Preliminary Proposal to Use Adaptive Computer Games in the Virtual Rehabilitation Therapy

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Abstract : Virtual Rehabilitation (VR) refers to using Virtual Reality's hardware and simulations as means of exercising tools to rehabilitate patients in need. These patients will undergo their treatment exercises while playing different computer games, which helps achieve greater motivation for patients undergoing their therapeutic exercises. Virtual Rehabilitation systems adopt computer games as part of the treatment therapy. In this paper, we present a preliminary proposal to using adaptive computer games in Virtual Rehabilitation therapy. We also present some tips in designing those adaptive computer games by using different machine learning algorithms in order to create a personalized experience for each patient, which in turn, increases the potential benefits of the treatment that each patient receives. Furthermore, we propose a method of comparing the results of treatment using the adaptive computer games with the results of using static and classical computer games.
Keywords : virtual rehabilitation, physiotherapy, adaptive computer games, post-stroke, game design

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