

**STĂNESCU, Ioana; ȘTEFAN, Antoniu; HAMZA-LUP, G. Felix; ȘTEFAN, Veronica, *SIMULATION AND HAPTIC-ENABLED FRAMEWORKS FOR VIRTUAL LEARNING ENVIRONMENTS***

**Abstract:** The ability to interact with synthetic entities as if they were real has been the ultimate quest of virtual reality (VR) researchers for decades. Recent advances in virtual environments allow users to see virtual objects and avatars, to hear them, to move them, and to touch them. The direct physical interaction with computer-generated objects enabled by haptic interfaces provides a useful and intuitive augmentation to visual display and the opportunity to enhance the level of understanding of, and interactivity with, complex data sets. These emergent technologies require a new generation of learners, very different in terms of skills and attitudes, demanding the implementation of radical changes. This paper considers the enhancement of a web-based knowledge-driven decision support system designed for implementation in clinical learning settings. The authors explore the use of virtual reality training solutions in practice-based learning and skill rehearsal in medical and clinical situations to create life like simulations.

**Keywords:** knowledge management, multimodal interface, haptic technology