

User-centered development of a virtual reality cognitive assessment

S T Koenig¹, D Krch², N Chiaravalloti², J Lengenfelder²,
O Nickelshpur², B S Lange¹, J DeLuca², A A Rizzo¹

¹USC Institute for Creative Technologies, 12015 Waterfront Drive, Playa Vista, CA 90094, USA

²Kessler Foundation Research Center, Neuropsychology and Neuroscience Laboratory, 1199 Pleasant Valley Way, West Orange, NJ 07052, USA

{*skoenig, lange, rizzo*}@ict.usc.edu
{*dkrch, nchiaravalloti, jlengenfelder, jdeluca, onikelshpur*}@kesslerfoundation.org

¹<http://ict.usc.edu>, ²<http://kesslerfoundation.org>

ABSTRACT

In recent years user-centered design, participatory design and agile development have seen much popularity in the field of software development. More specifically, applying these methods to user groups with cognitive and motor disabilities has been the topic of numerous publications. However, neuropsychological assessment and training require special consideration to include therapists and brain-injured patients into the development cycle. Application goals, development tools and communication between all stakeholders are interdependent and outlined in a framework that promotes elements of agile development. The framework is introduced by example of a virtual reality cognitive assessment for patients with traumatic brain injuries. The assessment has seen a total of 20 iterations over the course of nine months including changes in task content, task difficulty, user interaction and data collection. The framework and development of the cognitive assessment are discussed.

Full papers will be published in the Conference Proceedings and will be available to delegates at the conference on Sept. 10.

Full papers will be released on-line in the ICDVRAT archive on March 15.