years that has taken it out of the realm of expensive toy and into that of functional technology. Recently, in the field of Mental Healthcare (MH), the considerable potential of VEs has been recognized for the scientific study, assessment/diagnosis, and treatment/rehabilitation of a wide range of mental disorders and functional impairments. Unfortunately, media hype oversold the potential of Virtual Reality during the early-to-mid 90’s, building expectations that were impossible to satisfy with the technology of that time. However, as the technology has recently developed, examples of successful MH applications have emerged and R&D in this area has accelerated. Thus far, promising results have been reported applying VE technology for the assessment and treatment of social, emotional, behavioral, cognitive, and functional mental health targets. A short list of these applications includes the assessment and treatment of phobias (i.e., flying, heights, closed spaces, public speaking, etc.), obsessive-compulsive disorders, post-traumatic stress disorder, pain management, attention deficit hyperactivity disorder, and a wide range of cognitive impairments due to central nervous system damage or dysfunction. These approaches have produced assessment and treatment options that were unavailable, or prohibitively expensive, using traditional methods.

This half-day tutorial will provide a general introduction to a wide variety of mental health disorders, and present the rationale for the use of VEs in these areas. Key ingredients that are available with VEs for targeting mental disorders including exposure, distraction, and complex immersive interaction will be discussed and analyzed. An extensive review of VE/Mental Health applications will follow with analysis of the “additive-value” of these systems over traditional methodologies. The workshop will conclude with the presentation of a model for conducting a pragmatic and clinically-oriented cost/benefit analysis for determining the potential value of VE applications for specific MH targets.